From the holdings of the Department of Special Collections , Princeton University Library, Princeton, NJ

These documents are either in the public domain, or can only be used for educational and research purposes (Fair use) as per U.S. Copyright law (text below). By accessing this file, all users agree that their use falls in the public domain or within fair use as defined by the copyrightlaw. We do not charge any permission or usage fees for the publication of images of material inour collections, including those provided by Princeton University Library, via our website, catalog, or directly from staff.For more information regarding copyright, credit, and citation please review the information onthe Copyright, Credit and Citation Guidelines page of our website.
https://library.princeton.edu/special-collections/policies/copyright-credit-and-citation-guidelines. If you have any questions, including how to order higher-quality images from the collection, contact Special Collections Public Services via our Ask Us! Form. https://library.princeton.edu/special-collections/ask-us

---

Doctoral Dissertations, 2011-2026 Public and International Affairs

2016

CONTESTING AUTHORITY: CHINA AND THE NEW LANDSCAPE OF POWER SECTOR GOVERNANCE IN THE DEVELOPING WORLD

Hannam, Phillip Matthew

Princeton, NJ : Princeton University

---

http://arks.princeton.edu/ark:/88435/dsp01f4752k223

U.S. Copyright law: The copyright law of the United States (Title 17, §108, United States Code) governs the making of photocopies or other reproductions of copyrighted material. Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specified conditions is that the photocopy or reproduction is not to be used for any purpose other than private study, scholarship, or research. If a user makes a request for, or later uses, a photocopy or reproduction for purposes in excess of fair use that user may be liable for copyright infringement. This institution reserves the right to refuse to accept a copying order if, in its judgment, fulfillment of the order would involve a violation of copyright law. https://www.copyright.gov/title17/title17.pdf

CONTESTING AUTHORITY

CHINA AND THE NEW LANDSCAPE OF POWER SECTOR GOVERNANCE IN THE DEVELOPING WORLD

Phillip Matthew Hannam

A DISSERTATION

PRESENTED TO THE FACULTY

OF PRINCETON UNIVERSITY

IN CANDIDACY FOR THE DEGREE

OF DOCTOR OF PHILOSOPHY

RECOMMENDED FOR ACCEPTANCE

BY THE PROGRAM IN
SCIENCE, TECHNOLOGY & ENVIRONMENTAL POLICY

WOODROW WILSON SCHOOL
OF PUBLIC AND INTERNATIONAL AFFAIRS

Advisers: Robert O. Keohane, Michael Oppenheimer, Robert H. Socolow

November 2016

© Copyright by Phillip Matthew Hannam, 2016. All rights reserved.

Abstract

Two co-constructed trends threaten to complicate global efforts to manage climate change. Electric power in developing countries is becoming more coal-intensive, while the international institutions capable of assisting lower-carbon growth paths are having their authority challenged by an emergent set of institutions under China's leadership. In the last decade Chinese firms and state banks have become central players in power sector development across the developing world; China has been involved in over sixty percent of Africa's hydropower capacity and is the single largest exporter of coal power plants globally. Statistical and qualitative evidence suggests that China's growing role in these power markets has contributed to re-prioritization of the power sector in U.S. bilateral development assistance, complicated negotiation and implementation of coal power finance rules among OECD export credit agencies, and influenced where the World Bank chooses to build hydropower projects. The thesis establishes a framework for understanding responses to discord in development governance by drawing inductively on these contemporary cases. Competition between established and emerging actors increases with two variables: 1) conflicting ideological, commercial and diplomatic goals (difference in interests); and 2) the degree to which the emerging actor challenges rules and norms upheld by the established actor (contested authority). Competitive policy adjustment – one actor seeking to undermine or diminish the other's pursuit of its objectives – has been historically commonplace when an emerging actor challenged an established actor in the regime for development assistance. China's growing authority in global power sector assistance has prompted competitive policy adjustment among established donors while also enabling recipient countries to leverage donors and better direct their own development pathways. The thesis

shows that although contested authority increases development sovereignty among recipients, it can cause backsliding on safeguards and rules among established donors with consequences for power sector outcomes, making fragile movement away from carbon-intensive development even more tenuous. By characterizing this new and uncertain landscape of power sector governance, the thesis contributes to theorization on discord in international governance and to policy development for mitigating climate change.

Acknowledgements

These past five years were a fascinating immersion in a study at the intersection of climate change policy, global institutions and the role of China in international politics. Some of the ideas in this thesis germinated when I was studying "South-South cooperation" at Tongji University in Shanghai through a Chinese Government Scholarship and at the United Nations Environment Program in Nairobi. Coming to Princeton in 2011, who could have anticipated the creation of the New Development Bank and Asian Infrastructure Investment Bank two years later? These major shifts in international politics jolted my thinking. How would China use its growing authority to reshape global governance? What would be the implications for climate and development? The Woodrow Wilson School of Public and International Affairs, the program in Science, Technology & Environmental Policy, and the extended Princeton community proved a fruitful environment to explore these questions. I am grateful to many colleagues including Rachel Baker, Maya Buchanan, Diane Coffey, Fangyuan Hua, David Kanter, Steven Kreeger, Michael Lamb, Nico Lefevre, Rebecca Lutzy, Joe Majkut, Marian Messing, Mayank Misra, Wei Peng, Geeta Persad, Nathan Ratledge, Dean Spears, Sangita Vyas and Carl Westphal, among others. The Ecology and Evolutionary Biology department provided a second institutional home for me. Thanks particularly to Cara Brooks, Charlotte Chang, Josh Daskin, Christina Faust, Emma Fuller, Matt Grobis, Mingzhen Lu, Sam Rabin, Annette Trierweiler, Tim Truer and Kaz Uyehara.

I recall pivotal conversations at various stages of my research with Scott Barrett, Deborah Bräutigam, Christina Davis, Cinnamon Dornsife, Lloyd Gruber, Thomas Hale, Dan Kammen,

Milind Kandlikar, Stanley Katz, Keith Kozloff, Rachel Kyte, Eric Larson, Zhenliang Liao, Alvin Lin, Denise Mauzerall, Emily McGlynn, Steve Pacala, M.V. Ramana, Jin Sato, Deborah Seligsohn, Peter Singer, Allesandro Tavoni, Johannes Urpelainen, David Victor, Fabian Wagner, David Wilcove, Bob Williams and Li Zheng. The Environmental Defense Fund invited me to join its delegation at the UN climate negotiations in Doha and Durban, allowing me to learn from Alex Hanafi and Jennifer Haverkamp, as well as from Nat Keohane and Gernot Wagner. I found brilliant collaborators in Astrid Dannenberg, Jorge Pacheco, Andrew Tilman, and Vítor Vasconcelos who demonstrated the problem-solving power of a trip to the beach. Steve Davis tutored me in use of the World Electric Power Plants data and thus opened a world of possibilities for this thesis. I thank Sol Taubin for meticulous research assistance in Chapter 7.

Navroz Dubash was a generous host at the Center for Policy Research in New Delhi over several research trips, molding me to ask incisive questions. From my time in India I thank Rohit Chandra, Rohan D'Souza, Anu Jogesh, Ritu Kumar, Kartikay Mehrotra, Partha Mukhopadhyay, Rani Mullen, Anshu Ogra, Neha Pahuja, Ranjan Pal, Maddipatla Rajshekhar, Ambuj Sagar, Kasturi Soundararajan and Nitin Zamre. Alok Brara at India Infrastructure was instrumental in helping me find my way around the Indian power industry. In Indonesia, I benefited greatly from the help of Ali Ashat, Suroso Isnandar, Todo Simarmata, and Yani Witjaksono. Dozens of officials, across four continents, spoke with me at length about my research but did not wish to be identified. I am grateful for their valuable time and knowledge, and for the faith they placed in me to do justice to the important questions of this thesis.

Extraordinary staff members at Princeton helped keep me (and my advisors) on the same page, particularly Caitlin Daley, Geraldine Rhodes, Sandi Milburn and Lolly O'Brien. Chuck Crosby is a master chef, confidante, and source of levity at the STEP program. Ann Corwin connected me with many alumni who helped advance my research. Holly Welles, Frances Juhasz and Rajeshri Chokshi helped me feel at home in the Princeton Environmental Institute.

My parents, John-Pierre and Paula Hannam, and my older brother and his wife, J-P and Meredith Hannam, always supported my passions and graciously accommodated my frequently unpredictable schedule. Nitin Sekar was my first and best friend in Princeton. Sarah Batterman has been my constant source of encouragement and consolation, humor and discovery throughout my dissertation. I am grateful that her parents, Gill and Mark Batterman, have joined us frequently on our journeys.

My research received funding from the Walbridge Fund in the Princeton Environmental Institute, from Princeton's Institute for International and Regional Studies, the Princeton Department of East Asian Studies, the Princeton Energy and Climate Scholars, the Carbon Mitigation Initiative sponsored by BP, the Princeton Global Collaborative Network Fund, and the Royichi Sasakawa Young Leaders Fellowship Fund (SYLFF) and SYLFF Research Abroad from the Tokyo Foundation. The U.S. Truman Scholarship funded my first and fifth years of research and, moreover, encouraged my passion for public service. The University of Leeds School of Geography provided office space and fresh perspectives while I was writing in my final year.

Parts of my thesis benefited from feedback during presentations at Jawaharlal Nehru University (2013), Fondazione Eni Enrico Mattei (2014), Centre for Policy Research (2015), Environmental Defense Fund (2015), Columbia University (2015), Oxford University (2015), London School of Economics (2015), New York University (2016), and University of Pittsburgh (2016).

My dissertation committee challenged me to cast light on big questions. Nathan Hultman made time in his hectic schedule at the White House Council on Environmental Quality to help focus my research for policy relevance. Nate nurtured my earliest interests in climate policy when I was an undergraduate engineering student in 2008. Simon Levin, a model collaborator and inter-disciplinary scholar, pushed me to think about complex systems using simple math and encouraged my application of evolutionary game theory to questions of climate governance.

Having three dissertation co-advisors, each from a different discipline, might seem a recipe for disaster were each not an outstanding academic mentor. In my first semester at Princeton, Bob Keohane taught a brilliant course with Tom Christensen, on Theory of International Politics, revolutionizing how I viewed cooperation on climate change and inexorably redirecting my academic trajectory. My learning curve was immense but Bob was tenacious, taking a chisel to my research design time and time again. Michael Oppenheimer inspired me with his breadth of knowledge and gave me wise counsel at every stage. He allowed me to travel broadly and explore the bounds of disciplinary inquiry. Rob Socolow attracted me to Princeton and helped me navigate the toughest phases of my PhD. I admire his fearless intellectual curiosity. Rob and I pondered a lot of questions, late at night in the office or on a walk through the woods. I am indebted to these scholars for being patient and deliberative stewards on my academic journey.

Table of Contents

Abstract iii

Acknowledgements v

Part I: Setting the Scene

Chapter 1 - Roadmap and Summary 2

Chapter 2 - China, coal and the global power pipeline 20

Chapter 3 - A contested regime for development finance 49

Part II: China in Power Sector Governance

Bilateral Relations

Chapter 4 - China and the U.S. in a contested vision for development 69

Export Finance Institutions

Chapter 5 - Export finance negotiations and the challenge from China 129

Chapter 6 - Carbon recidivism in the contest for India 175

Multilateral Institutions

Chapter 7 - Follow the leader? World Bank re-engagement with hydropower 248

Part III: Interpreting Contestation in Power Sector Governance

Chapter 8 - The competitive political economy of development finance institutions 312

Part IV: Conclusions

Chapter 9 - Climate implications of contested multilateralism in the power sector 374

Supplement 383

Index 407

Part I

Setting the Scene

Chapter 1

Roadmap and Summary

Upon learning in 1964 that China was offering to build a railway from Tanzania to Zambia, George Ivan Smith wrote to the UN Secretary General that "the West has made a great blunder"[1]. Tanzanian President Julius Nyerere saw the Great Uhuru ("Freedom") Railway as a symbol of post-colonial autonomy, but had been discouraged by the U.S., Britain, Soviets and the World Bank, his first choices to aid the project. The West counter-proposed a highway – believing the railroad to be uneconomical and unnecessary because existing rail links through colonial neighbors sufficiently served the region. Adamantly anti-imperialist, China offered the Tanzanians exactly the package they wanted. Completed in 1975, the Freedom Railway became an emblem of China as a foil to Western development politics.

The lessons from the Freedom Railway continue to be learnt in development today. For decades China has lamented the great power imbalance in the world's premier international financial institutions, including the World Bank, as well as the exclusivity of rule-making forums like the Organisation for Economic Cooperation and Development (OECD). The rules within the regime surrounding development finance have lagged behind changes in the structure of power in the international system[2]. Frustrated with the pace of reform and the imposition of market and governance ideologies that impinge on the development sovereignty of developing countries, China is beginning to institutionalize its growing economic and political power. China has

[1] Hall, R.S. & Peyman, H. (1976). "The great Uhuru railway: China's showpiece in Africa". *Gollancz*, p.101.
[2] Keohane, R.O. & Nye, J.S. (1977). "Power and Interdependence: World Politics in Transition". *Little, Brown*.

championed the creation of the Asian Infrastructure Investment Bank (AIIB), New Development Bank (NDB) and South-South Cooperation Fund as well as new negotiating forums such as the International Working Group on Export Credits.

China's new institutional architecture – following a decade of rapid growth in Chinese development assistance through the China Export-Import Bank, China Development Bank and other state or parastatal institutions – has caused a major transformation in the landscape of development governance. China's institutions have stimulated contestation over development norms. The stakeholders in China's new institutions have different ideologies and state interests than do the actors and institutions that have constituted the "established" regime that has evolved since the end of the Second World War. Most prominently, the U.S. and Japan dominate the World Bank and Asian Development Bank, respectively, but neither state is involved in the new AIIB or NDB.

This pattern of "contested multilateralism"[3] is occurring at a pivotal time for orchestrating a global response to climate change. As developing nations take their turn in building out their power sectors, international development assistance plays an important role in making available international technology, finance and expertise to help countries adjudicate between carbon-intensive and cleaner development pathways. The established regime for development assistance includes institutions for bilateral "aid" (or official development assistance), as well as international financial institutions such as multilateral development banks (MDBs) and export credit agencies (ECAs). The established regime has progressively abstained from coal finance in

[3] Morse, J.C. & Keohane, R.O. (March 2014). "Contested Multilateralism". *The Review of International Organizations* 9(4): 385–412.

favor of lower-carbon alternatives, despite pushback from energy-poor recipients. Meanwhile China's international involvement in developing country power sectors has been coal intensive. China's material and financial support for coal power strengthens its global relationships, accommodates recipient demands and bolsters China's manufacturing base of coal powerplant equipment following a decline in its domestic coal capacity addition since 2007. China's embrace of coal powerplant exports has caused tension as the U.S., World Bank and other major players have taken tentative steps away from coal. This thesis urges caution; history suggests that contested rules and norms in development lead to competition, which in the present context might undermine the permanence of a transition away from coal power. The established regime of development institutions once viewed hydropower as taboo only to return to financing it later.

This thesis examines how China is transforming global development assistance and trends in electric power. What are the implications of China's rise for power infrastructure development in developing countries and for the fragmentation of the global regime for power sector assistance?

The evidence of this thesis suggests that China's growing authority in global power sector assistance *[the explanatory variable]* has prompted competitive policy adjustment across the established development assistance regime, while also changing recipient country political strategies for engaging development institutions, with overall consequences for power-sector outcomes *[the dependent variables]*. As a result, China's activities are reshaping the political landscape surrounding development assistance for power. Contested authority in the

development assistance regime threatens to complicate cooperation on low-carbon energy transitions in developing countries.

Chapters 2 and 3 describe the conditions that have led to contested authority in power sector governance. Chapter 2 examines how Chinese firms and finance have become the largest international contributors to the global coal power boom. Approximately one in every three gigawatts (GW) of power capacity that is under construction or planned globally is coal power[4], adding roughly 1200 GW of coal – four times the operating coal capacity in the United States. Ninety percent of that global coal power "pipeline" is slated for Asia; fifty percent of that Asia pipeline will be in China, and over sixty percent of the remainder in India. Each of the major power economies of Asia (with the important exception of China) has power sector pipelines that are *more* coal-intensive than the existing power sector. Moreover, the coal boom is not centralized to Asia. Over sixty percent of the coal power capacity addition outside of China between 2000 and 2015 relied on exported equipment, and those equipment sales frequently benefit from official export credits, which equate to a subsidy provided by the exporting country's government. The OECD dominated equipment exports until the mid-1980s, and Japan became the largest exporter through the early 2000s. But when China's domestic market for coal power saturated around 2006, China's massive coal power manufacturing base began to spill abroad; since 2005 China's firms have been involved in over 40% of the global coal power capacity addition outside the OECD and China, and since 2010 China has exported coal equipment at twice the rate of Japan. The volume of export finance supporting Chinese coal exports – on the order of US$30 billion – is roughly equivalent to finance from the entirety of the

[4] As elaborated in Chapter 2, capacity that is under "construction" has broken ground, while "planned" capacity is at various active stages of pre-construction development, including design, bidding, financing, and approvals. There is no guarantee that "planned" capacity will reach operation.

OECD in about the same period. While the OECD negotiated an informal agreement among member states in the 1970s to prevent aggressive competition for export promotion using export subsidies, China does not observe the OECD disciplines. China's power sector prowess extends far beyond coal, with Chinese involvement in over 60% of Africa's hydropower capacity since 2005. China's power sector involvement abroad has rankled established bilateral and multilateral development assistance actors and their Western stakeholders because of China's refusal to condition its assistance on institutional, environmental or social reforms (with exception of requiring non-recognition of Taiwanese sovereignty).

Tensions between China and the established development finance regime have a long history that continues to pervade modern power sector politics. Chapter 3 discusses the emergence of China's development assistance philosophy. Carving a niche to legitimize its international standing after the 1949 revolution, China aligned itself with other developing nations in a commitment to "Peaceful Co-Existence" and non-interference in a nation's domestic affairs. The Chinese government would begin to offer substantial development assistance in the 1960s, promising post-colonial governments in Africa and Asia a development partner "diametrically opposed to power politics"[5] of the U.S. imperialists and Soviet militarists. China readily inserted itself as a wedge between the two great powers to win developing country allies. Chinese policy elites hoped that the international community would eventually give way to a more egalitarian and "reasonable" multipolarity. As the nation emerged from the domestic strife of the Great Leap Forward and Cultural Revolution in the 1970s, China integrated with the prevailing world

[5] Ministry of Foreign Affairs (2014). "China's Initiation of the Five Principles of Peaceful Co-Existence". *People's Republic of China*. Available: http://www.fmprc.gov.cn/mfa_eng/ziliao_665539/3602_665543/3604_665547/t18053.shtml [Accessed August 2016].

order characterized by U.S. hegemony, joining the UN, World Bank, and World Trade Organization, which in part enabled China's development as an economic powerhouse.

With its enormous domestic capabilities, China is now able to challenge the institutions that have long governed development assistance – a feat previously unattainable to other developing nations. The G-77 attempted to create a south-south equivalent of the World Bank in the 1980s, Asian states under Japan's leadership attempted to create an International Monetary Fund (IMF) alternative after the Asian financial crisis in the late 1990s, and South American governments rallied to displace the World Bank and IMF with an alternate of their own in the mid-2000s. Each failed under forceful opposition from the World Bank and the United States, who argued that redundant institutions would weaken incentives for reform and complicate coordination. With this historical context, it is unsurprising that the United States opposes China's recent leadership in creating new institutions promising to operate on a scale that gives them substantial authority alongside the World Bank and IMF. The implications of China's emergence as a development authority in global governance are the subject of the remainder of the chapters.

The thesis is organized to show the extent to which China's emergence has reshaped rule-making authority in power sector finance. China's impact on global power sector governance is pervasive and has generated responses throughout the established regime. Established development finance actors and institutions have undergone a multi-decadal process of raising environmental, human rights and governance safeguards. These transitions are attributable to pressure from civil society, changing configuration of state stakeholder interests, and

coordination among recipient governments. International development finance institutions oftentimes resist reform, making them sensitive to backsliding when political conditions change.

The realist ontology in international politics posits that a state's response to a challenge from China would seek to maximize the state's relative material capabilities and influence. This conception of international politics is helpful but deeply problematic. States are only one type of actor in the regime for international development assistance; this regime also comprises multilateral institutions that have been delegated agency, by states, to serve goals – such as development – where the state will not have direct control over the actor's choices[6]. Realists would simplistically presume that institutions are little more than extensions of state power, but in reality institutions possess autonomy and develop their own histories, interests, norms, ideas, and procedures that may consequently have reciprocal effect on state behavior. Because organizational interests can diverge strongly from state interests, it is important to consider the balance between state and organizational interests in an actor's calculus of a rational response to contested authority.

Part II of the thesis explores how three classes of actors in the development assistance regime adjust their policies to China's activities, with each class representing a different level of delegation from state interests. Chapter 4 begins by examining the impact of China on U.S. bilateral aid strategy where the state's interests are strongest (low delegation). Subsequent chapters describe U.S. interests increasingly diluted by organizational and other states' interests.

[6] Nielson, D.L. & Tierney, M.J. (March 2003). "Delegation to International Organizations: Agency Theory and World Bank Environmental Reform". *International Organization* 57(02): 241–76.

- *Low delegation (Chapter 4):* This case examines how the U.S. government's development assistance apparatus characterized and calculated a response to China's global development activities, particularly in the power sector. In this chapter, state interests dominate and organizational interests (such as at U.S. Agency for International Development or Overseas Private Investment Corporation) are subordinated to the state. International coordination on development assistance is likely to have only a marginal impact on any competitive response to China, since these rules are informal and heavily influenced by U.S. state preferences.

- *Medium delegation (Chapters 5-6):* These chapters examine how China has impacted cooperation on environmental issues between Export Credit Agencies (ECAs) and implementation of climate change policies within the U.S. Export-Import Bank. ECAs are state-owned institutions serving organizational mandates to promote national exports, but are frequently co-opted for state political interests.

- *High delegation (Chapter 7):* The chapter examines how China's power sector activities affected the World Bank's hydropower strategy. Multilateral Development Banks (MDBs) are delegated authority by states to work on a development mandate. Organizational interests in self-preservation and recipient country influence impact activities, though state interests also penetrate decision making through control over budgets, voting power during project and structural decisions, and nationalities on the organizational staff. U.S. interests have historically had a substantial influence on World Bank activities.

The effect of China's development activities is striking across the levels of delegation. The evidence indicates that China's emergence has caused significant discord within the regime for international development assistance, which is prompting a period of rapid policy adjustment and near-term competition. To observe and measure policy adjustment in each chapter, cases are selected where China has a strong market presence in the power sector and an established regime is in place. Indian coal power (Chapter 6) and African hydropower (Chapter 7) are both China's largest markets for those respective technologies – maximizing the magnitude of China's presence as the key explanatory variable. The selected cases are examined for evidence of policy adjustments that indicate a strategic competitive response to China's power sector activities. The following two responses would imply that observed adjustments were made in response to China's activities:

- The established actor and its stakeholders actively consider the implications of China's activities for their interests and authority;

- The established actor chooses policy adjustments – including market and sector selection – that better hedge against China's advantages than would alternative policy adjustments.

China's growing development assistance portfolio in Africa has captured U.S. policymaker attention, and evidence indicates it has influenced U.S. bilateral aid priorities. Chapter 4 examines the puzzle that OECD development finance for the power sector has rebounded in the last decade after three decades of decline. In the 1970s, infrastructure constituted about 40% of OECD development assistance but fell to 15% in the early 2000s. Multilateral assistance for the

power sector fell to one-third of its 1980s level by 2000, and bilateral power sector assistance was cut in half during the same period. In sub-Saharan Africa assistance was diverted to social sectors and health instead. However after 2000 infrastructure and power assistance have made a rebound across sub-Saharan Africa, growing alongside new capacity addition in the power sector, as well as growing loan finance and foreign aid from Chinese state banks – which grew from about US$1 billion in 2000 to roughly US$20 billion in 2013.

As a "low delegation" case, Chapter 4 presents qualitative evidence, from public and publicly available confidential government documents between 2005 and 2015, that China's growing engagement in Africa was one major factor in U.S. policy adjustment to re-prioritize the power sector in its development assistance, principally through an initiative called Power Africa. U.S. officials tracked China's development activities closely, publicly disavowing perceptions of a "zero-sum game" with China in Africa, while recognizing the need to "compete with Chinese influence in a vital region"[7]. The U.S. was motivated by ideological interests in preventing China's non-market, state-driven development model progressing in Africa, which would compound lagging U.S. business success on the continent. The evidence suggests the importance of development ideologies – and authority to impose those ideologies through development institutions – as key U.S. interests in countering China's growing authority in Africa's power sector. The importance of China's emergence in Africa's power sector activities influenced development priorities and policies among the U.S. executive and legislative bodies, translating to adjustment in bilateral assistance strategy. How U.S. and other state interests translate to outcomes when one-step-removed from immediate state influence – "medium delegation" – is examined in Chapters 5 and 6.

[7] Rep. Ed Royce (7 May 2014). Congressional Record - House, p.H3927-28

Chapter 5 discusses how China has upended a previously stable cooperative regime around export finance. Since the 1970s Export Credit Agencies (ECAs) at the OECD successfully cartelized to establish shared financial rules to prevent recipients using competitive political and commercial interests to stimulate aggressive competition on financial terms. Meanwhile cooperation on environmental quality tends to fail because recipients control the project on which bidding occurs, and are empowered to undermine coordination. Improving environmental outcomes requires action at the recipient's level, which single exporters are powerless to control unless they can change the recipient's preferences, or else a strongly coordinated exporter coalition makes a technology or service unavailable to the recipient. Both strategies are unlikely to succeed. States have found a multitude of pathways to evade ECA environmental and sanctioning rules. Further complicating this dynamic, China has emerged as the largest global supplier of export finance, and refused to coordinate through the OECD, causing OECD members to jockey for ways to continue supporting their export industry without excessive costs to match China's aggressive export promotion. In 2012 the U.S. and China initiated a new negotiating forum called the International Working Group on Export Credits, but the future of ECA discipline has been left in limbo.

Consistent with these export finance cooperation challenges, U.S. efforts to multilateralize coal finance restrictions at the U.S. ExIm Bank were complicated by China's role as the largest supporter of global coal power while also being outside the OECD. Chapter 5 ends with a more hopeful proposition – despite contested authority in the regime for export finance the OECD and China achieved an agreement on coal power finance in late 2015. Because China refused to negotiate through the OECD, and the International Working Group did not cover power sector

issues, the U.S. pushed China in a bilateral setting to adopt coal power finance restrictions. China made an ambiguous commitment to "strictly limit" its support for the least efficient coal plants abroad, which catalyzed agreement in the ongoing OECD negotiations. The agreement raises hopes for long-term cooperation. But this case also presents a puzzle for contested authority; coal rules succeeded despite conditions predicting their failure. The strong U.S. diplomacy needed to tether China to the agreement may simply indicate the symbolic importance the U.S. placed on momentum leading to the 2015 Paris climate negotiations. But a deeper shift may be imminent. Historically, China has sought to maintain its reputation principally among developing states; willingness to avoid OECD opprobrium on coal finance may show plasticity in China's development ideology. Understanding this shift could be key to mitigating the potential for discord discussed in the remainder of the thesis.

Before export credit rules on coal were negotiated, contested authority led to backsliding on U.S. carbon policy commitments. Chapter 6 examines China's largest coal export market – India – presenting circumstantial evidence that the strategic competitive environment around China's export finance was one factor in a U.S. ExIm Bank reversal of a carbon policy decision. The 4 GW Sasan Ultra Mega coal power project was proposed in 2010 at a time of contentious coal politics within the World Bank and in the U.S. domestically, and would be the first implementation of Obama Administration carbon guidelines regarding export finance. The ExIm Board of Directors rejected a US$0.9 billion loan guarantee for U.S. equipment over the carbon emissions of the Sasan plant, but within weeks the Administration reversed course. The potential to stimulate 1000 domestic jobs at a time of a flagging economy coupled with industry lobbying may have been sufficiently strong rationale to reverse the Sasan project decision. However,

comparison with a higher-profile ExIm project 15 years earlier – the 18 GW Three Gorges hydropower project in China – indicates that jobs and political pressure alone may not account for the Sasan decision reversal. ExIm denied US$1.5 billion in loan guarantees for Three Gorges as the first implementation of new environmental guidelines adopted in 1992, even though the project would have created as many as 19,000 jobs. The comparison indicates that the different strategic competitive environments may have contributed to the divergent project outcomes; in the Three Gorges decision, U.S. ExIm's competitors were long-time allies and the U.S. believed unilateral action could spur other ECAs to oppose the project on environmental grounds. In the Sasan project, the competitor was China, which was challenging U.S. and OECD export finance rules and was rapidly expanding political relations with India. The U.S. was concerned about losing clout in the world's largest democracy and also wished to secure part of India's coal market, the largest coal power equipment export market in the world. Though plausible alternate hypotheses – particularly the salience of the Three Gorges dam to environmental campaigners at the time – cannot be excluded, the observed outcome is consistent with the trend of competitively responding to the challenge from China.

Chapter 7 presents evidence that after the World Bank lost authority to a rising China in building large hydropower projects in Africa, the Bank followed China back into key markets. World Bank power sector activities have been influenced by China in two ways. First, China's increasing economic power in the early 2000s and alignment with peer developing countries allowed it to influence critical debates inside the World Bank around the importance of hydropower. The Bank adopted policies considering "risks of omission" if the Bank forgoes projects that are built anyway. Second, statistical and case study evidence suggests that China's

own finance and involvement in individual hydropower markets was a factor in World Bank decisions to make particular hydropower investments in sub-Saharan Africa. These trends have contributed to the increasing pace of African hydropower development, which is faster now than in any previous decade. While a "race to hydropower" does not threaten climate goals, the implications of World Bank sensitivity to competition with China creates the potential for backsliding on safeguards, with the possibility also of the World Bank and other MDBs like the Asian Development Bank following China's lead and returning to financing coal power.

The pervasive and significant impact of China's development activities and institutional creation on policy strategy across the established development regime indicates that behaviors of development finance institutions are sensitive to contested authority. Part III of the thesis argues that contested authority is an important variable in contextualizing institutional behavior, policy adjustment, and adherence to development norms. Chapter 8 formalizes a framework for understanding responses to contested authority in the regime for development assistance.

The competitive responses by official development actors observed in Chapters 4 through 7 are not exclusive to China and have been observed repeatedly in the post-War era across a range of institutions and states. The cases briefly outlined in Chapter 3 showed that established institutions involved in development assistance are threatened by an uncoordinated or emerging donor occupying the same niche as a result of stakeholder interest misalignment and perceptions of reduced organizational authority over client governments whose bargaining power increases. The interests of state stakeholders, the organization, and clients align – each in pursuit of its own strategic goals – which generates a competitive response.

Competitive behavior between an established development actor (be it a state or international financial institution) and an emerging actor should increase with two variables: 1) conflicting ideological, commercial and diplomatic goals between the two actors (difference in interests); and 2) the degree to which the emerging actor challenges rules and norms upheld by the established actor (contested authority). The existing development finance regime – which is slow to reform – does not accommodate the interests and authority of the changing power of some states, compelling a rising power to generate new institutional configurations. Under these conditions, failure to accommodate interests and authority leading to the rise of new institutions also prompts established actors to defend the prevailing system structure. The potential for discord is high in such situations. The central question is how actors within the development finance regime respond. Cooperation resulting from mutual adjustment is one outcome, where established and emerging actors find ways to co-exist, such as through delegation of domains and tasks. Cooperation between donors emerged as a norm under the OECD in development assistance and has persisted for four decades. The non-cooperative response to discord is more detrimental.

The conditions generating discord – and strategic responses to discord – are shown to be important drivers of behavior across organizational types with different levels of delegation from state interests. This framework for understanding responses to discord in the regime for development assistance can be applied to contextualize development institution behavior generally, but is also immediately relevant to analyzing the observed responses to China's increasing capability to contest the authority of the established international development landscape. The institutional behavior under contested conditions observed in the China cases

and through historical examples allows for inductive generation of several hypotheses characterizing the response of the established development regime to contested authority:

- *Hypothesis 1:* Declining rule-making regimes adjust policies to retain authority.

- *Hypothesis 2:* Recipients gain leverage and demand more from donors.

- *Hypothesis 3:* Fragmented regimes complicate rulemaking and climate policy coherence.

As a result of these observations, a key message emerging from the thesis is that institutions acting individually lose the authority to implement environmental reform if the reform is not legitimized by recipients, or if other institutions are willing to substitute comparable assistance. The cooperative challenges faced by states in international climate policy extend to international institutions, particularly when states disagree over the role and purpose of those institutions.

Contested authority in the Cold War saw the U.S., Soviet Union and China jockeying for ideological influence around the world. Newly independent nations could play rival powers off each other in seeking more lucrative development assistance packages. This period of contestation led to larger infrastructure aid packages but did not lead to a "race to the bottom" in development norms because infrastructure assistance was the *universal* currency to win ideological favor. In contrast, the recent emergence of contested authority in the development landscape has the potential to be disruptive for established rules and norms. One donor with safeguards that are unpopular to a recipient can be undercut when another donor forgoes that

safeguard. Recipients playing China off the established actors of the development finance regime has led demonstrably to competitive policy adjustment. Disagreement over development ideologies makes cooperatively raising the bar on development standards difficult – including for climate and decarbonization – when questions of authority are unresolved.

In the current environment of contested authority, the potential for a race to the bottom between the established and emerging regimes may be mitigated by the following factors:

1) *Changes in China:* China's reputational sensitivity may encourage it to weigh its U.S. and European relationships more heavily than those with developing countries. Power among China's domestic industrial coalition could evolve such that interests in exporting clean energy supersede interests in coal, as happened in the U.S. with natural gas powerplant exports. The potentially destabilizing impacts of climate change within China and abroad could also hasten the decline of political support for coal as an export industry. Alternatively, China's perception of the role developing countries can play in modeling clean energy pathways may change its preferences regarding international support for carbon-intensive power.

2) *Coordination and delegation:* Rather than compete, the established and new regimes could decide which roles and markets each will serve, to avoid discord. Such an outcome requires compromise on interests and ideologies that stakeholders in each regime have historically been reluctant to forfeit. U.S. and Japanese membership at the AIIB – not the

case at the time of writing – would greatly facilitate the potential for coordination between established and emerging development finance regimes.

3) *New approaches to climate policy:* The U.S. and the established regime come to a shared understanding with developing countries regarding expectations of their domestic mitigation commitments, and therefore whether and how much space exists for fossil power expansion. Least cost carbon-intensive development in some markets could be compensated by coordinated reductions elsewhere in a manner safe for the climate. An international carbon-tax with allowances for states needing more development space would be one logical way to achieve such an outcome.

The latter prospect seems particularly unlikely judging from decades of deadlock on issues involving calculations of mitigation "burdens", which would consider equity rather than political power. However, in the new landscape of power sector governance, contested rules might re-open debates on long established ideologies in development and politics.

Chapter 2
China, coal and the global power pipeline

2.1 Introduction

This chapter and the next discuss two trends that complicate efforts to manage global climate change. The first trend is the growing importance of coal power in emerging economies and China's role as an exporter. The second trend is increasing potential for discord among international institutions over coal policies. Chapters 2 and 3 discuss the issues separately and the remainder of the thesis discusses their co-construction and implications for climate change.

The analyses below are based on World Electric Power Plants (WEPP) data, a proprietary industry database available from Platts McGraw-Hill, current as of December 2015. WEPP assimilates information on individual power plant generators (one power plant may be comprised of several generators or "units"). Each generator generally lists capacity, operational status, fuel type, location, ownership, sourcing of major components and contracts, and technical specifications. Data is available down to the level of one kilowatt units though data is more comprehensive for larger units. The database has important limitations discussed throughout this text, but most importantly, solar power is under-represented in the database because individual solar installations tend to be decentralized and small, and thus hard to track. Certain classes of

generators are also under-represented in China, though otherwise the dataset is globally representative. A more detailed description of the dataset is available from Platts[8].

In Figure 2.1 below, capacity that is under "construction" has broken ground, while "planned" capacity is at various active stages of pre-construction development, including design, bidding, financing, and approvals. There is substantially higher uncertainty as to whether "planned" capacity will actually be commissioned, and planned figures tend to be larger than the capacity under construction. "Construction" capacity typically lists a year of commissioning anticipated in one to five years, but dates are as yet unavailable for some planned capacity. Capacity that is under "construction" or "planned" is termed as the "pipeline" in the discussion to follow.

Examining power sector change through planned capacity has advantages, with appropriate caveats on the reliability of near-term pipeline capacity discussed above. Pipeline capacity is not based on projections of the power sector that rely on integrated assessment models[9]. Modeling tools enable a long-term view subject to a range of assumptions and generalizations. WEPP data offer only a short-term window, but are grounded in a market's real economic and political development context.

The WEPP data indicate that the non-OECD dominates near-term growth in the power sector, with only one-quarter of all pipeline power capacity within the OECD. While the OECD's

[8] Platts (2013). "Data Base Description and Research Methodology UDI World Electric Power Plants Data Base". *McGraw Hill Financial*, Washington DC.

[9] Moss, R.H., Edmonds, J.A., Hibbard, K.A., Manning, M.R., Rose, S.K., van Vuuren, D.P., Carter, T.R. et al. (February 2010). "The next Generation of Scenarios for Climate Change Research and Assessment". *Nature* 463(7282): 747–56.

pipeline capacity approaches 60% non-fossil power (467 GW out of the 786 GW OECD total), the non-OECD pipeline has the opposite trend, exceeding 60% fossil (1467 GW fossil out of the 2379 GW non-OECD total). However, the overall pace of growth and market magnitude of the non-OECD means that the non-fossil development happening outside the OECD is still twice as large as within the OECD. Meanwhile, there is nearly five times as much fossil development happening outside the OECD as within it.

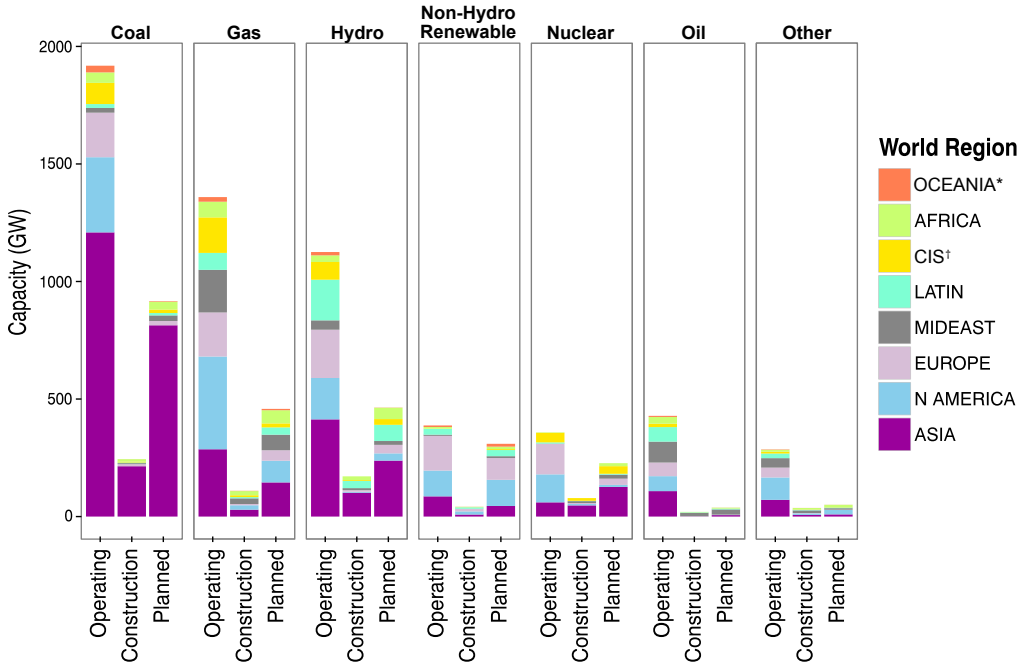

Figure 2.1: Operating and near term power capacity in GW, by fuel and global region. *[Author analysis of WEPP, December 2015].*
* Oceania includes Australia and New Zealand
† CIS abbreviates Commonwealth of Independent States

With major implications for climate change, roughly one out of every three GW of capacity in the near-term pipeline globally is coal power (1161 GW of coal in the global pipeline of 3165 GW for all fuels). Building this coal pipeline capacity would double the operating coal capacity that has been built in the past quarter-century – roughly four times the total operating coal capacity in the U.S. (310 GW). The vast majority of this pipeline coal capacity (93% of 1161

GW globally) is outside of the OECD. Nearly 90% of the global coal pipeline is in Asia (1028 GW), though 46% of the Asian coal pipeline is in China alone (97 GW under construction and 371 GW planned), and of the remaining 560 GW of Asian coal pipeline, 64% is slated for India (72 GW under construction and 285 GW planned). Recent policies in both countries may have substantial effects for the build-out of this pipeline; China has attempted to slow the capacity addition of coal plants, including pausing construction of some plants during the current period of rapid policy adjustment. While the Indian government has made a commitment to continued coal growth for meeting baseload power needs (albeit with cleaner and more efficient coal generators), regulatory uncertainty and overleveraged capital are the biggest challenges to clearing India's coal pipeline.

Twenty-percent of the global pipeline capacity is hydropower, 86% of which is in non-OECD countries. Fifty-three percent of the global hydropower pipeline is in Asia (340 GW out of 635 GW total globally), 16% is in Latin America (100 GW), and 10% is in Africa (64 GW).

Eighteen-percent of the global pipeline is gas. Relative to other fuels, much gas development is within the OECD. Of the total near-term gas capacity addition, 58% is outside of the OECD (330 GW out of 568 GW global total), indicating the relative importance of gas to energy transitions across the OECD, particularly the United States. Thirty-one percent of the global gas pipeline is slated for Asia (175 GW out of 568 GW total globally, and 143 GW in non-OECD Asia), 16% for the Middle East (90 GW), and 13% for Africa (74 GW).

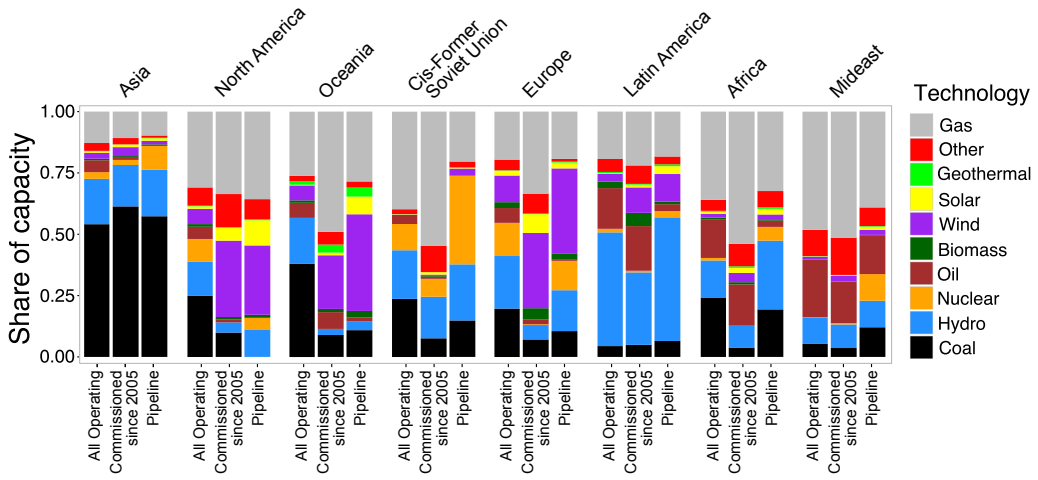

Figure 2.2: Power market changes by region. Each regional column shows technology share for all operating capacity (left), operating capacity commissioned since 2005 (center) and capacity under construction or planned capacity (right).

Outside of Asia and North America, global regions are experiencing a re-intensification of coal power. While the power sectors of Africa, Europe, the former Soviet states, and Oceania anticipate a decline in the share of coal power relative to all currently operating power capacity, the power sector pipelines in those markets show an increase relative to capacity built since 2005. Latin America and the Middle East have pipelines that are more coal-intensive than the overall power sector as well as capacity built since 2005.

The 2014 Intergovernmental Panel on Climate Change discussed the contribution of carbon-intensity of energy toward the decadal change in global emissions. Between 2001 and 2010, the carbon intensity of energy increased globally, offsetting benefits of declining energy intensity of GDP toward constraining total change in emissions[10]. This indicates a reversal of a multi-

[10] IPCC (2014). "Summary for Policymakers. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change" [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel & J.C. Minx (eds.)]. *Cambridge University Press,* Cambridge, United Kingdom and New York, USA. See SPM.3, p.6-9.

decadal trend since at least 1971 where energy transitions away from carbon intensive power partially buffered other drivers of emissions growth, including increasing population and economic activity per capita.

The large increase in global coal use is frequently attributed to the build out of coal power in China, but the trend in China has changed in recent years. Because China is already highly coal intensive and has instituted policies to diversify its power sector, Figure 2.2 (above) shows that overall the Asian power sector pipeline is less coal intensive than capacity commissioned in the last decade. However, a country-level view of Asia's other big markets indicates that a coal-centric development model is not a China-specific trend (Figure 2.3, below).

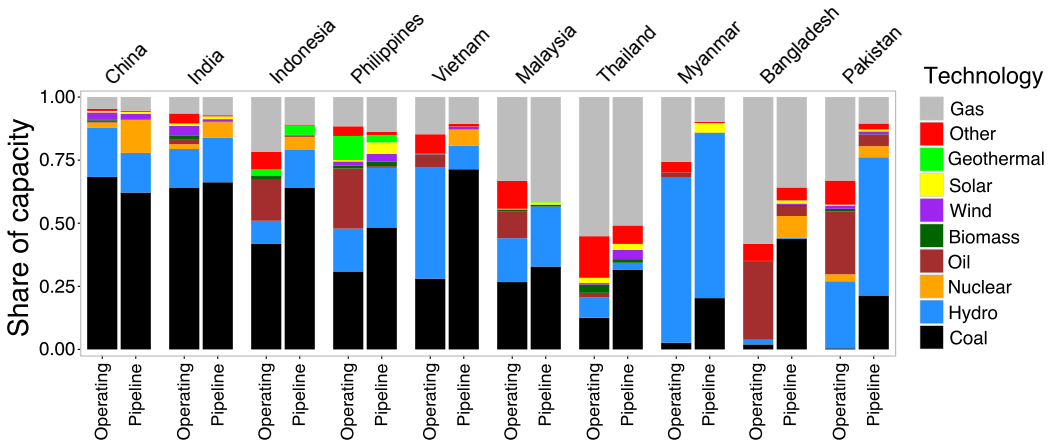

Figure 2.3: Power markets in Asia with over 15 GW of power in the pipeline. The share of capacity that was commissioned since 2005 (left) and under construction or planned (right) by technology shows that Asia's biggest energy sector growth markets are each currently building power sectors that are more coal intensive.

China's modest decline in coal intensity is an anomaly in Asia. Each of the other fast growing non-OECD power markets in Asia is becoming more coal-intensive. Each of the power sectors with over 15 GW of power (of any type) in the pipeline has a larger share of coal power in the

pipeline than in capacity operating since 2005. Within the OECD, both Japan and South Korea also follow this trend with power sector pipelines that are more coal intensive than the current operating capacity (as well as the capacity added since 2005). This pattern of increasing coal prevalence across Asia is consistent if one compares pipeline capacity to operating capacity commissioned since 2005, since 1990, or for all operating capacity. Coal is the only technology consistently gaining market share in the pipelines across each of these markets.

The three largest non-OECD Asian power markets outside of China, in terms of combined operating and pipeline capacity, are India, Indonesia and Vietnam. The shares of coal in power capacity since 2005 for these three countries are 64%, 42%, and 28% respectively, though the pipelines show a high and consistent reliance on coal: 66%, 64%, and 71%, respectively. If the Indonesian pipeline were to be realized, it would more than triple the country's operating capacity of coal (49 GW pipeline on a base of 24 GW operating). Vietnam's pipeline would quintuple the country's coal power capacity (49 GW pipeline on a base of 9 GW operating). In comparison, Bangladesh has only 250 MW of coal power installed but has a coal pipeline of over 12 GW. This pattern typifies the region's power sector change.

2.2 Policy uncertainty and the coal pipeline

As pipeline coal capacity indicates, under current conditions coal continues to have a future in many developing economies. There are several plausible data challenges that could reduce confidence in this coal-intensive assessment. Projects could be added to the database faster than they are removed, causing a backlog of projects that may never be built. Alternatively, as large

investments, coal plants may be "on the books" for several years but ultimately fail to reach financial closure or receive needed clearances. If the retention time (number of years between inclusion in the database and commissioning) of coal plants in the WEPP data is longer than for other fuel types, this would artificially inflate coal's share of total pipeline capacity. The same may be said for other large baseload competitors, particularly nuclear and hydropower plants, which may face even more severe political, resource and regulatory obstacles in these markets[11,12].

The longer-than-planned retention for coal power has been the case with India's Ultra Mega power projects (only two out of sixteen planned plants are operating, after a decade of planning). According to a report by the Prayas Energy Group in India, as of August 2011, 513 GW of proposed coal power capacity was under various stages of review and approval by the Indian Ministry of Forests[13]. Few projects have historically been rejected during this approval process, but the proposed quantity of coal power – five to six times India's current installed capacity[14] – significantly exceeds capacity additions called for in India's power planning process.

However, the share of coal in India's pipeline in WEPP is more consistent with official planning targets from India's Central Electricity Authority. The officially planned capacity addition in India's 12th Five Year Plan spanning the period 2012-2017 is ~60% coal (69.8 GW coal out of

[11] Ramana, M. V. (2012). "The power of promise: examining nuclear energy in India". *Penguin UK*.
[12] Ansar, A., Flyvbjerg, B., Budzier, A. & Lunn, D. (2014). "Should we build more large dams? The actual costs of hydropower megaproject development". *Energy Policy* 69: 43-56.
[13] Dharmadhikary, S. & Dixit, S. (August 2011). "Thermal Power Plants on the Anvil: Implications and need for rationalization". *Prayas Energy Group*, Pune.
[14] Central Electricity Authority (June 2011). "All India Installed Capacity". *Government of India Ministry of Power*. Available: http://www.cea.nic.in/reports/monthly/inst_capacity/jun11.pdf [Accessed July 2015].

118.5 GW total)[15,16]. The coal additions for the 13th FYP (2018-2022) are expected to be similar[17]. If officials continue the pace of Central Electricity Authority targets to 2032 (four five-year periods including the 12th Five Year Plan), coal power additions would be on the order of 280 GW (78% of the WEPP pipeline of 357 GW).

Meanwhile, unofficial projections from a reputable Indian consulting firm anticipate installed capacity of coal growing to 380 GW in 2031[18] (almost exactly doubling end-of-2015 operating coal capacity), but only absorbing little over half of WEPP's pipeline capacity.

India's power sector outcomes – and resulting emissions – will depend substantially on the economic growth rate[19], as well as overcoming major regulatory uncertainties specific to the coal power sector, including coal supply. Under the current trajectory, the scale of India's stunted coal boom is roughly on pace with India's renewable energy ambitions. The "Jawaharlal Nehru Solar Mission" calls for 100 GW of solar, and 60 GW of wind, by 2022. Though India's renewable energy targets are seen as highly ambitious, their realization would substantially dampen coal power as a share of pipeline capacity addition.

[15] The range is between 46-72% depending on scenario results and what is included in the calculation. Planning Commission (2013) "Twelfth Five Year Plan (2012-2017) Economic Sectors, Volume II". *Government of India.* Available: http://planningcommission.gov.in/plans/planrel/12thplan/pdf/12fyp_vol2.pdf [Accessed September 2016], p.146.

[16] Planning Commission (January 2012). "Report of the Working Group on Power for Twelfth Plan (2012-17)". *Government of India Ministry of Power.* Available: http://planningcommission.gov.in/aboutus/committee/wrkgrp12/wg_power1904.pdf [Accessed September 2016].

[17] Planning Commission 2012, *Supra*.

[18] Presentation by ICF International (10 February 2015). *India Infrastructure conference*, New Delhi.

[19] Dubash, N.K. & Khosla, R. (October 2015). "Neither Brake Nor Accelerator: Assessing India's Climate Contribution" *Commentary: Economic & Political Weekly*: L(42).

In the last decade, Indonesia has also made a concerted effort to diversify its energy mix away from oil and gas and toward coal power[20]. In 2006 Indonesia implemented a "Fast Track" or "Crash" Programme to quickly develop 10 GW of coal sector by 2010, though by the end of 2012 only 3.5 GW had been implemented. Indonesia's official energy plans are to take coal power from 25% of primary energy in 2010 to 35% in 2025[21]. Indonesia agreed to guarantee loans from a series of Chinese banks to cover 85% of the engineering and construction contracts for the Crash program[22], for which China would source about 8 GW of coal equipment, reducing the implementation uncertainties. The Chinese package set off competition with Japanese suppliers[23] who competed with China by promising Indonesia increasingly efficient equipment[24]. A subsequent Fast Track Program 2 in 2012 initially called for 10 GW more power, mostly from coal, but later revised the targets to increase the share of hydropower and geothermal[25]. In general, the Indonesian coal boom has had less difficulty than India's large-scale development plans owing in part to domestic fuel supply security, though major uncertainties remain.

In the last year, Vietnam too has begun to reassess whether coal dependency is a prudent path forward, particularly as it becomes more reliant on coal imports[26]. There is recent statistical

[20] International Energy Agency (2008). "Energy Policy Review of Indonesia". *OECD,* Paris.
[21] Presentation by the Indonesia Ministry of Energy and Mineral Resources (3-8 December 2012). "Development of New & Renewable Energy and Energy Conservation in Indonesia". *Global Workshop on Clean Energy Development*. Washington DC.
[22] PT PLN (Persero) Annual Report (2012). "Terang Lebih Baik: Brighter is better", p.191.
[23] Author interview, August 2014.
[24] Ross, K. (10 July 2011). "Japan-Indonesia Consortium to build 2GW Java coal fired plant". *Power Engineering International.* Available: http://www.powerengineeringint.com/articles/2011/10/japan-indonesia-consortium-to-build-2gw-java-coal-fired-plant.html.
[25] PT PLN (Persero) Annual Report (2011). "Bekerja Inovatif Menciptakan Keunggulan: Innovative work creating excellence", p.141.
[26] Patel, S. (1 April 2016). "Vietnam Reconsiders New Coal-Fired Power Plants". *POWER Magazine*. Available: http://www.powermag.com/vietnam-reconsiders-new-coal-fired-power-plants/.

evidence that in general, increased reliance on coal is more common for faster growing and poorer economies, and that this effect is strongest in Asia[27].

2.3 Implications of the coal boom for climate change

Technology choice of power sector infrastructure that is yet to be built will be central to attaining global climate targets[28]. According to estimates summarized in the IPCC, keeping global temperature rise to less than 2 degrees C (above the period 1861-1880) with greater than 66% probability (accounting for CO_2 and non-CO_2 forcers) leaves a carbon budget of approximately 1010 $GtCO_2$ from the year 2011[29], or 850 $GtCO_2$ from the year 2015. Other estimates suggest the range of 590-1240 $GtCO_2$ from the year 2015 for policy planning[30].

Every 6 GW of coal power capacity commits the world to roughly 1 $GtCO_2$ (assuming 1090 kg CO_2/MWh, 44% capacity factor) over the plant's 40-year generator lifetime. The equivalent mass of CO_2 is generated by 12 GW of gas (assuming 659 kg CO_2/MWh, 35% capacity factor and 40-year lifetime)[31]. As such, the 1161 GW of coal in today's pipeline would commit emissions of roughly 194 $GtCO_2$, and the pipeline of 568 GW of gas another 47 $GtCO_2$. The 2012 installed power capacity already has remaining "committed emissions" of 307 $GtCO_2$ (with

[27] Steckel, J.C., Edenhofer, O. & Jakob, M. (2015). "Drivers for the renaissance of coal". *Proceedings of the National Academy of Sciences* 112(29): E3775-E3781.

[28] Davis, S.J., Caldeira, K. & Matthews, H.D. (2010). "Future CO2 emissions and climate change from existing energy infrastructure". *Science* 329(5997): 1330-1333.

[29] IPCC (2013). "Summary for Policymakers. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change" [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex & P.M. Midgley (eds.)]. *Cambridge University Press*, Cambridge, United Kingdom and New York, USA, p.27.

[30] Rogelj, J., Schaeffer, M., Friedlingstein, P., Gillett, N., van Vuuren, D., Riahi, K., Allen, M. & Knutti, R. (March 2016). "Differences between Carbon Budget Estimates Unravelled". *Nature Climate Change* 6(3): 245–52.

[31] Davis, S.J. & Socolow, R.H. (2014). "Commitment accounting of CO2 emissions". *Environmental Research Letters* 9(8): 084018, p.3-4.

an uncertainty between 192-439 $GtCO_2$ depending on plant lifetime)[32]. Using 1000 $GtCO_2$ as the approximate carbon budget, with subtracting the 307 $GtCO_2$ from the 2012 operating power sector, the near-term coal pipeline consumes over one-third of the 693 $GtCO_2$ remaining carbon budget to keep global temperature rise below 2 degrees C. This calculation looks even more daunting when the carbon budget is reduced further for consistency with a 1.5 degrees C target.

2.4 Technology export and finance

While the climate implications of the coal-intensive development path are well understood, the political factors that make coal attractive are viewed simplistically. A range of domestic and international subsidies makes coal more affordable in developing country markets, increasing its use, but may also increase generator efficiency through export of advanced coal technology. The global system of coal equipment sourcing has not been comprehensively studied.

Using WEPP, the origin of equipment manufacturers is coded for global coal power projects. Coding a single variable available for all coal capacity in the dataset allows comparison across exporters and over time. Exports are considered for turbines in the discussion below because turbines create the most complete representation of global coal power capacity. Units for which turbine data are unavailable may have other pieces of equipment with origin data, though different pieces of equipment for a single unit of power capacity requires either that a unit of power capacity be double counted, or else shared between the multiple export origins. Turbine source data is available for 89% of global coal between 1955 and 2015 (1939 GW out of 2177

[32] Davis & Socolow 2014, *Supra*.

GW). Although steam system data are available for 92% of capacity (2013 GW), and 139.6 GW of this capacity is for power plants where turbine data is missing, steam cycle data does not permit eventual comparison for gas, hydropower, wind and other power technologies that do not use a Rankine cycle. Coding architecture and engineering firms in WEPP only covers 57% of coal power capacity. Generator manufacturers yield only 2.5 GW of additional data not already covered by coding turbines. Data on construction contractors captures 52.9 GW of new data not covered by coding turbines and can be excluded because of the resource intensity of coding nearly 700 construction firms.

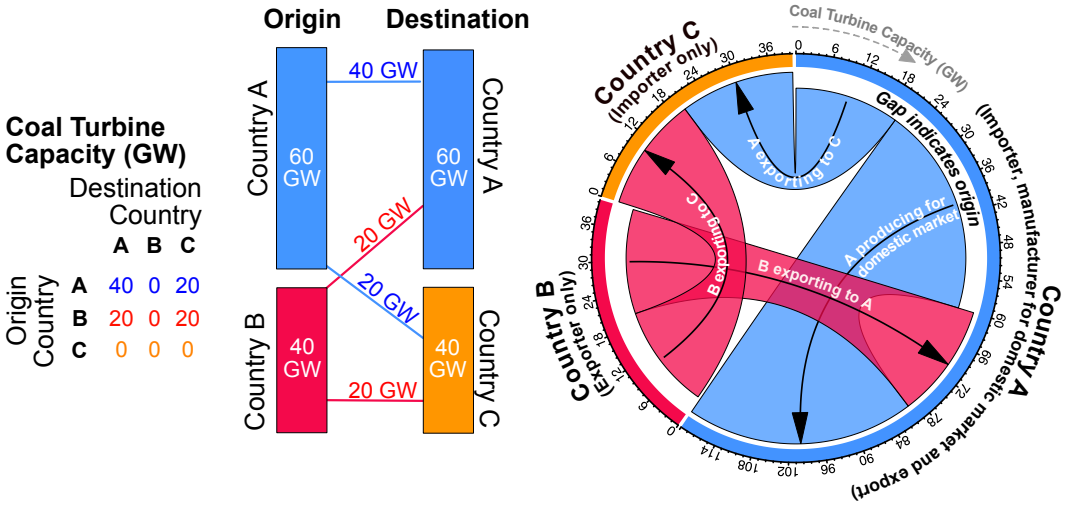

Figure 2.4: Illustration of circular representation for power equipment sources and destinations globally, employed in Figures 2.5 and 2.7 below. Origin indicates where equipment was manufactured, and destination indicates where the equipment was installed. Origins and destinations are equivalent: 100 GW of total equipment was produced (60 GW in Country A and 40 GW in Country B), and 100 GW was installed at destinations (60 GW in Country A and 40 GW in Country C). The circumference of the rightmost panel represents 200 GW, both the capacity produced (100 GW) and the capacity consumed (100 GW). *[Original author figure, using concept and layout in Abel and Sander 2014, Figure 1[33]. Presentation concept in Figures 2.4, 2.5 and 2.7 is called "Circos" introduced by Krzywinski et al. 2009[34] with programming in R from Gu 2016[35]].*

[33] Abel, G.J. & Sander, N. (2014). "Quantifying global international migration flows". *Science* 343(6178): 1520-22.
[34] Krzywinski, M.I., Schein, J.E., Birol, I., Connors, J., Gascoyne, R., Horsman, D., Jones, S.J. & Marra, M.A. (18 June 2009). "Circos: An Information Aesthetic for Comparative Genomics". *Genome Research*, doi:10.1101/gr.092759.109.

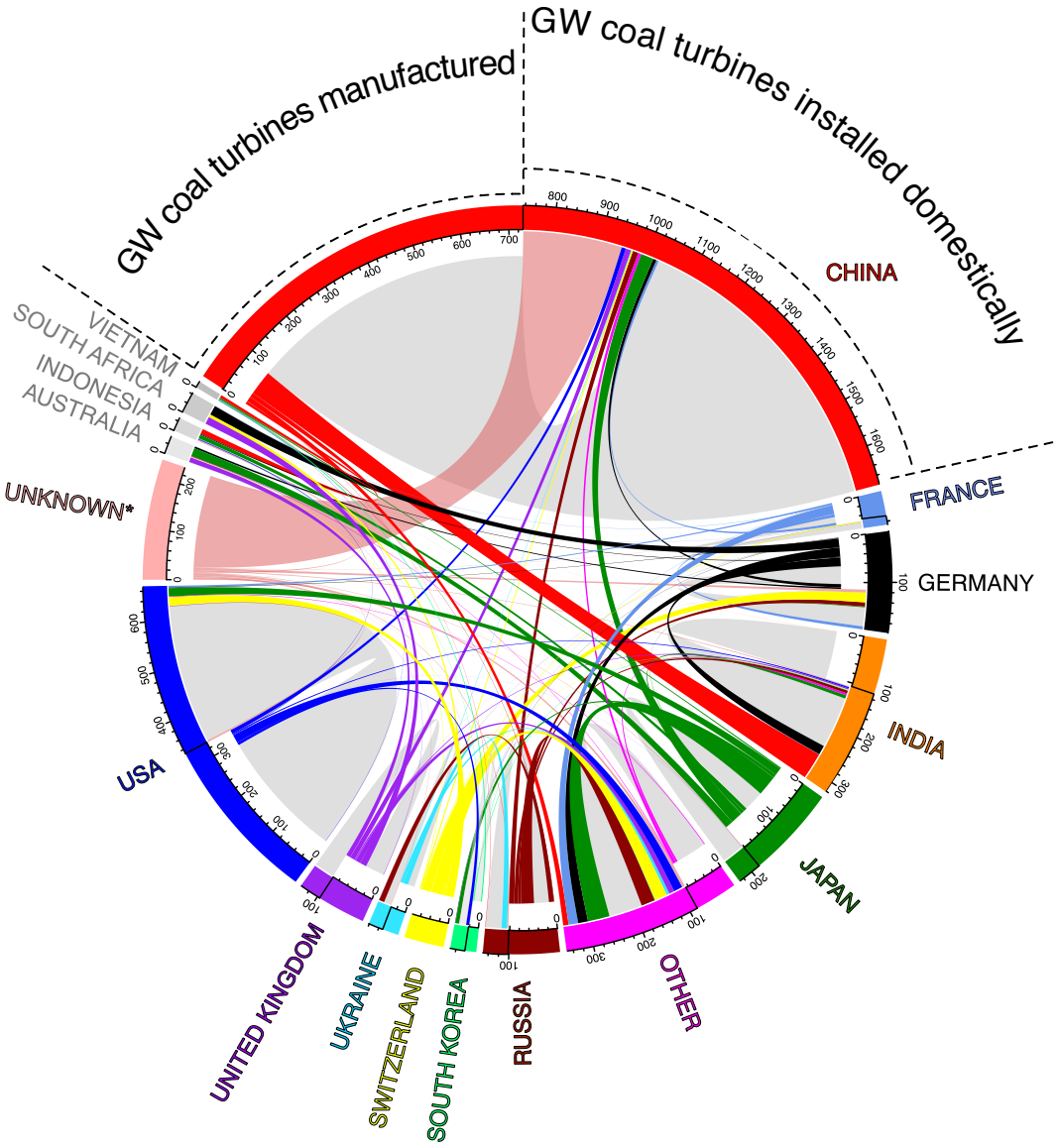

Figure 2.5: The manufacture (outflows) and destination markets (inflows) of coal powerplant turbines between 1955 and 2015, in gigawatts, for the largest global power markets and suppliers. Comparable data for steam system, architecture/engineering firms, and generators are available in the supplement.

* Unknown indicates capacity for which data are not available – counted as an export – discussed further below. See Figure 2.4 for assistance with interpreting the figure. *[Author analysis based on World Electric Power Plants, see Table 2S.2 for data]*.

[35] Gu, Z. (14 August 2016). "An Introduction of making genomic plots with circlize". Available: https://cran.r-project.org/web/packages/circlize/vignettes/genomic_plot.pdf.

Figure 2.4 above provides an illustration of how coal export data is presented. Exported equipment has grown in importance. For the 15-year period beginning in 1955, coal turbines that originated in other countries comprised 42% of installed capacity. The share decreased to 38% for the period of 1970-1984, increased to 48% for the period of 1985-1999, and declined to 26% for the period 2000-2015. However, excluding the massive Chinese domestic market, which has largely been supplied by equipment of Chinese origin, 63% of coal powerplant capacity was exported in the period 2000-2015. These figures exclude capacity for which the turbine manufacturers are unknown, though 95% of that capacity (165 GW out of 173 GW) was also destined for China.

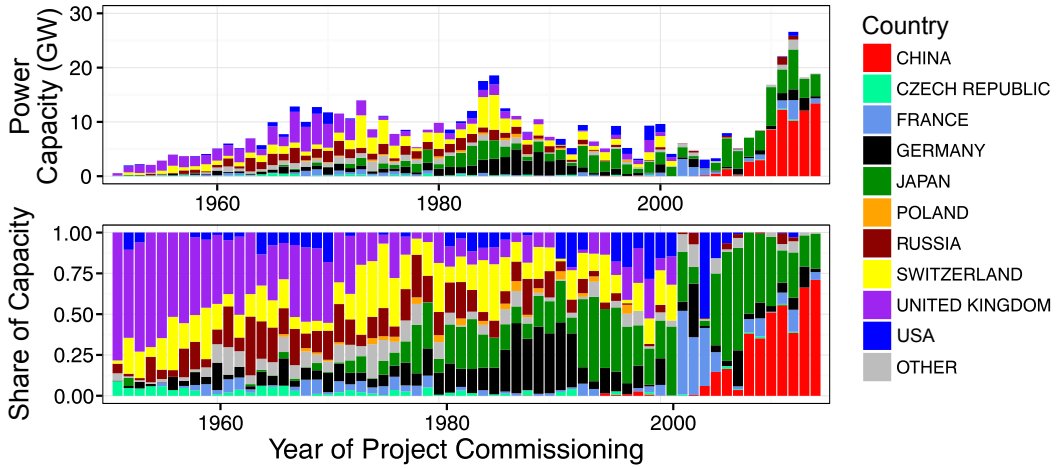

Figure 2.6: The capacity of coal powerplant capacity built globally where the turbine was an export, by exporting country. The upper panel shows capacity (GW) of exports over time, while the lower panel shows the share of capacity occupied by each exporter over time. The OECD and Russia were the dominant exporters through the late 1970s, with Japan and Germany squeezing out the UK market in the 1980. In the past decade, Japan and China have dominated the coal export market.

The OECD has recently become much less significant in the export of coal equipment. From 1970 to 1985, OECD minus Japan made up 63% of coal equipment export capacity, increasing modestly to 66% from 1985-2000. The share of Japan's global exports rose from 15% to 23% in

the same period. Since 2000, the OECD's exports minus Japan have declined in absolute terms (from 113 GW in 1985-2000 to 70 GW in 2000-2015) and as a share of overall coal equipment exports (from 66% to 30%). During the same period, Japan's equipment exports nearly doubled from 39 GW to 72GW.

China has recently come to have a dominant role in exports of coal power equipment, alongside Japan. Between 1985-2000, Chinese firms had effectively no coal exports (>0.5% of the global share), though this increased to 37% of global coal exports since 2000. China's Shanghai Electric was the single largest global turbine exporter in this period. Figure 2.7, below, represents the rapidly growing importance of China for global coal powerplant manufacturing for domestic use and export.

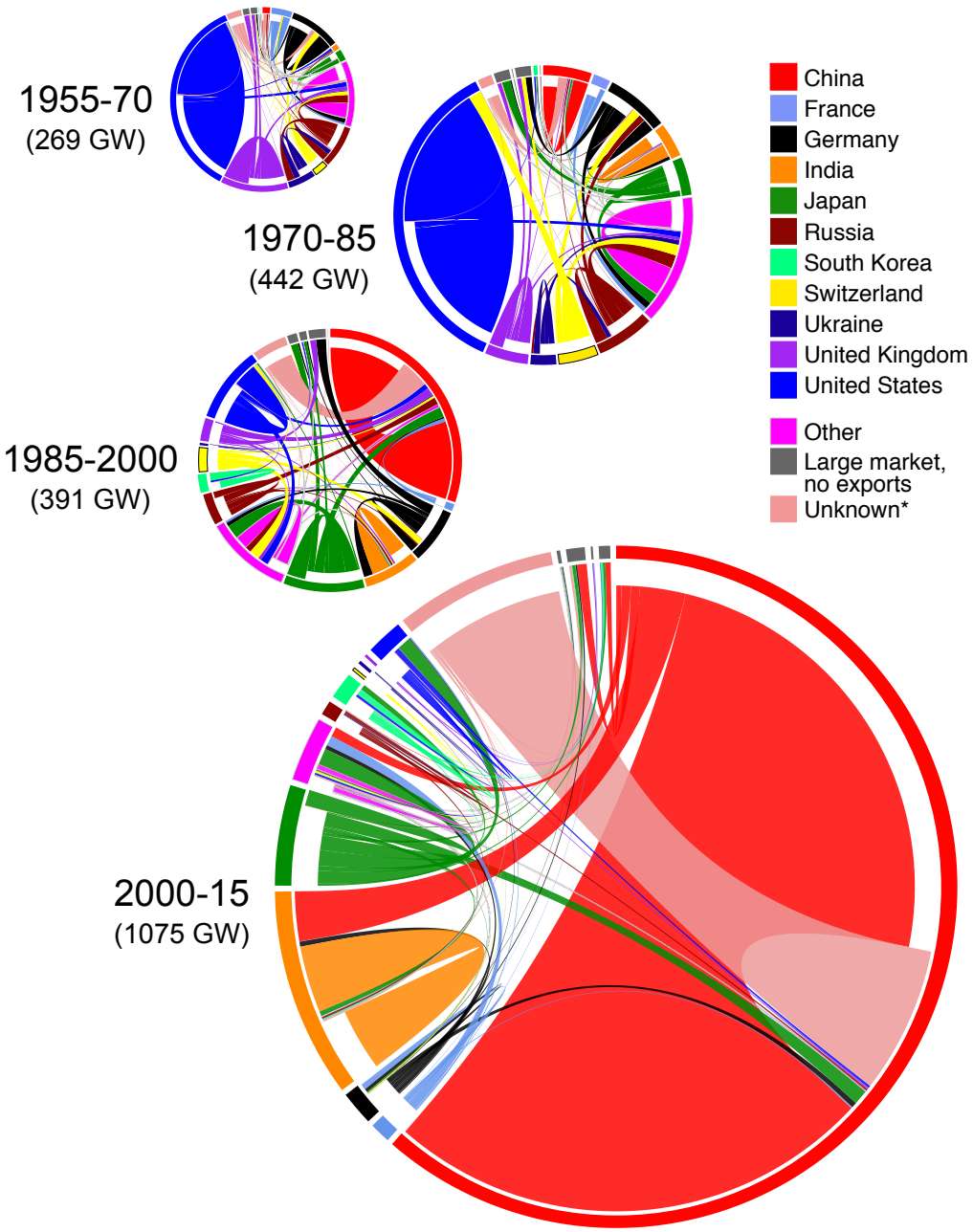

Figure 2.7: Global coal power installations in select markets over time, showing the origin and destination of equipment. Capacity addition during the time period is noted in parentheses. See Figure 2.4 for assistance with interpreting the figure. The Supplement includes tables with these export flows.

The recent rate of China's coal exports is higher than any previous exporter. China was not a coal exporter until its own domestic coal market peaked in 2006. Since 2000, Chinese firms have exported nearly 85 GW of coal, though this figure is likely to be several GW larger because

of unknown data likely attributable to China (see explanatory note below). The next largest exporting nation since 2000 has been Japan with nearly 72 GW of exports (17 GW of which was destined for China and 15 GW for the U.S.). Between 2010 and 2015, the rate of China's exports was over two times that of Japan (13 GW annually for China versus 5.4 GW annually for Japan).

The majority of China's coal exports are to India. Two thirds of the turbine capacity that China has exported since 2000 has been to India (56 GW out of 85 GW total). The next largest exporters to India (Germany and Japan) are each only a tenth of the Chinese capacity (5.5 and 5.4 GW respectively) during the same period. Since 2000, India's domestic coal sourcing market was still larger than the China import market, at 75 GW, though the rate of capacity addition from China between 2010 and 2015 nearly caught up with India's domestic suppliers (8.9 GW average per year for domestic suppliers, relative to 8.5 GW for Chinese suppliers).

In this analysis, unknown data are believed to be mostly Chinese firms. A substantial portion of the turbine data is listed as "unknown", though there is reason to believe that more recent "unknown" turbines originate with small Chinese firms, primarily for the domestic market. China is the destination for 88% of the turbines with unknown origin across the entire sample 1955-2015. Six percent of the unknown data is from the 1955-1970 period, with China, Germany, Russia and the U.S. as the largest destinations, and 50% of China's domestic capacity addition having unknown firms. The 1970-85 period accounts for another 6% of the unknown data, with China as a destination consuming 68% of unknown turbines, followed by Germany (8%), Russia (7%) and the U.S. (4%). The 1985-2000 period is only 15% of the unknown data,

with China consuming 89%, and no other destination consuming more than 3%. The significant majority of missing data is from the 2000-2015 period with 73%, and China was the destination for 95% of these data, and only India and Indonesia more than 1%. The Chinese market for "unknown" turbines is large, at 165 GW, and would be the largest export flow were it not from Chinese domestic manufacturers. The average unit size of the turbines of "unknown" origin (205 MW unit) destined for China in the latter period are a full standard deviation below the average of turbines for which origin is available (459 MW average ± 242 MW standard deviation). In conclusion, it is unlikely that these unknown manufacturers, particularly in the post-2000 period, diminish the growing relative importance of Chinese coal turbine exports.

2.5 Exports and efficiency

While coal exports are increasing, they are also becoming more efficient. A continuum of efficiencies exists among pulverized coal power plants, mostly dependent on the temperature and pressure of the powerplant boilers. For simplicity, the least efficient technology is referred to as subcritical, which has low boiler temperatures and pressures, but higher resultant fuel consumption and emissions. Subcritical coal power plants were standard globally prior to 1960. Supercritical generators have boiler temperatures exceeding 600 degrees C and pressures exceeding 22.1 MPa, causing the plant's working fluid (water) to exhibit "supercritical" properties. Supercritical coal plants can achieve thermodynamic efficiencies of up to 45%, with even higher efficiencies – "ultra-supercritical" – also attainable using advanced materials. An ultra-supercritical generator has typical emissions below 750 gCO_2/kWh, relative to upwards of 1000 gCO_2/kWh for sub-critical plants. "Advanced" ultra-supercritical concepts are also in

development, with potential emissions intensities around 670 gCO_2/kWh, which is comparable to integrated gasification combined cycle (IGCC) units[36]. Supercritical coal technology became operational in the early 1960s in the U.S. and Europe. Ultra-supercritical coal became operational in the 1990s, initially in the U.S. and Europe, though Japan also began operating ultra-supercritical units in 1993. These technology distinctions form the bargaining blocs in global coal politics (see Chapters 5 and 6).

Table 2.1: Total capacities of coal power turbines by technology type for domestic use and export by Chinese firms.

Coal Technology	Status	Domestic Capacity (MW)	Export Capacity (MW)
Unspecified	Operating	1630	130
Unspecified	Construction	1200	1484
Unspecified	Planned	5040	15700
SubCritical	Operating	453145	55209
SubCritical	Construction	5410	20199
SubCritical	Planned	16528	21281
Super-Critical	Operating	196600	24704
Super-Critical	Construction	19940	21426
Super-Critical	Planned	41330	17748
Ultra-Super	Operating	133396	1080
Ultra-Super	Construction	54730	0
Ultra-Super	Planned	73700	2520

In 2006, China implemented new rules that all new generators larger than 600 MW installed domestically must be of supercritical efficiency or greater. This appears to have had little effect on the composition of exports. Subcritical units larger than 600 MW were not common in the Chinese domestic market (5227 MW between 2000 and 2007), and as a result less than 10% of all the 63 GW of subcritical coal capacity exported by China was for units >600 MW between

[36] International Energy Agency (2012). "Technology Roadmap: High-Efficiency, Low-Emissions Coal-Fired Power Generation". *OECD*, Paris, p.5. Available: http://www.iea.org/publications/freepublications/publication/TechnologyRoadmapHighEfficiencyLowEmissionsCoalFiredPowerGeneration_WEB_Updated_March2013.pdf.

2000 and 2015). Instead, subcritical exports tended to be small (11% were 135 MW, 22% were 300 MW units, 22% were 600 MW units).

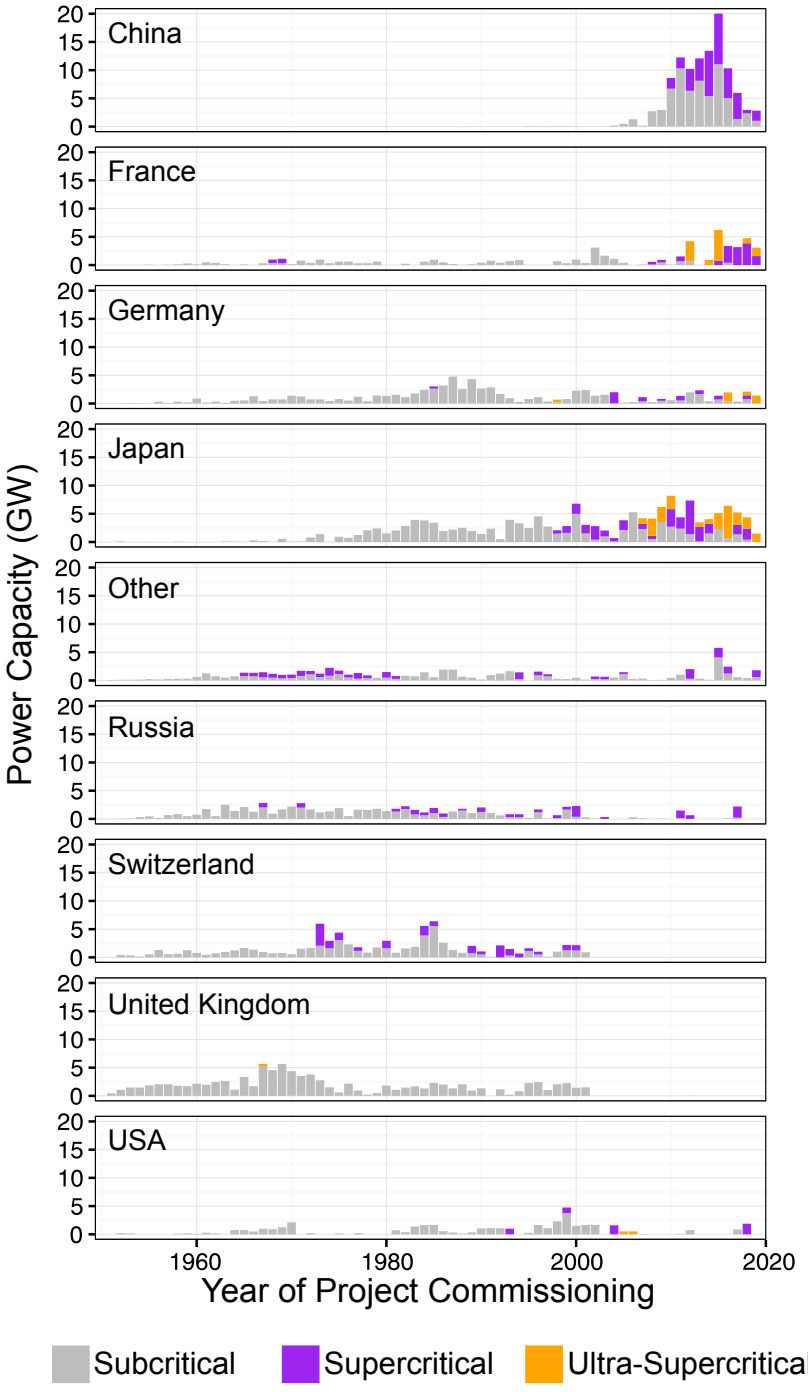

Figure 2.8: The efficiency of coal power exports, by exporter. The analysis is conducted for turbines associated with power plants that are rated as subcritical, supercritical, or ultra-supercritical in the World Electric Power Plants database,

generally a designation based on the heat rate of the plant's boiler. China's coal power exports have been mixed between subcritical and supercritical. Japan has a long history of subcritical exports, but since 2000 has been the largest exporter of ultra-supercritical boilers. The magnitude of capacity addition tapers after 2015 because of increased amount of unknown suppliers.

China itself relied first on supercritical coal technology imports from Switzerland and Japan in the 1990s, before acquiring the technology through a series of licensing and joint ventures with major global manufacturers (Alstom, Mitsui Babcock, BHK, Mitsubishi, Toshiba, and Hitachi)[37]. Of the coal capacity that China has exported since 2007, 35% was supercritical, generally as larger units. Ninety-one percent of the Chinese exported supercritical capacity was units larger than 600 MW, ranging up to 877 MW. China is only beginning to support ultra-supercritical units, with 3.5 GW operating or planned, although 16 GW of the coal plants China plans to be involved in have yet to specify their critical status.

By comparison, 64% of Japan's coal export capacity was supercritical or higher since 2007, 29% of which was ultra-supercritical. France and Germany have become more minor players, each exporting about one-sixth and one-eighth, respectively, of the capacity that China did during this period. However, France's exports are much more efficient, with 86% of its export capacity supercritical or higher, and 68% of the total was ultra-supercritical. Germany's capacity was only 31% supercritical, and the only ultra-supercritical capacity for export by Germany is in the pipeline.

[37] Yue, L. (2012). "Dynamics of clean coal-fired power generation development in China". *Energy Policy* 51: 138-142. Including a reference to Zhai, S. (2008). "Choice of the parameters and main pipe material of 1000 MW unit". *Huadian Technology* 30(6), 1-4.

The remainder of the data presented in this thesis refers to capacity "involving" Chinese firms, implying that Chinese firms are listed as engaging in sourcing, architecture and engineering or construction of power plant equipment and services. Involvement does not imply financial support from Chinese banks, though projects which source Chinese equipment commonly receive concessional funding or grants from Chinese state-associated banks and institutions. "Involvement" data is coded only for Chinese firms, allowing for comparison across technologies, but not comparison with firms from other nationalities. Involvement of Chinese firms indicates inclusion of a Chinese firm in one of five pieces of equipment or services. A substantial majority of capacity listed as involving Chinese firms uses Chinese equipment for the Boiler-Turbine-Generator system. Eighty-eight percent of operating capacity said to involve Chinese firms is listed as sourcing its turbine from a China-affiliated company, and 93% of capacity sources at least one of its major equipment components (turbine, generator of steam system) from a China-affiliated company. Of capacity under construction with Chinese involvement, 72% are listed as sourcing the turbines from China and 87% source at least one major piece of equipment. Planned capacity has substantially more incomplete data, with an equipment sourcing relationship listed for only 50% of the planned capacity involving Chinese firms. However, 42% of the planned capacity involving Chinese firms involves both Chinese Architecture/Engineering firms as well as Chinese construction firms, and with incomplete data in each of the equipment fields.

Exports of coal equipment have long been tied to favorable finance from bilateral and multilateral financial institutions. The finance has been politicized. India is a prominent example. Sources of funding for India's power sector have changed tremendously during the last

two decades. In the late 1980s and early 1990s, the World Bank was the largest source of financing for the Indian coal power sector, mostly through India's state-owned National Thermal Power Corporation (NTPC), though the last major World Bank project with NTPC was approved in 1993 (Vindhyachal). Several other projects at NTPC benefited from World Bank finance through budget support for coal power between 1993-1999, called a "time-slice" loan. The World Bank remains NTPC's largest source of international finance (US$4.0 billion as of Feb 2014, unadjusted) [38], even after 20 years without financing an NTPC coal plant.

In the early 1990s, India had foreign exchange restrictions that the Bank could bypass, making it an attractive financial partner. While a number of factors led to the Bank's retreat from coal in India[39], removal of the foreign exchange restrictions allowed a flood of international finance that eventually marginalized the Bank. In the mid and late 1990s, World Bank financing for new projects was replaced by OECD bilateral agencies and export credit agencies offering tied aid and generous export support for power projects.

The World Bank motivated much of the Indian power sector privatization of the 1990s, with state-level reforms aggregating to the national level with the 2003 Electricity Act. Since 2003, significant privatization of new generation has occurred. The share of coal generation controlled by private companies increased from 6% (4.2 GW) in 2007-08 to 27% (35 GW) in 2013-14, pulling market share away from NTPC and state power companies.

[38] Author interviews, January 2014 and February 2015.

[39] Climate change concerns were part of the discussions around financial packages for India in the late 1990s (particularly voiced by the United States), though climate was not considered consequential relative to other factors including the need to engage with transmission and reform of the State Electricity Boards. Access to private capital through stronger markets eroded the need for the Bank's concessional financing. While some developers claim that they would welcome IBRD financing for coal projects today, available export-financing and the World Bank's oversight requirements make the Bank a burdensome and redundant financial partner.

After the World Bank stopped directly financing coal projects, the Asian Development Bank (through its private lending window[40]) and bilateral export-credit agencies (particularly Japan and China) began to play a larger role in project finance in India.

NTPC, still the country's largest power generator, sources most equipment for coal projects through international competitive bidding, but has not sourced any equipment from Chinese manufacturers. NTPC claims Chinese coal equipment manufacturers are deficient on technical grounds and do not qualify for NTPC coal project bidding, and this has been followed up by several technical reports by various government ministries[41,42]. Others knowledgeable of NTPC's sourcing decisions indicated that NTPC, as a state-owned enterprise, disqualifies Chinese suppliers on political grounds because of concerns that Chinese import pressure will harm domestic manufacturers[43]. At the same time that the Indian government is directly courting bilateral international export-credit finance from Japan and China, domestic manufacturers have successfully lobbied for import tariffs targeted at Chinese coal equipment.

[40] NTPC received one ADB loan as a private producer (Vinhdyachal-II/ Kayamkulam/ EAP Packages worth US$400 million in March 1999), and a second loan split between ADB's public arm, and a commercial loan guarantee (Sipat and Kahalgaon II in March 2008).

[41] Singh, S.P. (12 August 2013). "CEA shock for Chinese power equipment". *Business Standard.* Available: http://www.business-standard.com/article/economy-policy/cea-shock-for-chinese-power-equipment-113081200029_1.html.

[42] Central Electricity Authority (2013). "Highlights: Performance Review of Thermal Power Stations 2012-13". *Government of India Ministry of Power.* Available: http://www.cea.nic.in/reports/annual/thermalreview/thermal_review-2012.pdf.

[43] Author interviews, July 2014.

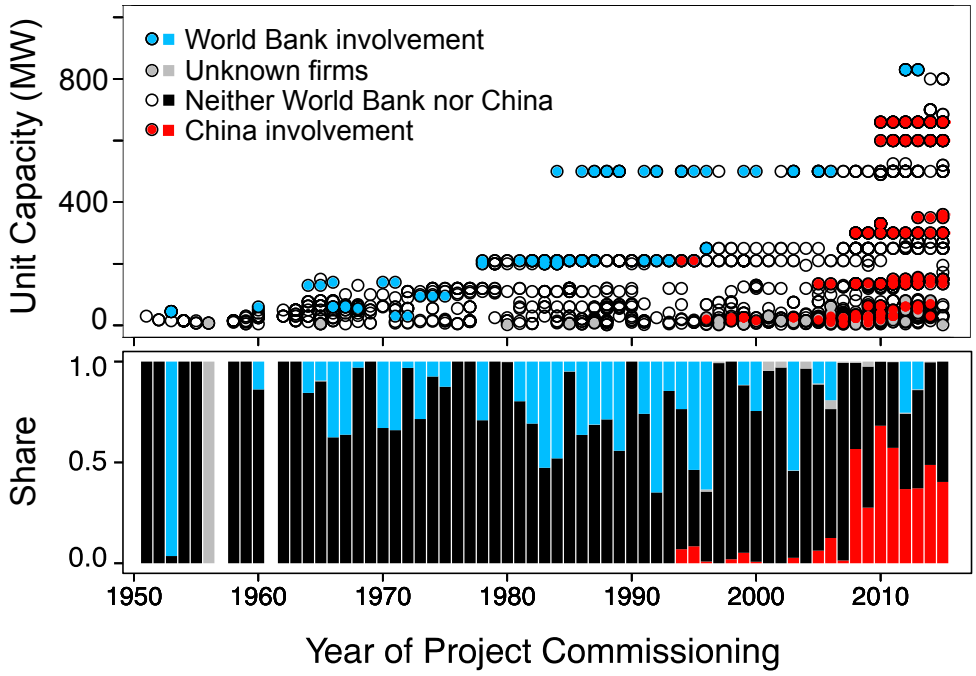

Figure 2.9: World Bank Group and Chinese involvement in India's coal power generators, by individual units (upper) and total share of capacity (lower). World Bank involvement includes rehabilitation and sectoral support, as well as greenfield.

Despite these politics within India, the China coal export flow to India between 2000 and 2015 is the largest in Figure 2.7. The Indian coal sector in Figure 2.9 is also globally emblematic of the major shift from the World Bank to China as champions for coal development.

Multilateral Development Banks and Export Credit Agencies have collectively financed construction or expansion of 88 coal power plants between 1994 and 2009[44]. Meanwhile export credit finance for coal power from the OECD was US$25.24 billion between 2007-2014, according to a dataset collected by prominent U.S. non-governmental organizations[45]. Forty-two

[44] Rich, B. (2009). "Coal-Fired Plants Financed by International Public Investment Institutions Since 1994". *Environmental Defense Fund*.

[45] Bast, E., Godinot, S., Kretzmann, S. & Schmidt, J. (June 2015). "Under the Rug: How Governments and International institutions are hiding billions in support to the coal industry". *Natural Resources Defense Council, Oil Change International, World Wildlife Fund*. Available: https://www.nrdc.org/media/2015/150602.

percent of that OECD total was from Japan's export credit agencies. However, U.S. government estimates cited by the Washington Post indicate that OECD governments have provided US$35 billion for coal projects between 2009 and 2015. Another estimate, from a leaked OECD report cited by the Post, says OECD governments supported 23% of the roughly 15.3 GW of coal power capacity installed outside of China from 2005 to 2012[46].

According to analyses by the Climate Policy Initiative (2015), finance for Chinese overseas coal power investments has already surpassed US$21-38 billion, with an additional US$35-72 billion in projects that are in the pipeline[47]. A separate estimate from the New York Times (2015), based only on a sample representing one third of coal projects financed by China, placed the government finance component at US$25 billion[48].

China's export assistance for coal power equipment has become an important contributor to the coal-intensification of the developing world. Chinese firms operating abroad have been involved in 41% of global coal capacity addition outside of the OECD and China since 2005, and 47% since 2010. Pipeline coal capacities for which firm data are available indicate Chinese involvement in 41% of forthcoming capacity.

China's export portfolio is more coal intensive than the global capacity trend. About 60% of the capacity addition supported by Chinese firms outside of the OECD and China since 2005 has

[46] Eilperin, J. (17 November 2015). "In a major step on the road to Paris, rich countries agree to slash export subsidies for coal plants" *Washington Post*.
[47] Hervé-Mignucci, M. & Wang, X. (November 2015). "Slowing the Growth of Coal Power Outside China: The Role of Chinese Finance". *Climate Policy Initiative*, San Francisco.
[48] Forsythe, M. (11 December 2015). "China's Emissions Pledges Are Undercut by Boom in Coal Projects Abroad". *New York Times*. Available: http://www.nytimes.com/2015/12/12/world/asia/chinas-emissions-pledges-are-undercut-by-boom-in-coal-projects-abroad.html.

been for coal (62% since 2010). Capacity additions in these markets not involving Chinese firms have only been 19% coal since 2005 (and 21% since 2010). The pipeline of power capacity outside of the OECD and China involving Chinese firms is twice as coal intensive (56%) as the pipeline for capacity without Chinese involvement (27%).

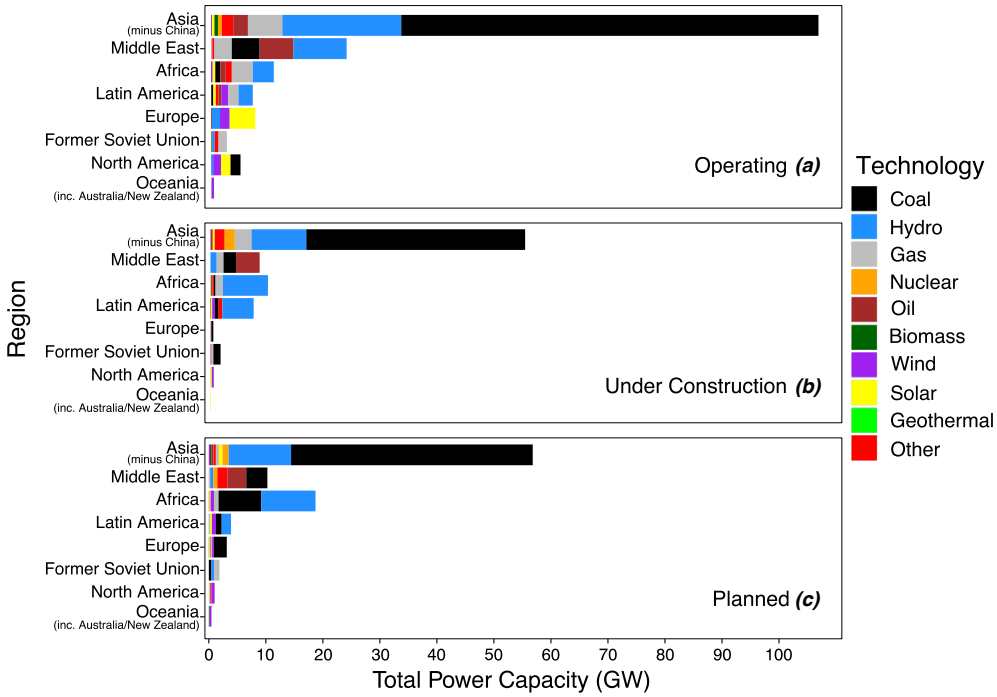

Figure 2.10: Involvement of Chinese firms in power capacity outside of China by global region that is operating *(a)*, under construction *(b)* and planned *(c)* as of December 2015[49]. See also Figure 2S.1 for temporal trends in Chinese support for global power capacity.

While the majority of Chinese equipment export has been in coal, China's portfolio of equipment support is actually much broader. Chinese firms operating outside of the OECD and China have been involved in 28% of the hydropower capacity addition since 2005, and are expected to be involved in 30% of the pipeline capacity in these markets. Since 2005 Chinese firms have been involved in 19% of solar, 8% of oil-fired, 5% of biomass, 4% of gas, 4% of wind, 3% of nuclear,

[49] Figure based on Figure 1 in Hannam, P.M., Liao, Z., Davis, S.J. & Oppenheimer, M. (2015). "Developing country finance in a post-2020 global climate agreement". *Nature Climate Change* 5(11): 983-87.

and 7% of other capacity addition outside of the OECD and China. Chinese firms have been involved in 57% of the hydropower capacity addition in Africa since 2005, and 47% of non-OECD Asia outside of China. The politics of China's substantial role in Africa is discussed in Chapters 4, and China's hydropower portfolio discussed in Chapter 7.

Chapter 3

A contested regime for development finance

3.1 Introduction

On New Year's Eve in 1953, China's Premier Zhou Enlai met with an Indian delegation to negotiate Five Principles of Peaceful Co-Existence, or 'Panshilah', to resolve tension over territory in Tibet[50]. The Principles formed the basis for a declaration on international politics that would emerge from the Asian African Conference in 1955, commonly known as the Bandung Conference[51]. The Principles espoused concepts that became central to China's international engagement: non-interference in the internal affairs of other nations; non-aggression toward other nations; mutual respect for territorial integrity and sovereignty; equality and mutual benefit; and peaceful co-existence[52,53]. Bandung was seen as foundational for the emergence of the Non-Aligned Movement several years later. China was invited to Bandung being a vocal opponent of colonialism, and although many of the countries present were hostile to communism, China became a close ally of the Non-Aligned Movement[54].

[50] Ministry of Foreign Affairs (2014). "China's Initiation of the Five Principles of Peaceful Co-Existence". *People's Republic of China*. Available: http://www.fmprc.gov.cn/mfa_eng/ziliao_665539/3602_665543/3604_665547/t18053.shtml [Accessed August 2016].

[51] Williams, G. (1987). "Third-World Political Organizations". *MacMillan Press*, London, p.52.

[52] Williams 1987, *Supra* p.52.

[53] Ministry of Foreign Affairs 2014, *Supra*.

[54] The U.S. followed the Bandung conference closely, deeply concerned that the "Chinese Communist decision as to whether they should attack Quemoy, Matsu and Taiwan might depend on the attitude which they found among the powers meeting at the Bandung Conference". The White House response to the Bandung conference was very positive, because the Soviet Union was maligned as colonialist and China came under pressure to refrain from violence over Taiwan. U.S. Department of State (8 April 1955). "Memorandum of a Conversation", *Foreign Relations Of The United States, 1955–1957, China, Volume II*, p.195. Available: https://history.state.gov/historicaldocuments/frus1955-57v02/d195. Also White House (29 April 1955). "Minutes of a Cabinet Meeting". *Foreign Relations Of The United States, 1955–1957, East Asian Security;*

China saw its Five Principles as "diametrically opposed to power politics which have been in dominance in international relations over the last few centuries"[55], intended as a powerful statement to developing nations in juxtaposition with the colonial powers and escalating East-West ideological warfare playing out in Asia, Africa and Latin America. The years following Bandung were critical for China's friendship with Africa, and eventual efforts to groom itself as a leader among the G-77.

During a three-month tour of ten African countries in 1963 and 1964, Chinese Premier Zhou Enlai outlined additional principles that have continued to guide China's "mutual economic assistance" between "poor friends who were in the same boat pulling oars together"[56]. China had put its stake in the sand on an ideology of development cooperation that contrasted the experience of the global south with north-south aid. The Tanzania-Zambia Railway, discussed in depth in Chapter 8, shaped Western perceptions of China's outward development model. Western apprehension with China was made worse by the fact that China had engineered involvement in the project after the U.S., Britain, Soviet Union and World Bank each took turns attempting to stymie it.

China's hostility toward what it viewed as U.S. imperialism and Soviet international truculence arose from traditional Chinese ideals of *tianxia* ("all under the heaven", a concept of world order under an autocratic empire). Mao Zedong spoke of *tianxia daluan* ("the world in great

---

Cambodia; Laos, Volume XXI, p.48. Available: https://history.state.gov/historicaldocuments/frus1955-57v21/d48.

[55] Ministry of Foreign Affairs 2014, *Supra*.

[56] Ministry of Foreign Affairs (2014). "Premier Zhou Enlai's Three Tours of Asian and African countries". *People's Republic of China*. Available: http://www.fmprc.gov.cn/mfa_eng/ziliao_665539/3602_665543/3604_665547/t18001.shtml [Accessed August 2016].

disorder") as China found itself caught between the U.S. and Soviet superpowers[57]. Simultaneously in search of international partners to legitimize the People's Republic of China (PRC) against the Republic of China (ROC) in Taipei, PRC promoted an alternate world order at Bandung that focused on equality and sovereignty for nations irrespective of their size and capabilities[58].

As the Cultural Revolution ended, China's leaders saw practicality in integrating with the dominant liberal economic order under Westphalia to achieve and maintain domestic growth. As a result, there was a substantial normalization of Chinese policy with the international community. This served China's policymakers by reducing friction with other world leaders, avoiding opprobrium, and helping to identify areas of productive cooperation[59].

During the disintegration of the Soviet Union, China's foreign minister wrote that "this is the initial stage of the evolution towards multipolarization", rationalizing – if only wishfully – that the much maligned U.S. dominance in the system would not last indefinitely. Instead, international political relations would eventually move toward a more cooperative multipolar – as opposed to unstable bipolar or oppressive unipolar – system[60]. *Tianxia* concepts continue to be salient with Chinese leaders, even if only reflecting resentment toward the Western-dominated and state-framed system[61].

---

[57] Wang, G. "Some historical perspectives". *In* Wang, G. & Zheng, Y. (2008). "China and the international order" *Routledge*, London, p.27.
[58] Wang 2008, *Supra* p.27.
[59] Johnston, A.I. (2014). "Social states: China in international institutions, 1980-2000". *Princeton University Press*.
[60] Foot, R. (1 January 2006). "Chinese Strategies in a US-Hegemonic Global Order: Accommodating and Hedging". *International Affairs* 82(1): 81.
[61] Wang, F. (2015). "From Tianxia to Westphalia: The Evolving Chinese Conception of Sovereignty and World Order". *In* Ikenberry, J., Wang, J. & Feng, Z. (Eds.). "America, China, and the Struggle for World Order: Ideas, Traditions, Historical Legacies, and Global Visions". *Palgrave MacMillan*. p.43-63.

As a consequence of this history, Chinese officials and the public have strong resentment toward U.S. hegemony on China's historical stature in international affairs[62], which continues to be a powerful force in shaping China's choices. Citing evidence from Japan's rapid economic emergence and China's gradual assimilation into the Western institutional order, Ikenberry concludes that "today's Western order…is hard to overturn and easy to join"[63]. But even as China integrated quickly and with little conflict into the world order into the 1990s, Chinese leaders continued to look for openings to enhance global equity in the world order.

Despite its early objections, China gained a lot by "bandwagoning" on the established system, participating in the UN, multilateral development banks, World Trade Organization, and agreements like the Nuclear Suppliers Group, each of which contributed to China's international status. While the western-dominated and unipolar international system was much maligned, it offered stability that enabled China to built its domestic capabilities.

Although China has adjusted substantially through its integration with the international system, the system also continues to adjust to China. China integrated carefully to accommodate the U.S. hegemonic global order, but China's contestation of the existing system is implicit in efforts to hedge and dilute U.S. authority through strengthening partnerships among other nations that it views as disenfranchised by the global economic and political order. China has framed its growing economic engagement as a "peaceful rise" – in contrast to the "revolutionary struggle" of decades past. This signals an acceptance of Westphalian norms and the legitimacy of the UN as a vehicle for structuring a pluralist, sovereignty-based world order. Eventually, however,

[62] Foot 2006, *Supra* p.79.
[63] Ikenberry, G.J. (February 2008). "The Rise of China and the Future of the West". *Foreign Affairs*. Available: https://www.foreignaffairs.com/articles/asia/2008-01-01/rise-china-and-future-west.

China would seek to transcend the system dominated by Western power structures and move toward a more "reasonable" and egalitarianism coexistence, or at least to a state where there is sufficient multipolarity for the co-existence of the U.S. with non-Western Great Powers[64,65,66]. Among China's policy elites, there is disagreement on what China's rise will mean for global politics and particularly for adjustment from the United States, ranging from agonizing mutual accommodation, to mutual suspicion and power jockeying typified by the Cold War era, to outright conflict[67].

3.2 Contested multilateralism in development finance

The thesis elaborates on a small feature of China's changing role in the world. In particular, China is challenging engrained U.S. development ideology and the institutional system built around it. Writing in 2007, Li Ruogu, then President of China's Export-Import Bank, argued that the World Bank had lost credibility in many developing countries because of its current governance structure. To be responsive to the needs of recipients, the Bank must focus more concerted attention to infrastructure[68]. As Li expressed these frustrations to the World Bank, China was moving unilaterally to model the recipient-focused development model it had espoused at the Bank, albeit without strong disciplines that had come to characterize the MDBs.

[64] Shi, Y. (12 February 2002). "The Rising China: Essential Disposition, Secular Grand Strategy, and Current Prime Problems". *Asian Voices: Promoting Dialogue Between the US and Asia.* Renmin University. Available: https://www.spf.org/publication/upload/178474a17de.pdf.

[65] Li, M. (2012). "Rising from within: China's search for a multilateral world and its implications for Sino-US relations". *In* Li, M.(Ed.). "China joins global governance: Cooperation and contentions". *Lexington Books*, New York, p.36.

[66] Foot, R. (1 January 2006). "Chinese Strategies in a US-Hegemonic Global Order: Accommodating and Hedging". *International Affairs* 82(1): 77–94.

[67] Foot 2006, *Supra* p.83.

[68] Li, R. (2007). "Reforming Bretton Woods to Promote World Harmony and Stability". *In* Samans, R., Uzan, M. & López-Claros, A. (Eds.). "The international monetary system, the IMF, and the G-20: a great transformation in the making?" *Palgrave Macmillan*, p.38-9.

China's model captured the attention of development institutions and observers. In a provocative article called "Rogue Aid" in 2007, a former Executive Director to the World Bank, Moisés Naím, catalogued instances where China had scooped international development projects by promising fewer safeguards: China offered Nigeria US$9 billion unconditionally to rebuild its rail network after the World Bank had spent months negotiating a US$5 billion deal that involved privatization and other reforms; the Asian Development Bank agreed to finance a new aqueduct in Manila (where ADB is headquartered) but ultimately the Philippines bypassed the ADB for lower-cost finance from China's ExIm Bank[69]; China built a series of coal plants in Indonesia when "no international agency would have signed off on such an environmentally unfriendly deal"[70]. In a particularly high profile case, as recounted by former U.S. Ambassador David Shinn, the IMF was negotiating a new loan with Angola as it emerged from its protracted civil war, when "at a critical point in [the] negotiations" China offered a competing loan without the "humiliating conditions" for transparency required by the IMF[71]. Analysts at the Center for Strategic and International Studies commented that China's intervention empowered the Angolan government to "resist pressure from Western financial institutions about transparency and accountability", even as it continues to engage with the IMF on technical assistance[72]. Ngaire Woods analyzed China's emergence outside the norms and institutions of the established development finance regime – including the OECD, G-7, World Bank and regional development banks – and recognized the serious challenge this posed for shared principles going forward. She concludes that:

---

[69] Beattie, A. & Yeh, A. (12 January 2007). "China treads on Western toes in Africa". *Financial Times*, London: 9.
[70] Naím, M. (April 2007). "Rogue Aid". *Foreign Policy* 159: 96,95.
[71] Shinn, D. (10 April 2007). ''The Scarcity of Oil Resources''. Conference, *Forum for American/Chinese Exchange at Stanford University*. *In* U.S.-China Economic and Security Review Commission (November 2008). "2008 Report to Congress". Washington DC.
[72] Campos, I. & Vines, A. (2008). "Angola and China: A Pragmatic Partnership" Working Paper, *Center for Strategic and International Studies*, Washington DC. Available: http://csis.org/files/media/csis/pubs/080306_angolachina.pdf.

> "Given an alternative source of aid, poor countries choose to work less with those who 'burden' aid or loans with…requirements, borrowing less from the World Bank and other multilateral institutions…and so reducing the scope of these organizations to apply conditions directly"[73].

The existing institutions have promised reform, but not as a sufficient corrective. As part of the 2013 Strategic and Economic Dialogue, China and the U.S. committed to reforming representation at the World Bank and regional development banks to protect their "relevance, accountability, effectiveness and legitimacy"[74]. The zero sum nature of vote share has made this reform particularly slow. The promise was re-iterated again in 2014 with the goal of moving "towards equitable voting power in the World Bank over time"[75].

Within days of the U.S.-China joint statement, China created the New Development Bank with other BRICS countries (which include Brazil, Russia, India, China and South Africa). The New Development Bank was capitalized with US$100 billion[76]. The New Development Bank is intended to counter the influence of the World Bank and International Monetary Fund. The Asian Infrastructure Investment Bank (AIIB) was created in 2014 with capital of US$50 billion. The Silk Road Fund is intended to strengthen infrastructure and trade ties across central Asia to Europe and was capitalized with US$40 billion. These institutions re-shape the development finance landscape, as alternatives to the Western-dominated institutions like the World Bank and Asian Development Bank.

---

[73] Woods, N. (1 November 2008). "Whose Aid? Whose Influence? China, Emerging Donors and the Silent Revolution in Development Assistance". *International Affairs* 84(6): 1205–21.

[74] U.S.-China Strategic and Economic Dialogue (12 July 2013). "Joint U.S.-China Economic Track Fact Sheet of the Fifth Meeting". Available: http://www.treasury.gov/press-center/press-releases/Pages/jl2010.aspx.

[75] U.S.-China Strategic and Economic Dialogue (11 July 2014). "U.S.-China Joint Fact Sheet Sixth Meeting". Washington DC, Available: http://www.treasury.gov/press-center/press-releases/Pages/jl2561.aspx.

[76] Brazil Ministry of External Relations (15 July 2014). "Sixth BRICS Summit – Fortaleza Declaration". Available: http://brics6.itamaraty.gov.br/media2/press-releases/214-sixth-brics-summit-fortaleza-declaration.

They have generated substantial tension. The World Bank was quick to dismiss any suggestion that the New Development Bank and Asian Infrastructure Investment Banks would be World Bank competitors, yet the World Bank has been reassessing the speed and efficacy of its safeguards and country engagement strategies in the context of a new institution that promises to be more nimble. The World Bank also created a Global Infrastructure Facility in April 2015, capitalizing it with US$100 million, to leverage private sector investment in infrastructure. The Asian Development Bank (ADB) meanwhile also rejects suggestions that the emergent AIIB could displace some of its foothold in the region on the basis there is a US$1.2 trillion unmet funding gap for infrastructure development in Asia in the coming decades. The leaders of ADB and AIIB met in May 2015 committing to "cooperate and cofinance" projects in Asia[77], yet within three weeks of this meeting Japan – as AIIB's largest shareholder – made a public commitment to provide US$110 billion in aid for Asian infrastructure projects[78]. Juxtaposed against the US$100 billion starting capitalization of AIIB, the Japanese commitment was a signal to the region of Japan's intention to defend its economic and political leadership role. As the remainder of the thesis infers, based on past examples, it would be surprising if internally the World Bank and ADB and particularly U.S. and Japanese shareholders were not re-assessing how they can continue to be an important part of the global development landscape.

The Government of Japan followed the U.S. lead in not joining the AIIB despite a rush of other allies joining. The U.S. opposed the incipient institution to prevent it from attaining international legitimacy. As European countries joined the AIIB bandwagon, it became hard to justify

[77] Asian Development Bank (1 May 2015). "ADB and AIIB Agree to Collaborate for Asia". *Asian Development Bank*, Available: http://www.adb.org/news/adb-and-aiib-agree-collaborate-asia.

[78] Kihara, L. & Sieg, L. (21 May 2015) "Japan Unveils $110 Billion Plan to Fund Asia Infrastructure, Eye on AIIB". *Reuters*. Available: http://www.reuters.com/article/2015/05/21/us-japan-asia-investment-idUSKBN0O617G20150521.

forfeiting some voice in governance of an increasingly legitimate entity. In general, development finance institutions impacted by China's rise may respond by resisting China's efforts to create and maintain competing international rules, or by adjusting their own behavior to safeguard their interests and authority. How these established actors adapt will have important implications for the future of the global development regime.

Although the New Development Bank involves Russia, media reports indicated that Russia objected to a regional bank that could erode Russia's authority[79]. China's Silk Road Fund was also opposed by Russia[80]. The U.S. in 2011 had been pursuing a similar "Silk Road" policy concept, though U.S. planning was far surpassed in scale and ambition by China's initiative[81]. China, Russia and other central Asian countries had created a forum for economic and security cooperation through the Shanghai Cooperation Organization in 2001, which was viewed antagonistically by the U.S.[82]

[79] Denyer, S. (27 December 2015). "In Central Asia, Chinese Inroads in Russia's Back Yard". *Washington Post*. Available: https://www.washingtonpost.com/world/asia_pacific/chinas-advance-into-central-asia-ruffles-russian-feathers/2015/12/27/cfedeb22-61ff-11e5-8475-781cc9851652_story.html.

[80] Denyer 2015, *Supra*.

[81] Denyer, S. (14 October 2013). "China Bypasses American 'New Silk Road' with Two of its Own". *Washington Post*. Available: https://www.washingtonpost.com/world/asia_pacific/china-bypasses-american-new-silk-road-with-two-if-its-own/2013/10/14/49f9f60c-3284-11e3-ad00-ec4c6b31cbed_story.html.

[82] In 2001, China, Russia and four former Soviet States established the Shanghai Cooperation Organization (SCO), with Mongolia, India and others as permitted observers. SCO promoted economic and security cooperation, presenting itself as a counterweight to U.S. influence across Central Asia. The U.S. also attempted to join as an observer to monitor the SCO's progress and activities but was denied. The U.S. wished to understand how China might threaten its regional role ("hedging" against contingencies of China's regional cooperation with Russia) and to ensure SCO did not deviate strongly from norms developed in the U.S. hegemonic system. Interestingly, China's earlier proposal to establish an infrastructure bank through the SCO was opposed by Russia out of concern that the institution would enable China's economic expansion in areas of Russia's influence. See Gill, B. (30 November 2001). "Shanghai Five: An Attempt to Counter U.S. Influence in Asia?" *Brookings Institution*. Available: https://www.brookings.edu/opinions/shanghai-five-an-attempt-to-counter-u-s-influence-in-asia/.

China's contested multilateralism has succeeded where past efforts by other developing nations failed to alter the structure of power around the OECD and Bretton Woods systems. In past cases, the response of the established system was similarly apprehensive, lending insight to present upheaval in the development finance landscape.

3.3 Past precedents

3.3.1 Alternatives to the World Bank:

Developing countries recognized their disadvantage against the OECD in both capacity and organization to provide export credits to other developing markets. While developing countries enjoyed imports of goods with below-market export finance provided by export credit agencies in OECD countries, their own nascent export industries could suffer in the competition without an equivalent public institution to back them. As unity among the Group of 77 countries grew at the United Nations into the 1980s[83], several proposals were put forward to create an export credit facility for the developing world. An expert committee convened through the UN Conference on Trade and Development (UNCTAD)[84] proposed creation in 1975 of an export finance facility to guarantee export credits from developing country export credit agencies and development banks[85]. In its early conception, the capital providing guarantees on credits from private banks would come from the developing countries beneficiaries as well as the developed countries and

[83] Iida, K. (1988). "Third World Solidarity: The Group of 77 in the UN General Assembly". *International Organization* 42(02): 375–95.
[84] Most discussions occurred through UNCTAD's Committee on Invisibles and Financing related to Trade, see TD/B/552 and TD/B/C.3/183.
[85] UNCTAD Secretariat (11 October 2005). "Enhancing South-South Trade and Investment Finance: Background Note". *UNCTAD/WEB/DITC/COM/2005/2*. Available http://unctad.org/en/Docs/webditc20052_en.pdf, p.2.

World Bank[86]. Many OECD members – including the U.S. and France, opposed the ECGF[87], as did the World Bank itself, and the concept was dropped in 1983[88].

Other proposals for such a developing country institution arose periodically. The South Bank of Developing Countries was proposed in 1981 and would have had half the approved capital of the World Bank[89]. The G-77 advocated the idea of its own Trade and Development Bank for nearly a decade after the mid-1990s. However, despite repeated expressions of interest and need, for two decades developing countries were unable to act collectively to establish a major south-south institution to support trade, investment and development finance. Governments would express interests in high-level forums, conclude that more study was necessary, but then fail to follow up[90,91].

The IMF and World Bank have been faced with more credible challenges to their influence. In 2007, Venezuelan President Hugo Chávez and Argentinian President Kirchner promoted the idea for a Banco del Sur (Bank of the South), to be supported financially by South American governments, and intended as a direct rebuke to the IMF and World Bank in hopes of displacing them[92,93]. According to U.S. diplomatic cables from the time, the proposal made the Brazilians

[86] Khindaria, B. (2 July 1981). "Third World Plans Export Credit System". *Financial Times* 5.
[87] Khindaria 1981, *Supra*.
[88] UNCTAD (11 October 2005). "Enhancing South-South Trade and Investment Finance". *UNCTAD/WEB/DITC/COM/2005/2*. Available: http://unctad.org/en/Docs/webditc20052_en.pdf.
[89] Rao, V.L. (1987). "South Asian Regional Cooperation: Problems and Prospects". *In* Agarwal, G.R. et al. (Eds.). "South-South Economic Cooperation: Problems and Prospects". *Radiant Publishers*, New Delhi, p.137.
[90] UNCTAD Secretariat 2005, *Supra*.
[91] Some countries saw south-south institutions as a liability, thinking they would only seek funding but never become a profitable venture. Saudi Arabia, for instance, saw existing multilateral channels as sufficient to absorb "available resources of co-operation". See Deen, T. (24 January 1985). "Group of 77 sets up economic and legal structure for South Bank". *Special United Nations Service (SUNS),* No. 1169. *In* UNCTAD Secretariat (11 October 2005). "Enhancing South-South Trade and Investment Finance: Background Note". *UNCTAD/WEB/DITC/COM/2005/2*. Available http://unctad.org/en/Docs/webditc20052_en.pdf, p.16.
[92] The Economist (10 May 2007). "Hugo Chávez Moves into Banking". Available: http://www.economist.com/node/9149736.
[93] Weaver 2008, *Supra* p.59.

"absolutely livid" because the new Bank was perceived as a challenge to Brazilian regional leadership[94]. Brazil and Paraguay joined reluctantly in hopes of moderating the Bank and because of the potentially important role it might play in infrastructure. The U.S. meanwhile downplayed Banco del Sur as a "long way from developing a workable financial institution" that would be capable of competing with established development institutions in the region[95]. However, the U.S. was briefly concerned by rumors that China and Iran were considering helping to capitalize the institution, which would have "suddenly" given the new institution "major influence in the region". The rumors were later discredited[96].

3.3.2 Alternatives to the IMF:

Even U.S. allies have contested the authority of the IMF and World Bank. Japan proposed the Asian Monetary Fund (AMF), a comparable institution to the IMF, in the midst of the Asian financial crisis in Fall 1997. U.S. opposition successfully quashed the initiative. The AMF was designed to give Asian countries options for bargaining with the IMF, which had imposed strict conditions to bail out economies following the financial crisis. The U.S. and IMF both made clear their opposition to the AMF[97], including reportedly an angry midnight phone call from

[94] Chicola (27 April 2007). "Banco Del Sur Becomes A Brazilian 'Peeve'". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/07BRASILIA751_a.html.
[95] Wayne (10 December 2007). "Banco Del Sur Launched In Buenos Aires December 9". *Wikileaks.* Available: https://wikileaks.org/plusd/cables/07BUENOSAIRES2317_a.html.
[96] Wayne (15 November 2007). "IDB President Moreno Offers Insights Into The Kirchners". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/07BUENOSAIRES2216_a.html.
[97] Lipscy, P.Y. (2003). "Japan's Asian monetary fund proposal". *Stanford Journal of East Asian Affairs* 3(1): 93-104.

Deputy Treasury Secretary Larry Summers to Japanese Vice Minister of International Affairs Eisuke Sakakibara[98].

Officially, U.S. opposition to the AMF stemmed from its duplication of IMF responsibilities[99]. An alternate to the IMF would weaken the IMF's leverage in negotiating for reforms as a condition of assistance during a crisis, and in the eyes of U.S. policymakers might create a moral hazard whereby Asian states could refuse costly but critical structural reforms[100]. Privately, Japanese officials believed that the U.S. saw AMF as a challenge to the U.S. regional hegemony[101]. Despite a proliferation of forums where Japan has a voice in macroeconomic governance in Asia, East Asian states were dissatisfied by their general under-representation and European over-representation[102].

In a prescient view of financial governance by G-20 General Manager Gordon de Brouwer in 2007, Asia will be "reluctant to choose institutional forms or practices which allow one large country to dominate a regional institution in the same way the United States is perceived to dominate the IMF"[103]. Stone (2011) writes that as the capabilities of Brazil, China, and India as creditors have grown internationally, they have generally not come into direct conflict with the

[98] Attributed to E. Sakakibara *In* Lipscy 2003, *Supr*a p.95.
[99] Some scholars are concerned whether poor coordination between a regional and global financial manager during a financial crisis could lead to contagion beyond the region. See Parkinson, M., Garton, P. & Dickson, I. (2004). "The role of regional financial arrangements in the international financial architecture". *Financial Governance in East Asia: Policy Dialogue, Surveillance and Cooperation*: 263-286. *In* de Brouwer, G. (2007). "Institutions to Promote Financial Stability: Reflections on East Asia and an Asian Monetary Fund". *In* Samans, Uzan & López-Claros 2007, *Supra* p.92.
[100] Kawai, M. "East Asian Economic Regionalism: Update". *In* Samans, Uzan & López-Claros 2007, *Supra* p.118.
[101] Attributed to E. Sakakibara *In* Lipscy 2003, *Supra* p.96.
[102] de Brouwer 2007, *Supra*. *In* Samans, Uzan & López-Claros 2007, *Supra* p.81.
[103] de Brouwer 2007, *Supra* p.85.

U.S. at the IMF because their interests have aligned[104]. However dissatisfaction with U.S. formal and informal power within the IMF and partner multilaterals has been raised repeatedly. Rather than continue to contest the power structure within the IMF, the BRICS pursued the New Development Bank, a clear instance of contested multilateralism[105].

3.3.3 Challengers to the OECD:

China's rise as a supplier of export finance has been on the radar of the OECD and its members since the 1990s. The U.S. ExIm Bank tried to engage the China Export-Import Bank to discuss coordination as had been the practice for other non-OECD countries, but received no response from Chinese officials[106].

When the U.S. pushed for China to engage with the OECD through a program of "special engagement" in the early 2000s, China recoiled. While China opposed the OECD's paternalism as a club of rich democracies, it became involved in regional initiatives. China participated in the Asian Export Credit Agency Forum, which was launched by the Export-Import Bank of India in 1996. The Forum also includes members from Japan, Indonesia, South Korea, and Philippines, each of which has a sovereign export credit agency[107] (and only Japan and South Korea are also part of the OECD Arrangement). Malaysia and Thailand joined the Asian Forum in the early 2000s. The main goal of the Forum was to strengthen communication between the

[104] Stone, R.W. (2011). "Controlling institutions: International organizations and the global economy*"*. *Cambridge University Press*, p.79.
[105] Morse & Keohane 2014, *Supra*.
[106] Author interview, January 2015.
[107] Subramanian, T.C.V. (2005). "Introduction" *In* Sen, R. "Regional Economic Integration: Case for a Regional Export Credit Agency for Asia". *ISEAS–Yusof Ishak Institute*.

regional ECAs[108], but aside from a multilateral agreement in 2003[109], there is little indication of substantive cooperation.

The U.S. approached the Asian ECA Forum in 2000 and asked to join as an observer. Vietnam was outwardly supportive of U.S. participation, while Japan and Korea – which were frequently criticized as laggards on OECD Arrangement rules – were readily influenced by China's arguments against U.S. participation[110].

The Asian ECA Forum has been an advocate for creation of a Regional Export Credit Agency for Asia. At a summit of regional ECAs in Beijing in 2004, the ADB and IMF were invited to attend. The ADB proposed an alternative as a first step – working through ADB to create a "Regional Export Credit and Finance Scheme". Academics from the World Bank and IMF in 2010 advised developing countries not to create ECAs to uphold exports unless the country was capable institutionally and financially[111].

3.4 China exercising new authority in global governance

Previous attempts to contest the existing development regime with a strong south-south institution had been unsuccessful. China, however, found a niche that has precipitated the majority of the international community to bandwagon with it. The U.S. response to China's rise

[108] Author interview, December 2015. Also see Subramanian 2005, *Supra* p.xvii
[109] Subramanian 2005, *Supra* p.xvii
[110] Author interview, January 2015.
[111] Chauffour, J.-P., Saborowski, C. & Soylemezoglu, A.I. (January 2010). "Trade Finance in Crisis: Should Developing Countries Establish Export Credit Agencies?" *Policy Research Working Paper #5166, World Bank*. Available: http://papers.ssrn.com/abstract=1533684.

is critical for managing the power sector challenges referenced in Chapter 2. Drezner (2007) postulates that the U.S. response to its declining global power stature relative to China will depend on the following factors:[112] 1) *acceptance of authority*: as a hegemon, the U.S. sought to shape the international order in its image, though as U.S. power declines relative to China, the U.S. must focus more on relative gains and would thus become less principled in upholding individual norms in order to preserve of its own interests; 2) *interests:* continued U.S. engagement with norms that have shaped its global engagement is selective based on maintaining competitiveness and productivity in key economic sectors; 3) *historical institutional resonance*: policymaking traditions and ideas continue to have an enduring effect on national interests. The importance of these variables is discussed further in Chapter 8, which produces a broader framework examining the conditions that generate competition between development institutions, and the potential implications.

Chapters 2 and 3 have shown that the institutional landscape driving global power-sector development is changing, particularly with the emergence of Chinese firms and banks as suppliers and financiers of coal power, and potential for Chinese championed institutions to continue this trend. Interpreting how shifts in this landscape will influence energy development outcomes requires a better understanding of how other institutions respond to China's emergence. Such an inquiry depends on the political nature of official development actors and the interests those states and institutions follow when encountering other actors that operate in the same issue-area but with different rules, ideologies, and stakeholders.

[112] Drezner, D.W. (2015). "Is there an exceptional American approach to Global Economic Governance". *In* Ikenberry, J., Wang, J. & Feng, Z. (Eds.). "America, China, and the Struggle for World Order: Ideas, Traditions, Historical Legacies, and Global Visions". *Palgrave MacMillan*, p.136-38.

3.5 Levels of delegation

Three classes of official development actors are described in Table 3.1, below, constituting the "regime for development finance". These actors are distinguished by the composition of their missions, stakeholders, level of delegation from states, and the strength of recipient countries' voices in institutional decision-making. The cases in the thesis examine contested responses by actors on a spectrum between bilateral (low levels of state delegation) and multilateral (high levels of state delegation). Intermediary cases of delegation exist with export-credit agencies, which explicitly serve commercial as well as state political goals that are only indirectly development institutions. The distinction between bilateral and export finance assistance is oftentimes unclear, and states have obfuscated aid norms using export and market windows. Contested responses by export credit institutions are the sole focus of Chapters 5 and 6.

Table 3.1: Typology of the official development actors analyzed in the thesis, in terms of the degree to which individual state interests shape behavior, organizational mandate and organizational decision making autonomy. The mandate serves a hierarchy of interests as a function of delegation from stakeholders.

Institutional class	Stakeholders	Delegation	Mandate
Bilateral Aid	Donor state Loosely coordinated international rules	Low	1) Politics; 2) Development; 3) Commercial
Export-credit agency	Donor state Highly coordinated international rules	Moderate	1) Commercial; 2) Politics; 3) Development
Multilateral development bank	Multiple donor states, multiple recipient states States have different levels of authority	High	1) Development; 2) Politics; 3) Commercial

Scholars have long recognized that bilateral and multilateral development assistance is frequently motivated by the interests of the institution's principals or stakeholders. This has

included political survival interest of recipient and donor country leaders[113], voting in the UN Security Council[114], efforts to pressure human rights reforms or to punish military aggression[115], and U.S. political interests at the UN influencing the destination of concessional lending through the World Bank[116], among many other examples. Development assistance patterns under Presidents Carter and Reagan are best explained by military and alliance interests[117]. China's development assistance is also not without political motivations. China has refused to provide development assistance to countries in Africa which do not recognize its "One China Policy", and early economic assistance to post-colonial Africa was partially motivated by interests in shoring up the People's Republic of China's bid for membership at the UN[118].

Development actors also have complex organizational interests that strongly influence their policies. The World Bank, for instance, is said to suffer from "organized hypocrisy". Oftentimes it is slow to implement its own policies because external demands on the organization conflict with internal organizational norms, incentives and goals[119]. Multilateral Development Banks are particularly dependent on legitimacy conferred from the outside, including by stakeholders (funding) and clients (demand for services)[120], though the organization is forced to reconcile the pursuit of legitimacy with internal ideologies, norms, and bureaucratic culture and interests. The

[113] de Mesquita, B.B. & Smith, A. (2009). "A Political Economy of Aid". *International Organization* 63(02): 309-40.
[114] Dreher, A., Sturm, J.-E. et al. (2009). "Development aid and international politics: Does membership on the UN Security Council influence World Bank decisions?" *Journal of Development Economics* 88(1): 1-18.
[115] Martin, L.L (1993). "Coercive Cooperation: Explaining Multilateral Economic Sanctions". *Princeton University Press*.
[116] Andersen, T.B., Hansen,H. & Markussen, T. (July 2006). "US Politics and World Bank IDA-Lending". *The Journal of Development Studies* 42(5): 772–94.
[117] Lebovic, J.H. (June 1988). "National Interests and US Foreign Aid: The Carter and Reagan Years". *Journal of Peace Research* 25(2): 115–35.
[118] Bräutigam, D. (1998). "Chinese Aid and African Development: Exporting Green Revolution". *MacMillan Press Ltd*, London.
[119] Weaver, C. (2008). "Hypocrisy trap: The World Bank and the poverty of reform". *Princeton University Press*, p.5.
[120] Weaver 2008, *Supra* p.6.

relationship between state interests and development actors also influences how the actor relates to others in the constellation of development finance institutions.

Part II of the thesis examines a series of cases where China has a growing role in the power sector within a particular domain, and observes the response of established regimes. Varying the balance of state and organizational interests across the institutional classes help to characterize competitive policy adjustment in response to China across the development finance regime.

Stakeholders will not always align, so discord among stakeholders within an individual institution will also be relevant, particularly at the multilateral development banks where both donors and recipients have rule making authority (albeit on unequal terms). In general, intuition would suggest that internal organizational interests in perpetuating institutional relevance would reinforce external pressures to serve stakeholder goals, aligning established actors to resist emerging actors from securing their authority in pursuit of different interests.

Part II

China in Power Sector Governance

Chapter 4 – *Low Delegation*
China and the U.S. in a contested vision for development

4.1 Introduction

After decades of politicizing government assistance for infrastructure in development policy and reducing power sector assistance in Africa and elsewhere, between 2013 and 2016 the U.S. government aligned – at a time of deep partisanship over U.S. public finance – behind a policy shift that reprioritized development assistance for the power sector in Africa, employing a public-private model. *Was this U.S. shift – particularly a policy called Power Africa – motivated in part by China's growing power sector cooperation in the region?*

The chapter presents qualitative circumstantial evidence, from public and confidential government documents between 2005 and 2015, that China's growing engagement in Africa was one major factor in U.S. policy adjustment to re-prioritize the power sector. China's engagement in African infrastructure was systematically considered in policy formulation and in the generation of political support for the U.S. Power Africa set of policies. China's Africa engagement presented a challenge to U.S. interests in terms of its development ideologies (governance, human rights, private sector participation), and over time, a growing sense that China's engagement in Africa might compromise U.S. authority to project those development ideologies on recipient governments.

The following conditions support the causal claim between China's activities and U.S. policy adjustment.

- *U.S. policymakers perceive exigency in China's activities (Strong evidence): U.S. decision makers observed China's development activities and actively considered the implications for U.S. interests and authority.*

  The chapter tracks observations and perceptions of Chinese development assistance within the U.S. Congress and executive since China's portfolio in Africa burgeoned in 2000. Attention grew after 2005, with public and internal debate on how the U.S. might best re-engage in Africa in response to China. U.S. strategy to deal with China's growing African engagement pervaded thinking on bilateral aid, trade and foreign direct investment, export credits, and U.S. approach to the multilateral development banks. The U.S. was primarily motivated by ideological interests in preventing China's non-market, state-driven development model progressing in Africa, which would compound lagging U.S. business success on the continent. Influence with African governments was a secondary motivation, though U.S. concern over this "authority" in recipient countries grew as African governments began to explicitly reference China in pushing back on U.S. development ideologies.

- *Market selection strategy considers China (Weak, mixed evidence): One mode of competition might imply that U.S. policy adjustment prioritizes regions where China is more seriously challenging U.S. authority and interests. Evidence indicates that rather*

than choosing to contest country markets where China had the greatest presence, the U.S. selected markets where China was a non-dominant actor, potentially suggesting a delegation strategy.

The U.S. recent attention to Africa is understandable in context of Africa's growing geopolitical role, China's increasingly commanding position on the continent, and perceptions of the continent's ideological vulnerability. From a realist perspective, Africa is key to the U.S. maintaining its influence in a unipolar world order, whereas the U.S. is thought to be content with a multipolar Asia. China meanwhile wants a unipolar Asia and a more multipolar world; creating tension with the U.S. particularly in regions – such as Africa and South America – where the U.S. has historical influence. Ideologically, China's development activities in Africa – as opposed to Latin America, the Middle East, or Asia – are most threatening to U.S. development ideologies because of Africa's formative development stage, fragile institutions and weak protections on democracy and human rights.

If China were a motivator of Power Africa policies, initial country partners would have higher Chinese engagement. Alternatively, similarly motivated by interest in contesting China's regional role, the U.S. may have chosen initial country partners where China had little influence, so the U.S. could demonstrate its alternate vision and secure its losses. Evidence indicates that the U.S. appears to have chosen markets with lower Chinese engagement – prioritized governance, economic stability, resources and market size in initial partner selection. Several later projects associated with Power Africa in the

Democratic Republic of Congo (DRC) and Angola, however, controversially involve Chinese developers.

- *Policy adjustments hedge China's advantages (Strong evidence): U.S. decision makers identify and implement adjustments in sectors where China's activities are perceived to cause the greatest ideological friction with the U.S.*

  The U.S. choice of policy adjustment in power sector assistance is particularly puzzling, as the U.S. has little historical prioritization of assistance to this sector, delegating instead to multilateral development banks. The power sector is an area of Chinese comparative advantage, resulting from spillover from China's domestic market and state-supported export model. U.S. enhanced engagement in African power draws ideological contrast with China, supporting governance principles and private sector engagement with the co-benefit of stimulating U.S. commercial opportunity. There is little compelling public evidence that other issues – such as climate change or energy poverty – substantially influenced the U.S. policy shift.

Despite this circumstantial evidence, several alternative explanations are considered which co-determine the U.S. policy adjustment. The Power Africa policy followed several years of rapid economic growth in African, particularly in Power Africa's initial partners, making the African market a key competitiveness grounds for U.S. exporters. There is little agreement on the extent to which China's engagement in Africa may have stimulated this growth, which partially confounds this variable. There is also potential for ideational shifts within the U.S. government

on the importance of energy for development, particularly within the Obama Administration. Finally, there is some potential that the substantial U.S. government analysis of Chinese aid activities was strategic public messaging to garner and maintain political support for an otherwise partisan development finance agenda. The prevalence of China in confidential government as well as public communications indicate China was a geopolitical as well as symbolic factor in U.S. policy adjustment.

As prefaced in Chapter 3, official development actors will have tended to respond competitively to emerging alternatives that pursue different interests or threaten the established institution's authority. These conditions for discord have the potential to change patterns of development finance and development outcomes in countries seeking donor assistance. Underlying the potential for discord among development institutions are state geopolitical and commercial interests, though this chapter also suggests the importance of development ideologies – and authority to impose those ideologies – as equally, if not more, important in changing U.S. development strategy. The Power Africa case and the surrounding policy environment supports the finding that China's emergence caused the U.S. to change its strategy (*Dependent Variable*) in order to preserve long-held development ideologies, as well as to avoid commercial opportunity costs. The U.S. chose to re-assert itself in the power sector to counter China's growing authority (indicating competition), rather than choosing a sector where China had fewer capabilities (tacit delegation). However, U.S. country-level market selection may have employed more of a delegation strategy. Markets where the U.S. has the greatest geopolitical interests (such as in authoritarian states or states with fragile security environments) generally have the greatest Chinese involvement. Counter-intuitively, these markets will see less U.S.

policy adjustment arising from China's contested authority, rather than more. The same variables that may attract China to Sudan, Zimbabwe or Burma also prevent the U.S. from engaging actively in those markets, oftentimes because of sanctions conditioning U.S. development assistance on ideological reforms. Based on this observation, the strongest U.S. policy adjustment should occur in middle cases – where China's contested authority is discernable but also where U.S. geopolitical and ideological goals have maneuvering space to consider China.

The chapter proceeds by, first, introducing the decline and then puzzling resurgence in OECD and U.S. development finance for the power sector; second, showing the evolution of the U.S. perceptions of how China affects U.S. interests and authority in Africa and elsewhere; third, assessing how U.S. perceptions of China factored into deliberations and support for the Power Africa policy; fourth, considering other variables that influenced U.S. policy shifts around Africa and power; and fifth, concluding with an examination of implications for the power sector.

Diplomatic, commercial and legislative priorities shape state-level competitive responses to contested authority, with the potential to change development outcomes, including in the power sector. The results also signal an important shift in development governance. The U.S. has moved from the principle norm-maker in the international system to a position of changing its sectoral and regional priorities to adapt to the changing landscape. China is empowered to contest U.S. authority and to shape the norms of the emerging landscape.

4.2 Puzzle: The fall and rise of infrastructure

Once viewed as critical to support the growing foundation of economic activity, infrastructure fell out of favor in development assistance. Bilateral and multilateral investment in the 1950s and 60s focused heavily on large infrastructure projects in transportation and multipurpose resource sectors (including power and water management). But infrastructure projects were criticized on technical grounds in the 1970s and then became the locus of environmental scrutiny in the 1980s[121].

Infrastructure assistance from OECD governments declined substantially since the 1970s. Total assistance for infrastructure including energy, transport, water systems, communications and industry averaged around 40% of OECD's development assistance in the 1970s, 30% in the 1980s, 20% in the 1990s, and 15% between 2000 and 2006. Once seen as a development bedrock, donors perceived that more infrastructure was not needed without first ensuring a commensurate improvement in agriculture of human and institutional capacity[122].

Infrastructure assistance declined even while total OECD multilateral and bilateral development assistance remained steady or increased (Figure 4.1, panel a). The decline in infrastructure assistance by the OECD between the 1970s and the early 2000s was compensated with increases

[121] Ruttan, V.W. (1996). "United States development assistance policy: the domestic politics of foreign economic aid". *Johns Hopkins University Press*, p.476-77.

[122] See Michalopoulos, C. (1989). "Assistance for Infrastructure Development". *In* Krueger, A.O., Michalopoulos,C. & Ruttan, V.W. (Eds.). "Aid and development". *Johns Hopkins University Press*, p.125-26.

in assistance for institutions and governance, health, and since the 1980s security and emergency response, as well as education[123].

Support for the power sector was particularly affected, with declines in both bilateral and multilateral assistance from OECD countries. Approximately 75% of World Bank lending from its creation through 1961 was in transport and electric power but this fell to 32% by 1985[124] as the Bank diversified its mission beyond reconstruction. According to OECD Creditor Reporting System data from 1973 to 2015, total power sector and transmission development assistance by OECD donors through bilateral and multilateral channels fell from nearly US$15 billion per year in the early 1980s to US$5 billion in 2000 (Figure 4.1, panel b). Bilateral funding declined from an average of over US$4 billion annually in the late 1980s to around US$2 billion in the early 2000s. But the majority of the decline was in multilateral financing, which is the difference between the "total" and "bilateral" data in Figure 4.1. Assistance to African power and transmission projects (Figure 4.1, panel c) declined from around US$1 billion per year in the 1980s to approximately half in the early 2000s.

[123] Author calculation based on rates of change in sectoral shares of total development assistance over five-year time steps, using OECD Creditor Reporting System (CRS) data, June 2016.
[124] See Michalopoulos 1989, *Supra* p.125-26.

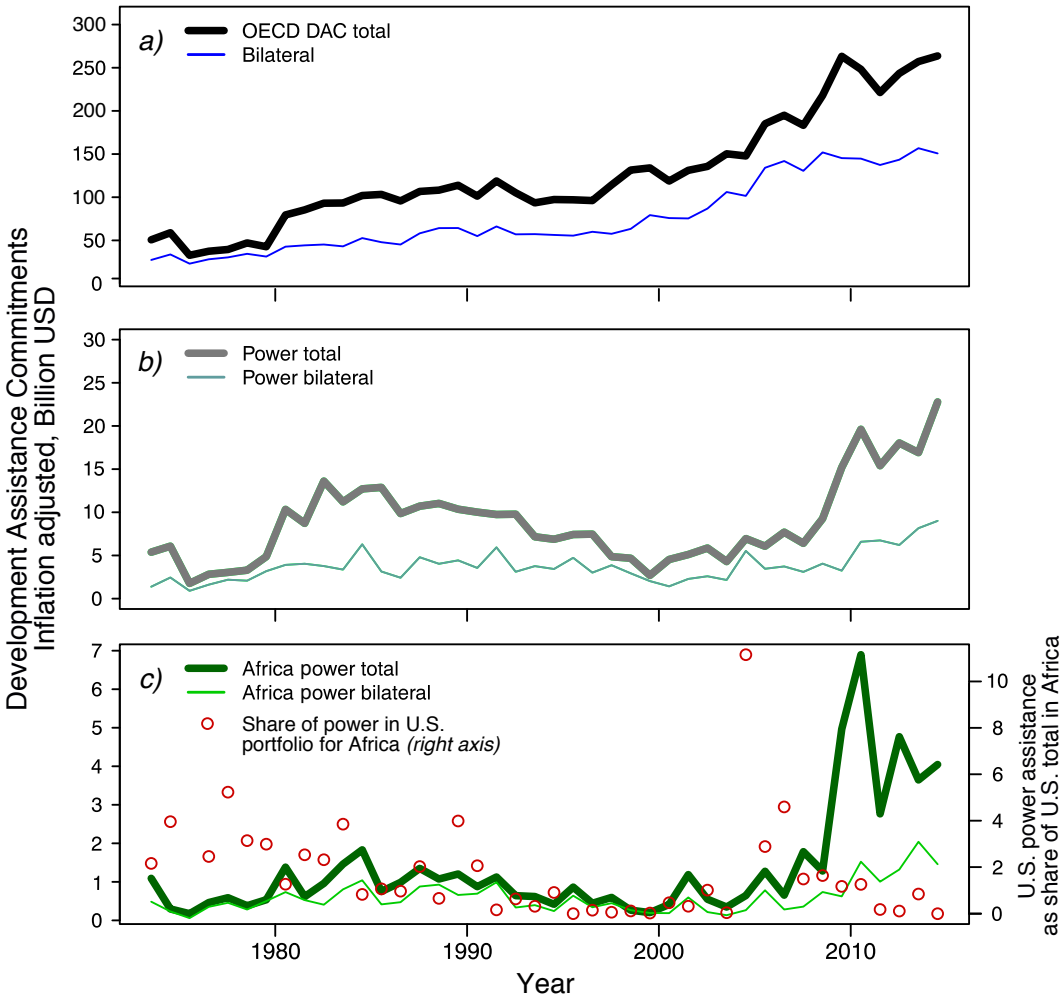

Figure 4.1: Trends in OECD development assistance, globally for all sectors *(a)*, globally for power sector and transmission *(b)* and in Africa for power sector and transmission *(c)*. While OECD development assistance has increased decade-on-decade since the 1970s, assistance for the power sector declined in the 1990s through 2000, but rebounded slightly after 2000. There have been large increases in power investments since 2008, among multilateral and bilateral donors. The Power Africa set of policies, discussed further below, followed after this trend. *[Author analysis using data from the OECD Creditor Reporting System (CRS), June 2016]*.

However, since 2000, power sector assistance from the OECD rebounded modestly and reached record levels in the last decade. The largest peak in both total OECD Development Assistance Committee (DAC) global assistance and for the power sector occurred immediately after the 2008 financial crisis and has continued to rise. In Africa, power sector assistance in the 2009-

2014 period was four times higher than during the previous peak in the mid-late 1980s. Overall infrastructure assistance rose as well, to 23% of all assistance between 2006 and 2014, and nearly 29% in 2012, coinciding with record volumes of OECD development assistance during the period (Figures 4.1 and 4.2). The increasing share for infrastructure in development assistance over the past decade has siphoned from the share of assistance going to education, and institutions and governance (Figure 4.2). Resources sectors – which include environmental protection, agriculture, forestry and fisheries – also declined precipitously overall as part of the OECD portfolio, until the past five years when it has increased modestly.

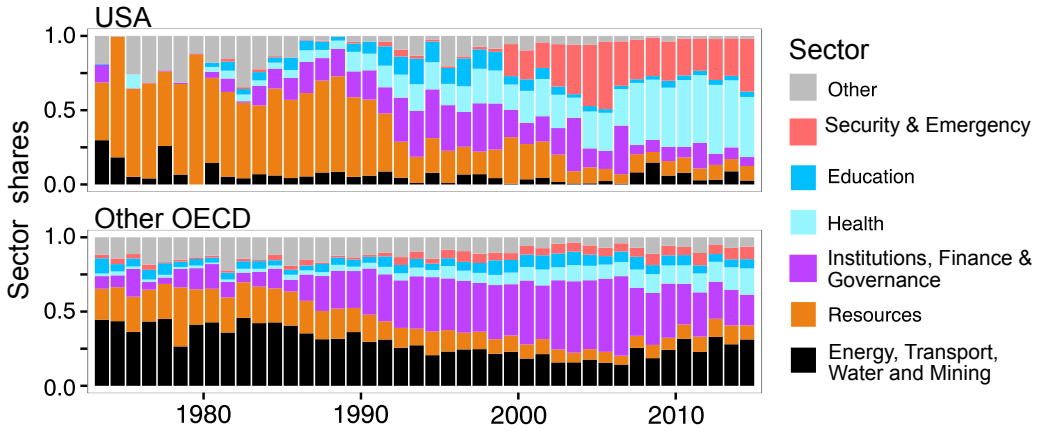

Figure 4.2: Sectors of OECD development assistance in sub-Saharan Africa. Energy, Transport, Water Resources and Mining occupy a very small share of U.S. bilateral development assistance, but have increased marginally in recent years. Other OECD countries have also increased industry over the past decade, after declining. *[Author analysis using OECD CRS, June 2016].*

The recurrence of OECD investments in African infrastructure corresponds to increases in Chinese loan investments in Africa. While data on Chinese investment are poor, best available estimates indicate that in 2000, Chinese loan financing was around US$0.81 billion and Chinese foreign aid was US$0.55 billion. By 2008, loan financing had surpassed US$6 billion and foreign aid US$1 billion. Continuing this growth, by 2013 loans had reached US$16.7 billion

and foreign aid US$3.2 billion[125]. A large percentage of this development assistance is believed to be for infrastructure, including US$6.7 billion for African hydropower development[126].

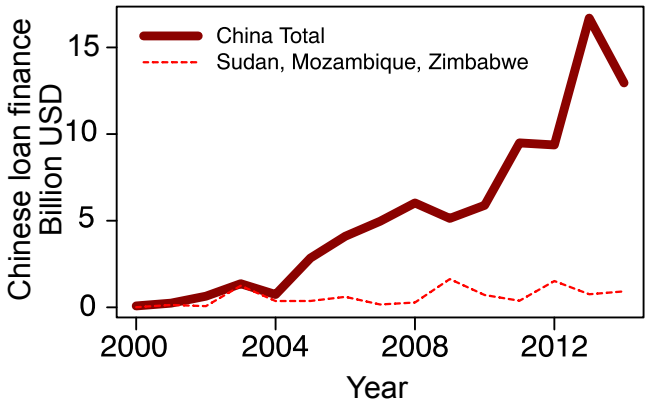

Figure 4.3: Annual loan finance from Chinese banks to sub-Saharan African governments and state-owned enterprises from 2000 to 2014, for all sectors. These data are mostly official export finance and are not comparable to OECD definitions of Official Development Assistance. Foreign aid data is reported separately. *[Author analysis using data from SAIS-CARI 2016[127]].*

The rebound in OECD power assistance also corresponds with resurgence in power sector capacity addition across Africa, a substantial portion of which has involved Chinese firms and finance. Data from the World Electric Power Plants database indicates a similar trend in power sector capacity addition as that followed by the OECD assistance to Africa, though with some lag. After power capacity addition peaked in the late 1970s, mostly from hydropower, there was modest sector activity through the 1980s diversifying into gas and coal, but very little capacity addition in the 1990s. By the late 1990s, capacity addition increased again, mostly in gas and

[125] Loan finance is reported for sub-Saharan Africa only consistent with the rest of this thesis, per author calculation using JHU SAIS-CARI data, while foreign aid is reported for all of Africa. See data source: Johns Hopkins University School of Advanced and International Studies, China-Africa Research Initiative. Dataset on Chinese Loans to African Governments, version 2 May 2016. Available: http://www.sais-cari.org/data-chinese-loans-and-aid-to-africa [Accessed 15 July 2016].

[126] Bräutigam, D., Hwang, J. & Wang, L. (2015). "Policy Brief: Chinese-financed hydropower projects in sub-Saharan Africa". *Johns Hopkins University SAIS-CARI Policy Brief*, No.08. Available: http://static1.squarespace.com/static/5652847de4b033f56d2bdc29/t/568c48e669a91a2847f1ac46/1452034278357/CARI_PolicyBrief_8_Apr2015.pdf.

[127] JHU SAIS-CARI 2016, *Supra*.

oil. The trend suggests the importance of concessional finance for private investment and power development in sub-Saharan Africa; the decline in commitments to the African power sector by the OECD from the late 1980s through the 1990s corresponds with marginal new investments (and any new capacity was primarily oil and gas, which are less complicated to develop than large hydropower projects).

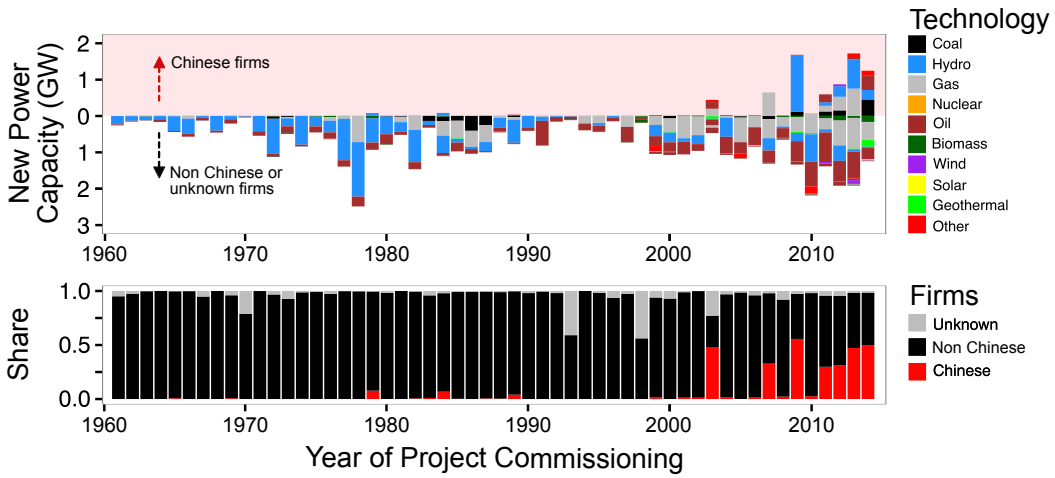

Figure 4.4: Capacity addition in sub-Saharan Africa, excluding South Africa, since 1961. Upper panel shows Chinese firms (upward from x-axis) and non-Chinese and unknown firms (downward from x-axis), by type of power plant investment. The lower panel shows share of new power capacity in any year involving Chinese firms. See also Figure 7.1 for share of capacity by technology, and looking at growth in hydropower in pipeline capacity. *[Author analysis using WEPP, Dec. 2015].*

In the context of the reversal in OECD power sector assistance, and emergence of Chinese assistance including for power, untangling potential causality requires tracing perceptions of Chinese assistance, and the nature of policy response. The following section traces U.S. perceptions of Chinese assistance to Africa, and analyzes U.S. government consideration of China in crafting the Power Africa legislation.

4.3 Progression of U.S. perceptions of China

4.3.1 China becoming a responsible stakeholder?

The George W. Bush Administration was "very concerned" about China's relationships with bad governments in Venezuela, Sudan and Mozambique. However, in general it viewed China's economic and diplomatic "inroads" as a "potential positive outcome for both the United States and China". China's experiences in problematic markets, as well as Pakistan, Burma and Zimbabwe framed U.S. Congressional thinking about Chinese engagement globally, even if the substance of engagement in different markets deviated significantly from the early experiences.

Robert Zoellick, who prior to becoming World Bank President had served as the U.S. Deputy Secretary of State (and was key to negotiations with China on Sudan[128]), in 2005 publicly called on China to be a "responsible stakeholder" as a member of the international system[129], a phrase repeated by the Department of Defense's 2006 Quadrennial Defense Review Report[130]. Zoellick provided nuance to the Bush Administration's view that China was a "strategic competitor", a break from President Clinton who called China a "strategic partner"[131]. According to Zoellick, China was not in a "twilight conflict" with democracy, capitalism, American ideologies, or the

[128] "Remarks by President Bush at Nomination of Robert Zoellick to Be President of the World Bank". *U.S. Newswire*, 30 May 2007.
[129] Zoellick, R. (21 September 2005). "Whither China? From Membership to Responsibility". *Remarks to the National Committee on U.S.-China Relations*. Available: http://www.ncuscr.org/sites/default/files/migration/Zoellick_remarks_notes06_winter_spring.pdf.
[130] U.S. Department of Defense (6 February 2006). "Quadrennial Defense Review Report", p.28. Available: http://www.comw.org/qdr/qdr2006.pdf.
[131] BBC News (23 March 2001). "Bush Reassures China". Available: http://news.bbc.co.uk/1/hi/world/asia-pacific/1236923.stm.

fundamental order of the international system[132]. It was true – despite Zoellick's comments suggesting otherwise – that China's longstanding position on the development banks had been to see them reformed to reflect a more egalitarian global order. Nonetheless, Zoellick argued that China was creating anxieties within the international community through its lack of transparency, mercantilist tendencies and failure to help sustain the structure of the international system.

President Bush said in a statement that both countries can "pursue agendas without creating a great sense of competition"[133]. China's ambassador to the U.S. Zhou Wenzhong agreed, saying that both countries need not pursue a "confrontational, or harmful rivalry, or a zero-sum game" in their mutual engagement in Africa[134].

Thomas Christensen, Deputy Assistant Secretary of State for East Asian and Pacific Affairs, consistently maintained the Administration's position over several years of testimony in Congress[135], that the U.S. "neither perceive[s] nor seek[s] a zero-sum competition with the Chinese in Africa"[136]. Christensen also put China's large investments into the perspective of the U.S. global presence and long-standing relationships in Africa. He compared much larger "total stock" of U.S. investments with China's annual development assistance allocation, which was dwarfed in comparison. The presentation was likely a response to media frenzy over the *rate of*

[132] Zoellick 2005, *Supra*.
[133] As quoted in Shinn, D. & Eisenman, J. (June 2008). "Responding to China in Africa". *The American Foreign Policy Council*, submitted as material for the Committee on Foreign Relations Subcommittee on African Affairs, U.S. Senate (4 June 2008). "China in Africa: Implications for U.S. Policy" S.HRG.110-649 p.51.
[134] Shinn & Eisenman 2008, *Supra* p.51.
[135] Christensen, T. (3 August 2006). "China's Role in the World: Is China a Responsible Stakeholder?" Hearing before the U.S.-China Economic and Security Review Commission. *109th Congress*. Washington DC, p.27.
[136] Committee on Foreign Relations Subcommittee on African Affairs, U.S. Senate (4 June 2008). "China in Africa: Implications for U.S. Policy". S.HRG.110-649. p.5

growth of Chinese international assistance. Christensen also maintained the position that by working with China to improve its aid practices, the U.S. wanted to "actually help China's own reputation on the continent"[137].

Michael Ranneberger, who served as Deputy Assistant Secretary of State for Africa Affairs, also argued that China's expansion in international markets "should not be read as a threat". There would be no Cold War style conflict with China in Africa. There was cooperation with the U.S. on the most critical issues to U.S. security interests – where "even China didn't block", after significant struggle, the UN Security Council Resolution on the genocide in Darfur[138].

While officially the U.S. welcomed China's engagement in Africa, the U.S. sought to protect key interests, primarily related to development ideologies and cooperative relations with African governments. According to Ranneberger in 2005, these interests included 1) ensuring promotion of open markets; 2) economic and political engagement that promotes stability, democratic governance, and human rights; 3) maintenance of strong U.S. partnerships with African countries and institutions; 4) reduction in the potential for armed conflict; and 5) identifying opportunities for U.S. and Chinese cooperation while remaining aware of potential differences[139]. James Swan (who replaced Ranneberger at State) elaborated in 2008 that the U.S. was primarily concerned that China's engagement is "going to endanger progress that has been achieved in promoting good governance and market reform in Africa" [140]. Meanwhile, the Bush Administration viewed China's motivations for engagement in Africa as including seeking new markets for Chinese

[137] Committee on Foreign Relations Subcommittee on African Affairs 2008, *Supra* p.24.
[138] Ranneberger 2005 hearing *Supra*. p.31.
[139] Ranneberger 2005 hearing *Supra*. p.16.
[140] Committee on Foreign Relations Subcommittee on African Affairs, U.S. Senate (4 June 2008). "China in Africa: Implications for U.S. Policy" S.HRG.110-649. p.6.

goods, accessing raw materials, expanding broader recognition of the One-China policy, and demonstrating China's "emergence as a major power, especially in the United Nations and other international organizations"[141]. These were not fundamentally in conflict.

Publicly available diplomatic cables, many labeled confidential and several secret, shared analyses that were more "zero sum" than the Administration admitted publicly. In 2007 when the World Bank and other international financial institutions denied a financing package to Sierra Leone, Sierra Leone President Ahmad Tejan Kabbah froze renewal of mining licenses for foreign companies, and then offered the concessions to Chinese companies as collateral for hydropower development[142]. One U.S. diplomat speculated that China's "strong foothold" would only increase as Sierra Leone "looks for ways to become less reliant on foreign assistance that comes with conditionalities"[143]. Similarly, the U.S. government observed in a secret diplomatic cable from 2007 that Ethiopia would avoid U.S. pressure on human rights reforms by leaning on uncoordinated aid packages from emerging donors:

> "Senior Ethiopian officials…have cultivated closer ties with both China and India, in part as a hedge against volatility in Ethiopia's relations with Western powers stemming from human rights problems following Ethiopia's disputed 2005 elections"[144].

According to another cable, African governments displeased by difficult U.S. aid conditions could turn to China, allowing them to avoid "sovereignty issues" and attached strings:

[141] Ranneberger 2005 hearing *Supra*. p.20.
[142] Hull (5 March 2007). "China Influence Increasing In Sierra Leone". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/07FREETOWN153_a.html.
[143] Hull 2007, *Supra*.
[144] Yamamoto (6 March 2007). "Ethiopia: Background For U.S./China Dialogue On Africa". *Wikileaks,* Available: https://wikileaks.org/plusd/cables/07ADDISABABA697_a.html.

> "This makes Chinese offers attractive to African leaders tired of Western insistence on good governance, human rights, and transparent business practices as conditions for doing business or receiving assistance"[145].

A secret diplomatic cable from January 2006 revealed early U.S. analysis over whether China would coordinate with other international donors and the OECD, increase transparency, or rather focus on resource interests abroad and political support for Taiwan. The Chinese government was itself divided on this issue. The Central Government's MOFCOM commissioned external analysis by Dr. Zha Daojiong at China's Renmin University in 2005. Dr. Zha had recommended that China "cooperate with the G-7 on foreign aid…in order to both learn lessons and build confidence with developed countries that China is a responsible stakeholder"[146]. His recommendations – as revealed to the US – were received by China with "a reluctance to engage with foreigners on China's aid program"[147] given the program's small size, China's weak institutional infrastructure to handle aid, and also a "bureaucratic dogfight" between MOFCOM, MFA and other divisions of the Chinese government regarding transparency. China must have recognized that the developed country donors were apprehensive regarding China's growing portfolio. In one case, China publicly under-reported the magnitude of its foreign assistance, according to Dr. Zha, "due to perceived competition with Japan in developing countries"[148]. Dr. Zha also said that China had denied a request by Honduras for a US$40 billion aid disbursement in exchange for Honduras's breaking ties with Taiwan, indicating a possible maturation in the complex motivations of Chinese aid.

[145] Rosenblatt 2006 *Supra*.
[146] Randt (20 January 2006). "(S) Restructuring Chinese Foreign Aid--Next Steps" *Wikileaks.* Available**:** https://search.wikileaks.org/plusd/cables/06BEIJING1238_a.html.
[147] Randt 2006, *Supra.*
[148] Randt 2006, *Supra.*

Early years of China's development assistance in Africa raised U.S. concerns over ties to oil and gas deals, though public records don't initially indicate general concern over China's engagement in major infrastructure investments. The U.S. did not feel inclined to follow China back into infrastructure; to the contrary, according to Ranneberger "China's willingness to take on infrastructure projects can complement Western investment and assistance programs"[149]. Furthermore, diplomats rationalized that U.S. forbearance with China's approach to Africa would vindicate U.S. insistence on stringent conditions around development assistance at the OECD and through its own operations. The Chinese would face the same issues of dealing with unstable governments and unreliable repayment, forcing them into a more cautious approach.

However, infrastructure was tied intimately with unconditional aid packages that tarnished lawmaker impressions of China's Africa relations. In 2008, Russ Feingold criticized China for building power plants that "support Robert Mugabe's repressive regime" – along with provision of weapons to Sudan – as instances where the international community "should not tolerate such reckless behavior"[150]. The "appropriate response" by the U.S. was more engagement and continued commitment to U.S. fundamental values.

Early concerns about China's success in Africa were not U.S. centric. The response by other Western states – particularly former European colonizers in Africa – was less restrained than in the U.S. In 2001, African states created an initiative focused around social development meant to attract Western donors, called the New Partnership for Africa's Development (NEPAD). But the U.S. and other Western donors were mostly dismissive of NEPAD until China embraced the

[149] Ranneberger, M. July 2005 hearing *Supra* p.18.
[150] Committee on Foreign Relations Subcommittee on African Affairs, U.S. Senate (4 June 2008). "China in Africa: Implications for U.S. Policy" S.HRG.110-649. p.2

group in 2003 and agreed to provide capacity building assistance[151]. According to one development official from NEPAD, following the seminal 2006 meeting of Chinese and African leaders through the Forum on China-Africa Cooperation (FOCAC), the E.U. "came calling"[152] to NEPAD wishing to discuss infrastructure – despite NEPAD's social orientation and the E.U.'s own longstanding preference for social and institutional development – a shift considered a "direct result"[153] of Chinese engagement. According to the official, the World Bank also increased its support for agricultural projects as a result of China's emphasis in this sector. Western donors were also initially dismissive of Liberian President Ellen Johnson Sirleaf's request for assistance with roads and infrastructure as the country emerged from its civil war; but after China agreed to help with road reconstruction, Western donors quickly followed suit[154].

The 2006 FOCAC meeting received a strong diplomatic response. Immediately after the event, German Chancellor Angela Merkel was quoted in the media as saying that "we Europeans should not leave the commitment to Africa to the People's Republic of China" and that the European Union "must take a stand in Africa"[155]. Chancellor Merkel committed to prioritize European relations with Africa during Germany's forthcoming E.U. presidency.

[151] Shinn, D.H. & Eisenman, J. (2012). "China and Africa: A century of engagement". *University of Pennsylvania Press*, p.159-60.
[152] Malcomson, D. Quoted in Huntsman, J. (11 February 2011), *Supra*.
[153] Malcomson, D. Quoted in Grieve, A. & Orr, T. (12 May 2007). Centre for Chinese Studies Seminar on the sidelines of the African Development Bank Annual General Meeting. Seminar Notes, Shanghai. Available: http://www.ccs.org.za/downloads/Events%20CCS%20Seminar%20Notes-Shanghai.pdf. p.2. This account is also relayed in Bräutigam (2009), *Supra* p.134.
[154] Deborah Bräutigam shares this story, from an advisor to Liberian President Sirleaf, in Bräutigam, Deborah (2009). "The Dragon's Gift" *Oxford University Press*, p.133-34. As well as in oral testimony for Subcommittee on African Affairs Committee on Foreign Relations, U.S. Senate (1 November 2011). "China's Role in Africa: Implications for U.S. Policy". p.14.
[155] Godoy, J. (15 November 2006). "Africa: China Reaches Into Europe's Resource-Rich 'Backyard'" *Inter-Press Service*, via allAfrica. Available: http://allafrica.com/stories/200611150529.html.

The window into the U.S. foreign service indicates the Bush Administration had carefully characterized China's global activities and saw challenges as well as opportunities. According to one U.S. diplomat, China's growing presence in Africa "isn't all bad"[156]. Some diplomats considered how the U.S. might use competition over African political allegiance to the U.S. advantage. Diplomats pondered whether the U.S. would be able to enhance their relationship with democratic allies eager to balance China's success in the region. For instance, according to a confidential 2006 cable, France was concerned about being displaced by China, which led to the U.S. seeing an opportunity for engaging more actively in Africa:

> "China's appearance and status as a 'rival' raise new concerns [for the French] and may provide an opportunity for the U.S. to work with France and other Europeans more comfortable with an expanding U.S. rather than Chinese presence"[157].

The French were wary of how they might fare in an emerging struggle for influence with China, but according to U.S. diplomats in 2006 the issue had "only recently risen to the level where it is receiving focused attention" by the French[158].

The U.S. diplomats also perceived "clear indications" that Japan and India were each making efforts to compete with China in Africa. Back in 1963 on Zhou Enlai's pivotal tour of Africa, Indian intellectuals and the media were in a frenzy over concerns that China was attempting to displace India's position as leader of the non-aligned movement by painting India as pro-West, as well as courting African support on Indian-Chinese border issues[159].

---

[156] Rosenblatt 2006, *Supra*.
[157] Rosenblatt (25 August 2006) "China In Africa: French Are Watching Closely And Seek Dialogue With The U.S. In Meeting The Challenge". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/06PARIS5733_a.html
[158] Rosenblatt 2006 *Supra*.
[159] Sen, C. (June 1964). "Chou En-Lai's African Journey as Viewed by the Indian Press". *Asian Survey* 4(6), p.880-889.

In 2007, U.S. diplomats lamented India's failure to make diplomatic and economic inroads in Africa, after India committed to redouble its aid efforts in response to FOCAC by launching an India-Africa Forum of its own[160]. The Bush Administration saw India as a "key strategic partner"[161]. India could serve as a better "role model for governance", and the U.S. realized that improved "India-Africa relations would benefit the United States" by providing a "valuable [U.S.] partner for African initiatives" in information technology, agriculture, and pharmaceuticals. U.S. officials had hoped in vain that India's model as a "rising, stable, and open democracy" would have proven a credible alternate to the Chinese model with African nations[162]. However, as Jairam Ramesh (India's Junior Commerce Minister, who later became Environment Minister) remarked in 2008, "There is no race between us [India and China]; the Chinese have left us far, far behind"[163].

Outside the U.S. executive, there were more bullish and skeptical voices pushing the Bush Administration on China. Rep. Chris Smith (R-NJ) – who became an original co-sponsor on the Electrify Africa Act in 2013 – was the Chairman of the House Subcommittee on Africa[164], and a strong proponent of actively engaging China in Africa. Smith organized multiple hearings on China's influence in Africa, and advocated that the U.S. should be alert to the "danger of

[160] Johnson, J. (8 April 2008) "India Follows China's Path with Africa Overture". *Financial Times,* New Delhi. Available: http://search.proquest.com/docview/229126824/citation/D09B22E5871A4BFEPQ/28.
[161] U.S. Department of Defense (6 February 2006). "Quadrennial Defense Review Report". p.28. Available: http://www.comw.org/qdr/qdr2006.pdf.
[162] Pyatt (19 March 2007). "India Falling Short Of Potential In Africa, Competing With China For Resources And Influence". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/07NEWDELHI1325_a.html.
[163] Johnson 2008, *Supra*.
[164] The committee's full title is Subcommittee on Africa, Global Human Rights and International Operations of the Committee on International Relations House of Representatives.

Chinese influence undoing the progress that has been made in Africa", particularly Western efforts in Sierra Leone, Zimbabwe, Sudan, and Angola and the DRC[165].

James Inhofe spoke on the floor of the Senate about the threats that China posed. Speaking at the height of the Sudan Darfur crisis and amidst concerns that China was abetting nuclear proliferation in Iran and North Korea, Inhofe said that "China has continued on an alarming course in conflict with our national security"[166]. Further, discussing China's approach to investing in infrastructure as part of concessions for resources and political clout, Inhofe concluded that:

> "they're doing it smarter than we are [and although] I don't approve of the way they're doing it… they're getting results, and we're not getting results"[167].

Independent government reviews joined the chorus of concern over China in Africa as well. The Commissioner of the U.S.-China Economic and Security Review Commission – which since 2000 has advised the Administration and Congress with non-partisan reports that assess the national security implications posed to the U.S. by China – believed that China's engagement with Africa threatened U.S. diplomatic and development interests. The Commissioner remarked that China's domestic governance and different model of development assistance put its Africa activities in conflict with U.S. interests:

> "All nations conduct business deals, use diplomatic leverage and jockey for access to natural resources. What makes the Chinese strategy for energy security

[165] Hearing before the Subcommittee on Africa, Global Human Rights and International Operations of the Committee on International Relations House of Representatives. 109th Congress, First Session. 28 July 2005. Serial No. 109-74. "China's Influence in Africa".
[166] Inhofe, J.M. (4 April 2005). "China's Spreading Global Influence". 109- 1 Congress. 151 Cong Rec S 3115. Vol.151 No.36 p.S3115.
[167] Inhofe, J.M. (3 August 2006). "China's Role in the World: Is China a Responsible Stakeholder?" Hearing before the U.S.-China Economic and Security Review Commission. 109th Congress. Washington DC, p.17.

> and its diplomatic effort in Africa of particular concern is the very nature of the government of the People's Republic of China and how that translates into its outreach in Africa"[168].

Africa did not command the entirety of congressional and administrative concern for China's international engagement. In Asia, diplomatic concern was more concentrated to key geopolitically significant states, including Myanmar and Pakistan (though see Chapter 6 for China-India relations). China was assisting Pakistan in development of an LNG facility near Karachi, oil refinery and storage capacity, and development of the Thaar coal field[169]. More importantly, the U.S. was concerned about China's promise in October 2008 to provide civilian nuclear power stations to Pakistan, potentially in violation of China's responsibilities as part of the Nuclear Suppliers Group[170]. The U.S. encouraged the World Bank to get involved in Pakistan's deeply political and over-regulated power sector, including the coal project[171]. U.S. interests in having China coordinate with U.S. and multilateral aid efforts were rebuffed. Instead, Pakistan criticized U.S. bilateral assistance through USAID for "soft development projects", in contrast praising China for "bricks and mortar" projects that were tangible and seen by the Pakistani government as more necessary than what the U.S. was providing[172].

---

[168] Bartholomew prepared remarks July 2005, *Supra* p.48.
[169] Crocker (1 December 2005). "Iran Pipeline Demarche Delivered; Gop Discussions With Iran Continue", *Wikileaks*. Available: https://wikileaks.org/plusd/cables/05ISLAMABAD17835_a.html.
[170] Patterson (22 October 2008). "Zardari Expresses Delight With China Visit, Looks To Friends For Help On Challenges". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/08ISLAMABAD3339_a.html.
[171] Fakan (25 February 2009). "Sindh - Will Thar Coal Finally Materialize?" *Wikileaks*. Available: https://wikileaks.org/plusd/cables/09KARACHI61_a.html.
[172] Huntsman (25 September 2009). "China/Pakistan: Pakistani Officials Praise PRC Aid Model, Seek Greater Bilateral Energy And Trade Cooperation". *WIkileaks*, Available: https://wikileaks.org/plusd/cables/09BEIJING2770_a.html.

In Myanmar, a secret diplomatic cable from 2004 indicates U.S. concern over China's "surging socio-economic influence" through assistance with large dam projects[173]. After the U.S. passed sanctions against Myanmar's military government in 2003[174] the U.S. had urged China to use its influence to push for positive governance reform[175].

Kevin Gallagher has written that the Washington Consensus and U.S. development ideals also lost ground to China in Latin America during a boom in "Yuan diplomacy" since 2005[176]. In a congressional hearing that year, New Jersey Representative (later Senator) Robert Menendez said, with regard to Latin America, that:

> "while China has clearly laid out an economic and political plan to increase their investment and, most importantly, their influence in the [Western] hemisphere, the United States has not been engaged in its own front yard. As we look toward the future, I propose that the United States actively reengage in the hemi-sphere, from political involvement to investment in regional development"[177].

The head of the U.S. Southern Command, Army General Bantz Craddock, was quoted in Congress as saying that China's growing regional role in Latin America is "an emerging dynamic that could not be ignored"[178].

---

[173] Martinez (29 January 2004). "Chinese Dams, Chinese Influence In Burma". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/04RANGOON125_a.html.

[174] U.S. Public Law 108-61 (28 July 2003). "Burmese Freedom and Democracy Act of 2003". Available: https://www.treasury.gov/resource-center/sanctions/Documents/bfda_2003.pdf.

[175] Christensen, T. (3 August 2006). "China's Role in the World: Is China a Responsible Stakeholder?" Hearing before the U.S.-China Economic and Security Review Commission. 109th Congress. Washington DC, p.23.

[176] Gallagher, K.P. (2015). "The China Triangle: Latin America's China Boom and the Fate of the Washington Consensus". Oxford University Press, 2015. p.64-65.

[177] Menendez, R. (6 April 2005). "China's Influence in the Western Hemisphere". Subcommittee on Western Hemisphere; Committee on International Relations. House. Committee on International Relations Serial No. 109-63, Y4.IN8/16:IN3/4.

[178] Bantz Craddock quoted by Inhofe, J. August 2006, *Supra* p.17.

4.3.2 Challenging the U.S. monopoly on development norms

An epistemic community formed around China's investments abroad, particularly regarding Africa and resources. Prevailing narratives that China's national oil companies were "locking up" oil resources were found to be exaggerations[179]. Work by Deborah Bräutigam challenged media speculation drawing conclusions unsupported by the dearth of data, about the scale and impact of Chinese engagement in Africa, also telling Congress in testimony that there was no substantive evidence that China was making governance worse in Africa[180]. In February 2006, the Department of Energy responded to an inquiry from Congress with a report indicating that China's oil interests abroad were not harming U.S. security interests[181]. Western journalists had taken a similarly incendiary view of China's Africa involvement in the 1970s, using emotive language that fed on communist fears without contextualizing China's capabilities and its own developmental and political vulnerabilities[182]. The implications for public and policymaker skepticism of China's international activities are likely, then as now, to have raised more concern about ideological and diplomatic risk than was immediately warranted.

The U.S.-China Economic and Security Review Commission wrote in 2008 that "Chinese foreign policy has changed in ways that have significant effects on U.S. national interests and foreign relations strategy"[183]. In juxtaposition to the non-zero sum game framing by the Administration, the Commission concluded that China's growing economic, military and

[179] Downs, E.S. (June 2007). "The Fact and Fiction of Sino-African Energy Relations". *The Brookings Institution*. Available: http://www.brookings.edu/research/articles/2007/06/summer-china-downs.
[180] Bräutigam, D. "Dragon's Gift". *Oxford University Press*, p.21.
[181] Dumbaugh, K. (31 December 2006). "China-U.S. Relations in the 109th Congress". *CRS Report for Congress, via Wikileaks*, Available: https://file.wikileaks.org/file/crs/RL32804.pdf, p.CRS-40.
[182] Hutchison, A. (1975). "China's African revolution". *Hutchinson of London*, p.105-06.
[183] U.S.-China Economic and Security Review Commission (18 March 2008). "China's Expanding Global Influence: Foreign Policy Goals, Practices, and Tools". 110th Congress – 2nd session, Hearing.

political influence was in "some cases at the expense of the United States"[184]. The Commission repeated verbatim the view of the American Enterprise Institute that "China is challenging the U.S. and international financial institutions' monopoly on aid to and investment in sub-Saharan Africa"[185].

The Senate Committee on Foreign Relations requested a study by the Congressional Research Service (CRS) examining Chinese soft power in Asia, Latin America and Africa, including the impact for U.S. global influence[186]. The report adjudicated what Chairman Joe Biden viewed as polarization between "those who view China principally as a threat and those who see China's rise as essentially benign". Biden recognized that Chinese activity sometimes "undermines international efforts to link aid" with conditions on corruption, transparency and human rights.

The CRS report states that "China's apparent soft power gains" were won by portraying its system of assistance "as an alternate [to the Western] model for economic development… based on authoritarian governance and elite rule". However, the report continued, China's success may only have an ephemeral impact on U.S. relative influence, and "should not be blown out of proportion"[187]. Still, Chinese aid and investment could have "detrimental consequences" for the ability of the U.S. and the established development finance regime to "promote transparency,

[184] U.S.-China ESRC (18 March 2008). *Supra,* p.v.
[185] U.S.-China ESRC (18 March 2008). *Supra*, p.vi.
[186] Mulhollan, D.P. (15 April 2008). "Letter of Submittal" *In* Congressional Research Service (April 2008). "China's Foreign Policy and 'Soft Power' in South America, Asia, and Africa" Study prepared for Committee on Foreign Relations, Washington DC. p.v.
[187] Congressional Research Service (April 2008). "China's Foreign Policy and 'Soft Power' in South America, Asia, and Africa" Study prepared for Committee on Foreign Relations, Washington DC. p.3.

accountable governance, environmental protection, and human development in the developing world"[188].

CRS wrote that China marketed its non-interference in internal affairs as a "key competitive advantage" to Western capital. CRS advised that the U.S. must "work harder to ensure the U.S. democratization and human rights values are not seen by other countries as encumbrances and prohibitions placed in the way of, but instead as things that ultimately improve, their economic progress". U.S. diplomats in Kenya perceived China as enabling the Kenyan government to "shield itself from Western, and principally U.S., pressure to reform"[189]. However, diplomats also recognized that the Chinese model of weak conditions and safeguards could backfire and that there were benefits to "keeping our distance, at least publicly, from China"[190]. The CRS suggested a simple counter-approach that would protect U.S. interests vis-à-vis China while maintaining core ideologies; the World Bank, the U.S. and other Western governments could "increase the efficiency of their international investment processes and reduce attending red tape to compete with these PRC advantages"[191].

While the Bush Administration remained steadfast on the need for the U.S. to continue trying to "shape the choices" of China's leaders, other voices in the government seemed to internalize skepticism of China's intentions in Africa and threats to U.S. interests, and adjust U.S. practices accordingly.

[188] U.S.-China ESRC report (2008), *Supra* p.250.
[189] Rannenberger (17 February 2010). "Chinese Engagement In Kenya". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/10NAIROBI181_a.html.
[190] Rannenberger 2010, *Supra*.
[191] CRS 2008, *Supra* p.9.

4.3.3 From U.S. analysis to a U.S. response

Attention moved from analysis toward assessing whether and how the U.S. might change its own engagement in Africa. After the Clinton Administration's focus on "trade not aid" as a new foreign policy theme, the Bush Administration reassured lawmakers that the U.S. had not forfeited Africa to China, having tripled U.S. aid to Africa between 2000 and 2005. The Administration had plans for a further doubling by 2010[192]. But skeptical lawmakers did not see this as sufficient. In a letter to members of Congress and congressional staff, the U.S.-China Economic and Security Review Commission recommended that the U.S. "hedge against the decline of American influence and international prestige", referencing recommendations from Josh Kurlantzick at the Carnegie Endowment for International Peace that the U.S. "place greater emphasis on its public diplomacy and outreach to counter the effects of China's growing diplomatic reach"[193].

To maintain its policy neutrality, a Congressional Research Service report listed several policy options. One pathway was in the case that "U.S. policymakers decide that the PRC's invigorated activities around the world require a U.S. response to offset or better compete with China". Possible responses, discussed alongside policy tradeoffs, included: "Reinvigorate U.S. engagement around he world to counter PRC soft power". The CRS report also suggested that the U.S. seek observational status within FOCAC, to learn about China's policy priorities in Africa. The U.S. had sought participation in other forums created by China (discussed particularly in Chapter 3), but with little success. The broader CRS recommendation was for

[192] Ranneberger, M. hearing (July 2005), *Supra* p.23. According to OECD data, development assistance from the U.S. to sub-Saharan Africa peaked just shy of this goal in 2008 before decreasing through the financial crisis.
[193] Letter from Wortzel, L.M. & Bartholomew, C. *In* U.S.-China ESRC (18 March 2008). *Supra*, p.vii

much greater donor coordination "to create synergies, avoid duplication and maximize each donor's strengths – including infrastructure construction in the case of China"[194]. The latter approach was also failing.

Lawmakers paying attention to China's Africa engagement knew that infrastructure was core to their portfolio. Congressional voices also saw China through an ideological lens, hoping to shape the manner in which China engaged in infrastructure and the results. Sen. Russell Feingold (WI) noted that where China was providing "critical infrastructure development" the U.S.

> "should not attempt to compete with or obstruct these efforts, but rather, we should seek to empower African governments and communities to demand internationally recognized standards with respect to the environment, human rights, and product quality"[195].

Feingold still had the impression that functionally, U.S. institutional and rights issues were undermined by China's continuing uncoordinated development assistance:

> "I agree that China's commercial and diplomatic activities in Africa are not aimed at diminishing U.S. influence on the continent, but, of course,…if repressive rulers or abusive militaries know they can rely on Chinese support, that will undermine efforts of the international community to bring about reform through isolation or conditional assistance"[196].

In November 2011, Sen. Chris Coons (D-DE) said that the U.S. invested in the "people of Africa" and social capital while the "Chinese Government has been investing in the

[194] CRS 2008, *Supra* p.14.
[195] Committee on Foreign Relations Subcommittee on African Affairs, U.S. Senate (4 June 2008). "China in Africa: Implications for U.S. Policy" S.HRG.110-649, p.2. The hearing was chaired by Feingold (WI) and involving Ben Cardin (MD), and Johnny Isakson (GA).
[196] Committee on Foreign Relations Subcommittee on African Affairs, U.S. Senate (4 June 2008). "China in Africa: Implications for U.S. Policy" S.HRG.110-649. p.12.

infrastructure of Africa"[197]. According to Coons, U.S. "leverage on African officials and governments is significantly weakened when those regimes can simply turn to China for support with essentially no value strings attached". Others on the subcommittee, including Sen. Ben Cardin (MD) concluded that:

> "we should be more aggressive in Africa. If we had more ties and there were more avenues for us to be able to exercise our influence, then we could have a better way of dealing with the type of relationships with China that are counterproductive with good governance" [198].

4.4 The U.S. shaping China's choices, or vice versa?

Congressional reports and independent panels encouraged the U.S. to engage China multilaterally in negotiations to address an "uneven playing field"[199]. The Bush Administration had already been pushing hard diplomatically to have China coordinate its aid packages, but with little early success[200]. Coordination with China was also the principle approach of the World Bank and IMF[201]. The Obama Administration continued this approach, particularly in export credits[202]. China's interests in coordination – and recipient government interest in supporting the U.S. in encouraging Chinese coordination – were limited.

Aid coordination drew rebukes from African leaders. A confidential diplomatic cable from the U.S. ambassador in Beijing, Jon Huntsman, in February 2010 conveyed that African leaders

[197] Subcommittee on African Affairs Committee on Foreign Relations, U.S. Senate (1 November 2011). "China's Role in Africa: Implications for U.S. Policy". p.2.
[198] Subcommittee on African Affairs Committee on Foreign Relations (1 November 2011), *Supra* p.37.
[199] Congressional-Executive Commission on China (2013). "2013 Annual Report". Washington DC, Available: http://www.cecc.gov/sites/chinacommission.house.gov/files/AR13DJ.PDF.
[200] Christensen 2015, *Supra*.
[201] Christensen, T. Senate hearing (4 June 2008), *Supra* p.4.
[202] Author Interview, December 2015

were pushing back on U.S. and European policy that tried to corner China into coordinating on aid with other donors. Huntsman said that African officials, preferring Chinese infrastructure to Western governance packages, "fear that U.S. or European interference will slow down the assistance process and tie conditions to Chinese aid"[203]. According to Huntsman, the Kenyan ambassador to China saw "no concrete benefit for Africa" in even minimal cooperation between Western and Chinese donors, because Africa would "lose the benefit of having some leverage to negotiate with their donors" if contending donors coordinated[204]. Huntsman wrote that the South African Minister Plenipotentiary was frustrated by what the Minister perceived as an effort by the West to "reign in" China's assistance to African nations[205]. The lack of African support for U.S. administrative efforts actually forced the Chinese to back out of some aid coordination efforts. There were exceptions; the UK's DFID was seen as coordinating well with China in Africa[206]. This period seemed to be a tipping point for U.S. realization that it must re-conceptualize its approach to African aid and coordination with China.

The Obama Administration became mildly more assertive on China in Africa. When asked about China's Africa investments in June 2011, Secretary of State Hillary Clinton expressed concern with "new colonialism" in Africa, and said that the U.S. doesn't want investors to "undermine good governance in Africa"[207], though without referencing China specifically. In

[203] Huntsman, J. (11 February 2011). "African Embassies Suspicious Of Us-China Development Cooperation In Africa". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/10BEIJING367_a.html
[204] Huntsman 2011, *Supra*.
[205] Huntsman 2011, *Supra*.
[206] Huntsman 2011, *Supra*.
[207] Reuters. (11 June 2011). "Clinton warns against 'new colonialism' in Africa". Available: http://www.reuters.com/article/us-clinton-africa-idUSTRE75A0RI20110611

March 2012, Clinton also said that "if China's rise means that we have an increasingly capable and engaged partner [in Africa], that would be good news for us"[208].

The Obama Administration actively re-conceptualized its Africa policy. In June 2012, the Administration announced a strategy toward sub-Saharan Africa focusing on democratic institutions, spurring trade and investment, security, and a broad category on development including health, inclusion, food security, and low-emission resilience and adaptation, including clean energy[209].

Obama's Africa strategy was critiqued by Africa advocates in Congress. Sen. Coons, by then the chair of the Senate Subcommittee on Africa, said the policy didn't confront the structural disadvantages of the U.S. against China. According to Sen. Coons, while the Obama plan focused on public health and food security, the Chinese "largely focused on infrastructure projects, such as roads, buildings and dams". The U.S. therefore was missing an opportunity for "economic statecraft" that would help in the transition from "aid to trade"[210]. The Coons report was a direct comparison of U.S. efforts in Africa relative to China's with a call for bullishness on the part of the U.S.:

> "America is losing ground and ceding economic opportunities in Africa to competitors. China, which has made dramatic inroads across the continent in recent years, may undermine or even counter value-driven U.S. goals in the region, and should serve as a wake-up call for enhanced American trade and investment. This is truly a critical moment, as our Chinese competitors are

[208] Clinton, H.R. (7 March 2012) "Remarks at the U.S. Institute of Peace China Conference". *U.S. Department of State*. Available: http://www.state.gov/secretary/20092013clinton/rm/2012/03/185402.htm.
[209] White House. (June 2012) "U.S. Strategy Toward Sub-Saharan Africa". Available: http://www.state.gov/documents/organization/209377.pdf.
[210] Coons, C. (7 March 2013). "Embracing Africa's Economic Potential: Recommendations for Strengthening Trade Relationships Between the United States and Sub-Saharan Africa". Available: http://thehill.com/images/stories/blogs/globalaffairs/africareport.pdf, p.3.

> securing long-term contracts that could lock American companies and interests out of fast-growing African markets for decades to come"[211].

If the U.S. was to compete with China in Africa, the U.S. seemed committed to re-enforcing its development ideologies. In 2012, the U.S. Chamber of Commerce attempted to "clarify" the U.S. Foreign Corrupt Practices Act, which opens U.S. businesses to criminal prosecution for paying foreign bribes. The Chamber's initiative was seen by many as an effort to weaken the Act. Some lawmakers had insinuated that standards – valuable as they are overall – were weakening U.S. business prospects and ultimately undermining U.S. interests as China could be more successful. At the time, Secretary Clinton responded that:

> "We are unequivocally opposed to weakening the Foreign Corrupt Practices Act…We don't need to lower our standards. We need to work with other countries to raise theirs. I actually think a race to the bottom would probably disadvantage us"[212].

Other legislation attempted to re-tool U.S. abilities to compete with China in Africa. Prior to Power Africa legislation, several other pieces of legislation were also interested in addressing U.S. competitive disadvantages in Africa against China. Sen. Durban proposed an act to increase U.S. trade with Africa by two-hundred percent over ten years (S.2215), called the "Increasing American Jobs through Exports to Africa Act". The legislation was introduced in March 2012 but never reached a full Senate vote. The Bill's language discusses U.S. trade promotion competitors, singling out China at length, including stating that China had surpassed the U.S. as Africa's lead trading partner, and that China's export financing dwarfs that of the U.S. while operating outside of OECD principles (discussed further in Chapter 5). Section 2(11-12) of

[211] Coons (7 March 2013), *Supra* p.2.
[212] "Wal-Mart Took Part in Lobbying Campaign to Amend Anti-Bribery Law". *Washington Post*. Available: https://www.washingtonpost.com/business/economy/wal-mart-took-part-in-lobbying-campaign-to-amend-anti-bribery-law/2012/04/24/gIQAyZcdfT_story.html [Accessed July 1, 2016].

Durban's bill elaborates on zero-sum elements of the interaction:

> "When countries such as China assist with large-scale government projects, they also gain an upper hand in relations with African leaders and access to valuable commodities such as oil and copper, typically without regard to environmental, human rights, labor, or governance standards"[213].

The Durban bill recognized U.S. opportunities for assisting with African infrastructure, stating that without action the U.S. will be

> "deprived of opportunities to participate in African efforts to close the continent's significant infrastructure gap that amounts to an estimated $100,000,000,000"[214].

The bill would have increased the focus on Africa within several U.S. agencies and asked U.S. representatives to the MDBs to target Africa more assertively. The bill also significantly increased the capitalization of the U.S. ExIm Bank alongside an increase in the available War Chest for matching concessional loans. Sen. Durban, in discussing his motivation for the Bill during a Senate Committee on Foreign Relations hearing titled "Economic Statecraft", emphasized the salience of the China issue with African leaders' perceptions of the U.S.:

> "One of my last trips to Ethiopia with Prime Minister Meles was an eye-opener. At the very end of the meeting, I happened to mention the word "China," and he was waiting. He added 30 minutes to the meeting to basically say to me go home to America and tell them what is happening here. China has arrived. They have a vision in Africa and they have a plan"[215].

Durban asked fellow Senators to reflect on the fact that:

---

[213] Senate Bill 2215 (21 March 2012). "Increasing American Jobs through Exports to Africa Act". As introduced. Congressional Record – Senate. P.S1933-34.
[214] Senate Bill 2215, *Supra*.
[215] Durban, R. Senate Committee on Foreign Relations. (25 July 2012). "Economic Statecraft: Increasing American Jobs Through Greater U.S.-Africa Trade And Investment (S. 2215, The Increasing American Jobs Through Greater Exports To Africa Act Of 2012)". S.HRG 112-653, p.24.

> "we want to stand for principles and values that reflect who we are and what we believe the world would be better off in following. But in many circumstances…the investments they are making all over the world dwarf ours"[216].

He asked rhetorically, to imply the weakness with which the U.S. policymakers have addressed the China-Africa issue, that given fiscal and ideological constraints in conducting economic statecraft against China, "in a time when we are not going to abandon our basic values…what are our chances of truly competing effectively with China in Africa?"[217].

Similar legislation by the same title was introduced by members of the House Subcommittee on Africa in April 2013 (HR. 1777), without provisions to increase U.S. ExIm's lending authority, which had become a poison pill. Sen. Coons, had released a report on the need for U.S. re-engagement in Africa just weeks before, said the House bill was

> "absolutely critical because China has outpaced the United States in growth of exports over the last decade by nearly 3-to-1…We cannot simply afford to lose out to China in the private sector, while in the public sector we must ensure our values are not undermined by an expansive political and economic agenda by China"[218].

Bill co-sponsor Rep. Bob Rush (who in 2012 had introduced his own proposal to retool in Africa called H.R. 656 "Africa Investment and Diaspora Act") said of H.R.1777:

> "I am impressed but also disheartened about the amount of global investment that is happening in Africa, particularly Chinese investment. I am gladdened because China and other nations are there, but I am saddened because the U.S. is standing

[216] Durban, 25 July 2012, *Supra* p.25.
[217] Durban, 25 July 2012, *Supra* p.25.
[218] Coons, Subcommittee on African Affairs Committee on Foreign Relations, U.S. Senate (1 November 2011). "China's Role in Africa: Implications for U.S. Policy". p.3.

flat-footed as the other nations of the world … are moving fleetfootedly"[219].

The Senate then followed H.R. 1777 with a new Senate version S.718, but this too was ultimately stranded on the Senate floor before a vote in September 2013. But earlier that summer Congress and the Administration had prepared a package called Power Africa that found a sweet spot.

4.5 Power Africa

The Power Africa set of policies was proposed simultaneously as an administrative initiative, and as legislation before the House. House Foreign Affairs Committee Chairman Representative Ed Royce had led a Spring 2013 delegation to Liberia, Ghana and Nigeria primarily to prepare for reauthorization of the African Growth and Opportunity Act (AGOA). AGOA, which was originally signed into law in 2000[220] and set to expire in 2015, facilitates trade between the U.S. and countries that meet liberal market conditions and satisfy a range of human rights, pluralistic governance and institutional requirements[221]. Considered a key part of U.S. diplomacy in Africa, AGOA eligibility has been used to incentivize reform in governance and market orientation, while also being a boon for U.S-Africa trade.

The House delegation hoped to increase AGOA's utilization rate, given substantial variation between countries in AGOA's success in generated trade. The delegation concluded that energy

[219] U.S. House of Representatives (7 May 2013). Hearing before the Subcommittee on Africa, Global Health, Global Human Rights and International Organizations of the Committee on Foreign Affairs. "Increasing American Jobs Through Greater Exports to Africa". Serial No. 113-57.
[220] Public Law 106 of the 200th Congress
[221] AGOA'S (Original) Eligibility Criteria - Section 104 Of The Act. Available: http://agoa.info/about-agoa/country-eligibility.html.

was the biggest inhibitor to countries fully exploiting AGOA, because it stifled economic productivity and manufacturing. According to Nilmini Rubin, the House staffer who drafted the House's legislative contribution to Power Africa, it was a "big surprise" that the Obama Administration was simultaneously recognizing the importance of the power sector for Africa[222]. The coincidence is clearly over-stated given several years of re-strategizing Africa, and the pre-existing trend of increasing power sector investments to Africa.

In June 2013 Rep. Royce introduced H.R.2548 (The Electrify Africa Act of 2014) to the House, which was referred to the Committee on Foreign Affairs as well as the Committee on Financial Services. The policy called for the U.S. to facilitate the installation of 20 GW of power in sub-Saharan Africa by 2020. The bill summary released by the House Foreign Affairs Committee says that the bill will address the issue that "while the United States has provided direct aid to support disparate African energy infrastructure projects, China has become the single largest investor…leveraging Chinese companies"[223].

Four days later, President Obama announced the parallel Administration template, called the Power Africa Initiative, during a speech at the University of Cape Town, South Africa. The Initiative would use US$7 billion in public money to leverage an additional US$9 billion investment in the African power sector, with the goal of installing 10 GW of clean power, including a reference to hydropower for U.S. Power Africa partner countries. The Obama

[222] Remarks by Nilmini Rubin (15 January 2014). "Powering Africa - A Conversation about Progress and Prospects". *Center for Global Development*, moderated by Ben Leo. Washington DC. Available: http://www.cgdev.org/media/powering-africa-conversation-about-progress-and-prospects [minute 28:30].

[223] Electrify Africa Act of 2013. Section-by-Section bill summary posted online by the House Foreign Affairs Committee. Available: http://foreignaffairs.house.gov/sites/republicans.foreignaffairs.house.gov/files/Electrify%20Africa%20Act%20of%202013%20--%20Section-by-section.pdf.

Administration initially chose Ethiopia, Ghana, Kenya, Liberia, Nigeria, Tanzania to serve as Power Africa partners[224], though the program added projects and countries almost immediately after being announced, including in Angola, Democratic Republic of Congo, Lesotho, Malawi, Mozambique, Namibia, Sierra Leone, South Africa and Uganda.

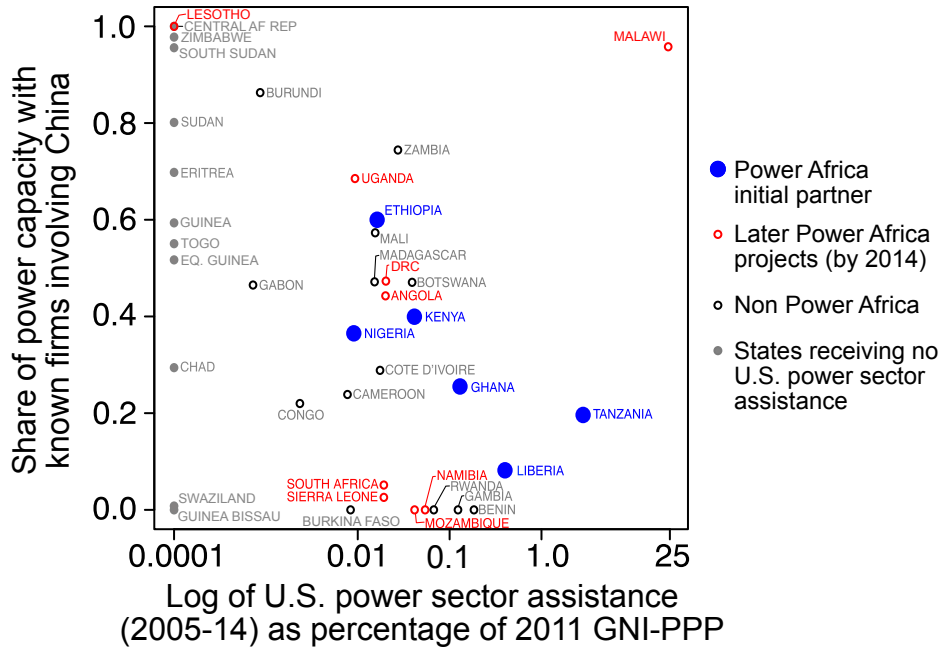

Figure 4.5: U.S. power sector assistance to Power Africa partners (in blue) relative to later Power Africa project countries (in red), and others (black). The share of capacity involving China (y-axis) is calculated only from capacity for which firm-level data is available (the assumption is implicit that the share of Chinese capacity for known firms is representative of the total data sample). There is substantial variation in Chinese involvement of Power Africa partners. The outlier in terms of U.S. aid and Chinese involvement, Malawi, is a potentially important case because of U.S. concern[225] in Malawi after China quickly increased assistance there in 2008 following Malawi's break-off in ties with Taiwan. *[Author analysis using data from WEPP 2015, OECD CRS 2016, World Bank 2011[226]].*

[224] White House (30 June 2013). "Fact Sheet: Power Africa". Available: https://www.whitehouse.gov/the-press-office/2013/06/30/fact-sheet-power-africa.

[225] Young (15 January 2008). "Taiwan Loses Another Diplomatic Partner: Malawi Switches Recognition To Beijing". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/08TAIPEI72_a.html

[226] GNI data, PPP adjusted in 2011 US$ from World Bank, Available: http://data.worldbank.org/indicator/NY.GNP.MKTP.PP.KD.

If the Power Africa initiative was motivated significantly by U.S. efforts to shore up its interests and influence in markets threatened by China, U.S. policy adjustment would prioritize countries where China is more seriously challenging U.S. authority and interests. However, there is not clear evidence that the U.S. chose markets within Africa based on the share of Chinese involvement in power capacity (Figures 4.5 and 4.6) nor total loan finance from China to African governments (Figure 4.7). Thus, to the extent the Power Africa policy has influenced U.S. policy adjustment, influence has been on the choice of re-engaging in Africa, focusing on the power sector, and using public money, but not a direct effort to contest individual African markets.

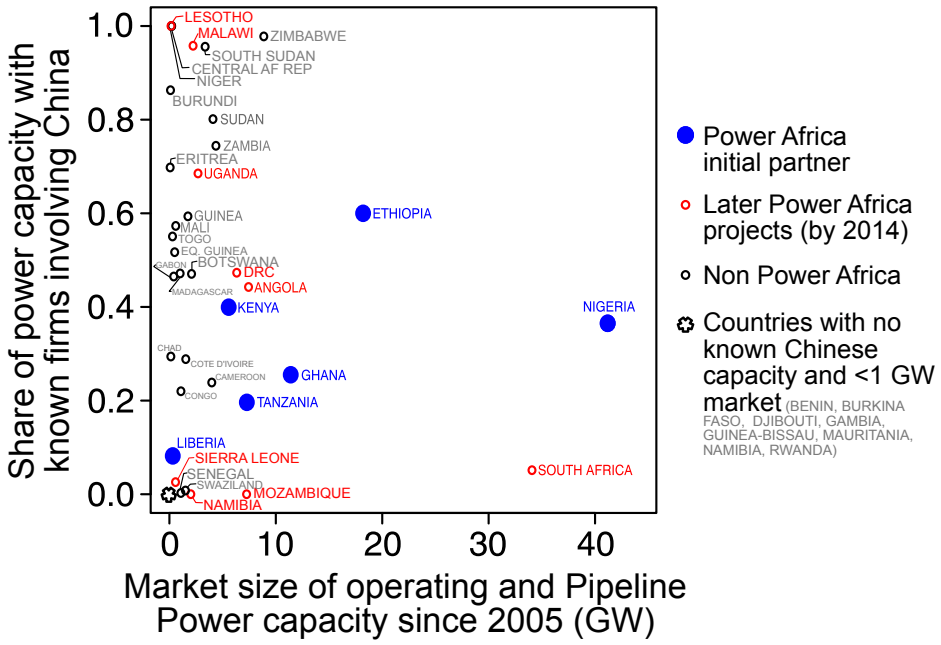

Figure 4.6: The choice of power sectors of Power Africa partners (in blue) relative to later Power Africa project countries (in red), and others (black). The total capacity under construction, planned, or operational since 2005 is included, indicating the market size. Power Africa partners tended to be the largest markets where the U.S. did not have sanctions, though also a preference for countries with lower Chinese involvement, which may be a proxy for governance issues. *[Author analysis using data from WEPP, Dec. 2016].*

Presuming that being an initial partner signifies the importance of the market to U.S. policymakers, the trend does not support the simplest version of the theory – of a direct contestation of China's authority in markets where China is strongest. The share of capacity[227] involving China was lower on average for those countries selected as Power Africa's initial partners (mean of 32% ± 18% std. dev. for Power Africa partners, relative to 42% ± 37% std. dev. for non-initial partners). The U.S. chose Power Africa partners who tended to be larger recipients of U.S. power sector assistance, and which also had substantially larger power sector markets.

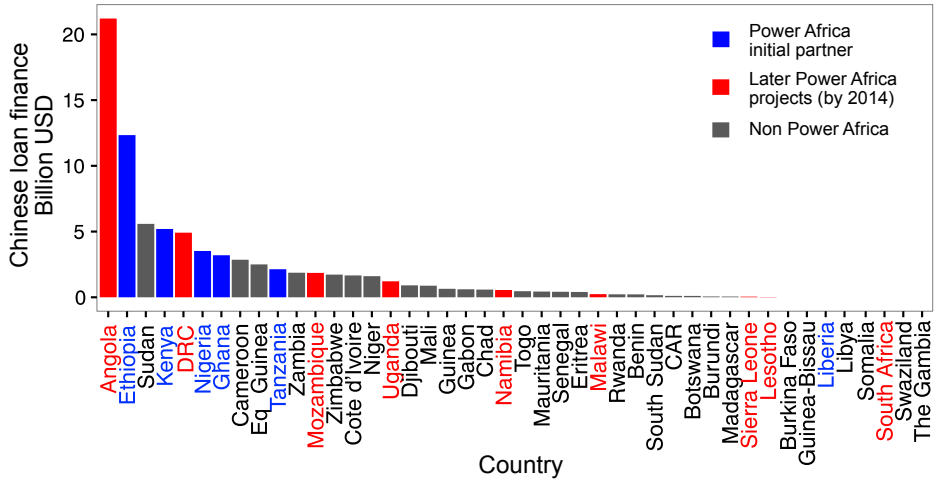

Figure 4.7: Total loan finance from Chinese banks to African governments and state-owned enterprises from 2000 to 2014, for all sectors. These data are mostly official export finance and are not comparable to OECD definitions of Official Development Assistance. *[Author analysis based on SAIS-CARI 2016[228]].*

Some motivations for choosing each of the Power Africa initial partners appear to have been practical, rather than strategic. According to officials, the selection was the result of a "rigorous, interagency process", likely to have involved the population, topography, gas/oil pipeline

[227] Including only capacity for which firm level data is available.

[228] Johns Hopkins University School of Advanced and International Studies, China-Africa Research Initiative (2 May 2016). "Dataset on Chinese Loans to African Governments". Available: http://www.sais-cari.org/data-chinese-loans-and-aid-to-africa [Accessed 15 July 2016].

availability and socio-economic factors; governance reforms were also a factor and the National Security Agency was involved in the selection process[229]. When asked how the U.S. would vet projects for social and human rights issues, Robert Ichord at the U.S. Department of Energy, stated that "we are not just sort of pursuing energy for energy's sake. I mean, it is part of our broader foreign policy interest"[230]. The statement presumably indicates that the U.S. will insist on governance and market principles consistent with U.S. development ideologies. Supporting transitions away from inefficient state-owned enterprises toward private investment systems was part of the justification for involving Nigeria, Ethiopia and Ghana[231]. Nigeria, Ethiopia and Ghana are the largest power markets in Africa (excluding South Africa) and, along with Tanzania are among the ten fastest growing economies in the world. Zimbabwe, the next largest power market, involves China in nearly all of its power sector capacity and has been under strong U.S. sanctions since 2003[232].

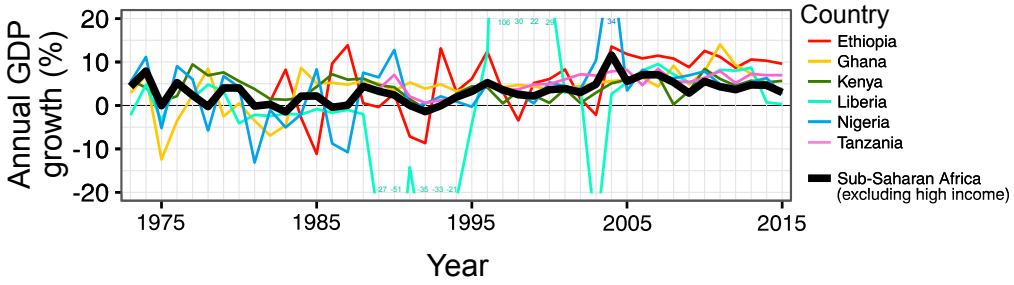

Figure 4.8: Growth rates of Power Africa countries (colored lines) relative to the sub-Saharan African average growth rate (thick black line). Over the last decade, Power Africa initial partner countries outperformed the continent economically, a likely motivator of their selection. *[Data from the World Bank 2016[233]].*

[229] Remarks by Representative Randy K. Weber and USAID official Eric G. Postel for the House subcommittee on Africa, November 2014, *Supra* p.48.
[230] Remarks by Robert Ichord for the House subcommittee on Africa, November 2014, *Supra* p.50.
[231] USAID. Power Africa Annual Report 2014. Available: https://www.usaid.gov/sites/default/files/documents/1860/USAID_PowerAfrica_AR_July2014.pdf, p.14.
[232] Executive Order 13288; U.S. Department of the Treasury Office of Foreign Assets Control (18 December 2013). "Zimbabwe Sanctions Program". Available: https://www.treasury.gov/resource-center/sanctions/Programs/Documents/zimb.pdf.
[233] The World Bank. "GDP growth, annual %". Available: http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=BW

Other markets may have been chosen out of convenience through strong existing U.S. policy and development relationships. The choice to engage with Liberia's power sector may be a result of long-standing relations with the U.S. (also note that U.S-China had worked together in improving bases for the post-war Liberian military[234]). The U.S. already was assisting Kenya's Lake Turkana wind farm with US$250 million in financing through OPIC, and this project portfolio was wrapped into Power Africa.

Tanzania may have been chosen because of its market size and growth rate. However, the U.S. was hesitant to be involved in Tanzania's power sector as recently as 2006 because it lacked a clear plan for power sector reform[235]. Diplomatic cables also show that the U.S. was watching Chinese infrastructure assistance, including planning for coal and hydropower projects[236].

Partners that were added in a second round had different rationales. The U.S. quickly involved Angola, Mozambique and South Africa because of interest in helping them develop their gas resources[237]. The U.S. Millennium Challenge Corporation had signed the largest ever (power) compact with Malawi in 2008, which had been under negotiation for several years. The U.S. had indicated interest in finding a way to engage with the DRC's Grand Inga project, which would involve China. The DRC, Mozambique and Malawi have substantial Chinese involvement.

[234] Swan, J. (4 June 2008). "Testimony before Committee on Foreign Relations Subcommittee on African Affairs, on 'China in Africa: Implications for U.S. Policy'". *U.S. Senate*. S.HRG.110-649. p.7.
[235] Retzer (25 October 2006). "Ambassador Retzer And President Kikwete Discuss HIV, MCC, And Mil-To-Mil Relations". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/06DARESSALAAM1740_a.html
[236] Green (5 May 2008). "China's Engagement In Tanzania". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/08DARESSALAAM284_a.html
[237] Remarks by Robert Ichord for the House subcommittee on Africa, November 2014, *Supra* p.49.

Ethiopia seems most plausibly a choice motivated by the U.S. concern for China's growing presence there. The Obama Administration has made notable comments pushing back on China's Africa presence while in Ethiopia – either choosing Ethiopia because it is a major U.S. priority, or because the topic is raised in Ethiopia because of China's role there. Secretary of State Hillary Clinton was asked in a 2011 interview about "other players" entering Africa's economy without conditions of good governance. Clinton responded that "we don't want to see a new colonialism in Africa". She also said that China specifically is not a role model in terms of governance in "the long-run, the medium-run, and even the short-run"[238]. That tone persisted throughout the Obama presidency. On a visit to Ethiopia – a trip Obama took over the objections of human rights advocates on the grounds that ignoring Ethiopia would only drive allies closer to China – Obama remarked that a "real economic partnership" would involve more than just "infrastructure with foreign labor or extracting Africa's natural resources", an implied reference to China[239]. Chapter 7 also discusses U.S. decision-making around Ethiopia's Gibe III hydro project.

4.5.1 Expanding Power Africa

In February 2014, the House Foreign Affairs committee reviewed and amended Royce's Energize Africa Bill. The Congressional Budget Office reported that H.R. 2548 would save

[238] Clinton, H. (11 June 2011). "Interview on Africa 360". Interview by Chris Maroleng in Lusaka, Available: http://www.state.gov/secretary/20092013clinton/rm/2011/06/165941.htm.

[239] Baker, P. (30 July 2015). "Obama, on China's Turf, Presents U.S. as a Better Partner for Africa". *New York Times*. Available: http://www.nytimes.com/2015/07/30/world/africa/obama-on-chinas-turf-presents-us-as-a-better-partner-for-africa.html?nytmobile=0.

US$86 million during 2014-2019[240]. During hearings on the Bill, Rep. Gerry Connolly (VA) called the bill's motivations "not only altruism…it is also enlightened self interest because the return in terms of economic activity, in terms of trade, in terms of investment both ways, is going to be considerable". Connolly continued that:

> "if we don't do it [pass the bill and make energy investments in Africa], there are others more than willing to make those investments because they do see the return, the Chinese chief among them. And I don't want to be the person who has to answer the next generation why is the Africa-Chinese trade the dominant trade in that part of the world and we don't even have a slice of it?"[241].

Rep. Mark Meadows (NC) said that:

> "I have met with Ambassadors from all over Africa. And their big concern quite frankly is is (*sic*) that America is not playing and not investing in African countries like China is. And if we are going to compete globally we need to unleash the private sector"[242].

The Committee's report on the bill associated it with the numerous House hearings on China's influence in Africa as well as the work of the U.S.-China Economic and Security Review Commission[243]. The report said that "if the United States wishes to tap into [the African] potential consumer base and effectively compete, it must act"[244].

---

[240] Congressional Budget Office (12 March 2014). "H.R. 2548, Electrify Africa Act of 2014". Available: https://www.cbo.gov/publication/45183.

[241] Remark by Rep. Gerry Connolly in response to statement by Rep. Mo Brooks (27 February 2014). "Electrify Africa Act of 2013". Markup before the Committee on Foreign Affairs House of Representatives, 113th Congress – 2nd session. H.R. 2548. p.47.

[242] Remark by Rep. Meadows (27 February 2014). "Electrify Africa Act of 2013". Markup before the Committee on Foreign Affairs House of Representatives, *113th Congress* – 2nd session. H.R. 2548. p.49.

[243] House of Representatives. "Electrify Africa Act of 2014". *113th Congress*, Report 113-433 Part 1 to accompany H.R. 2548, p.10.

[244] House of Representatives. "Electrify Africa Act of 2014". *Supra* p.8.

In May the House Bill was reported to and discharged from the Committee on Financial Services without raising concerns[245]. Its advancement is striking given strong public opposition of the Committee Chairman Jeb Hensarling (R-TX) to re-authorization of the U.S. Export-Import Bank[246], which is considered a peer institution of OPIC.

The bill was moved to consideration under "suspension of rules" in the House, an approach to legislation generally taken for uncontroversial legislation. Royce referred to China as motivation for the Bill when introducing it for House floor debate:

> "China has stepped in to direct $2 billion toward energy projects on the continent. As I speak, the Chinese Premier is in Africa signing deals that favor Chinese companies over American businesses. If the United States wishes to tap into the potential consumer base there in sub-Saharan Africa, we must act now"[247].

However, opposition was raised to a provision "quietly tucked" into the bill re-authorizing OPIC for three years[248]. Since 2007 OPIC had been funded on an annual basis through appropriations. Ed Royce rebuffed the OPIC criticism by again citing China, and the need to "strengthen trading partners … that compete with Chinese influence in a vital region". Royce reiterated:

> "I will remind the Members that where the United States has left a void for economic investment in the world—and Africa is one of them—China has stepped in…This bill will counter China's growing commercial and strategic influence"[249].

[245] Letter of Jurisdiction from Jeb Hensarling to Edward Royce (28 April 2014). In *House of Representatives, 113th Congress*. "Electrify Africa Act of 2014". Report 113-433 Part 1 to accompany H.R. 2548. p.16.
[246] These politics led to U.S. ExIm's suspension for several months in 2015, and the inability of ExIm to finance projects over US$10 million because Congress has refused in 2016 to hold hearings on appointing a quorum of members to the Board of Directors.
[247] Rep. Ed Royce. Congressional Record - House (7 May 2014). p.H3926
[248] Statement by Rep. McClintock (CA). Congressional Record - House (7 May 2014). p.H3927
[249] Rep. Ed Royce. Congressional Record - House (7 May 2014). p.H3927-28

A one-page brief on the Electrify Africa act prepared by Royce is explicit in using China to rally support for the policy:

> "Where the United States has left a void for economic investment, China has stepped in to direct nearly $2 billion to African energy projects. This bill **will counter China's growing commercial and strategic influence**" [bold text in original][250].

The bill passed the House (297 v 117) with strong bipartisan support[251] but not the unanimity that had been anticipated. The opposition was a harbinger of the issues the Bill would face in the Senate.

The Senate referred the Bill to the Committee on Foreign Relations, and was introduced shortly thereafter by Sen. Menendez as S.2508 with several co-sponsors. The Bill would require the U.S. representatives at international institutions to significantly increase sub-Saharan African electrification projects, implying the World Bank Group and African Development Bank[252].

The Bill was moving through quickly – under pressure from the Obama Administration to pass in time for the first U.S.-Africa leaders' summit in Washington DC in August[253]. On 24 June the Committee reported the bill favorably[254], changing the title to "Energize" Africa Act of 2014 to

[250] House Foreign Affairs Committee – Chairman Ed Royce (No date). "The Electrify Africa Act H.R. 2548". Available: https://foreignaffairs.house.gov/files/Electrify%20Africa%20-%20One%20Pager%20-%20final.pdf.
[251] Congressional Record – House (8 May 2014) "Electrify Africa Act of 2014". H3970-1602.
[252] The originally introduced House text (Sec. 7) instructs the Secretary of the Treasury to "direct the United States Executive Director at each institution in the World Bank Group and the African Development Bank to use the voice, vote, and influence of the United States". *In* "H.R.2548 - Electrify Africa Act of 2014". *113th Congress.* Reference to the World Bank and African Development Bank was removed from subsequent texts, but the Senate Foreign Relations Committee interpreted it as originally written. See Committee on Foreign Relations (8 February 2016). "Senators Applaud Electrify Africa Bill Becoming Law". *Senate.* Available: http://www.foreign.senate.gov/press/chair/release/senators-applaud-electrify-africa-bill-becoming-law.
[253] Author interview, January 2015.
[254] Congress (24 July 2014). "Senate Report 113-219 - Energize Africa Act Of 2014". Available: https://www.congress.gov/congressional-report/113th-congress/senate-report/219/1.

distinguish it from the House bill. The Senate version of the bill would save US$135 million during 2015-2019[255] according to the Congressional Budget Office. The Bill was put on the Senate legislative calendar in July[256] but was stranded there for the summer recess.

The House version of the Bill had called for "private sector and international support for the construction of hydroelectric dams" in sub-Saharan Africa[257], which ran afoul of Senate hydropower opponents. The Senate version of the Bill shared the goals of the House bill but made no reference to hydropower, and instead explicitly called for supporting natural gas and – more problematically – coal[258], which the Obama Administration had been trying to phase out of public international finance through the Climate Action Plan a year earlier[259]. Coal advocates in the Senate refused to pass the bill without the coal language[260].

Stalled in Congress, President Obama relied on the Administration's own Power Africa effort at the August U.S.-Africa Leaders' Summit. The Administration announcing an additional US$300 million to the Power Africa Initiative, increasing the initial 10 GW pledge to 30 GW (10 GW more than the House legislation, though much of the capacity was already planned when the U.S. came on board). By adding the goal of reaching 60 million households/businesses, the Obama Administration appeased energy access advocates. The Leaders' Summit was coordinated with the MDBs for additional commitments; the World Bank committed US$5 billion for energy

[255] Congressional Budget Office (13 August 2014). "S. 2508, Energize Africa Act of 2014". Available: https://www.cbo.gov/publication/45648.
[256] Congress 2014. "Senate Report 113-219 - Energize Africa Act Of 2014", *Supra*.
[257] Congress (8 May 2014). "H.R.2548 -- Electrify Africa Act of 2014". 113th Congress, Available: https://www.congress.gov/bill/113th-congress/house-bill/2548
[258] Congress 2014. "Senate Report 113-219 - Energize Africa Act Of 2014", *Supra*.
[259] U.S. Executive Office of the President. "The President's Climate Action Plan" (Washington DC, June 2013). Available: https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf
[260] Author interview, January 2015.

projects in the six initial Power Africa partners; African Development Bank US$3 billion, and Sweden US$1 billion[261].

The summit was a striking parallel to FOCAC and similar Africa summits held by Japan and the E.U.[262] Obama welcomed dignitaries from 50 African states, including 36 heads of state and the rest either Vice Presidents or Foreign Ministers[263]. Congressional allies of the Electrify/Energize Africa policies used the Leaders' Summit to generate public support. In interviews in the lead up to the summit and an op-ed to CNN, Sen. Chris Coons juxtaposed the lackluster U.S. interest in Africa to China's "five summits with African heads of state since 2000"[264], and says that "we need to get in this game…a contest of ideas"[265].

Industrial thinking was one motivator that retained interest in the Africa energy legislation. During a hearing on the "Future of Energy in Africa" by the House Subcommittee on Africa, Congressman Stockman (Texas) – whose district represents the drilling services firms Baker Hughes and Halliburton – commented on industry displacement by China:

> "the Chinese have given Nigeria some of the equipment that they have been requesting from the United States, and my fear is, because of our [social and human rights] policies, that we may be driving– as you know, the continent is really being recolonized not by the British, not by the Americans, but by the Chinese"[266].

[261] Testimony by Eric Postel, Asst. to the Administrator for Africa, USAID. In Subcommittee on Africa, November 2014, *Supra* p.22.
[262] Pugliese, J., Westbury, A. & Sy, A. (18 June 2014). "The U.S.-Africa Leaders Summit: Building a Strategy Together with Africa". *The Brookings Institution*. Available: http://www.brookings.edu/blogs/africa-in-focus/posts/2014/06/17-us-africa-leaders-summit-pugliese-westbury-sy.
[263] White House. "U.S. Africa Leaders Summit". Available: https://www.whitehouse.gov/us-africa-leaders-summit#section-program-of-events [Accessed 22 July 2016].
[264] Coons, C. (3 August 2014). "U.S. Business Shouldn't Miss 'the next China.'" *CNN*. Available: http://www.cnn.com/2014/08/03/opinion/senator-coons-business-opportunity-africa-summit/index.html.
[265] Coons, C. (10 August 2014). "UP with Steve Kornacki". *Interview on MSNBC*.
[266] Remarks by Rep Steve Stockman for the House subcommittee on Africa, November 2014, *Supra* p.50.

Rep. Stockman continued that

> "my concern is that we are putting restrictions on ourselves to the degree that now we have become less important to those host countries…sometimes we should do more pragmatic analysis and not involve so much the– I mean, we need to balance it … in order to compete with our Chinese competitors…But I am just alarmed at the rise– and you guys know I am right– about the rise of China in there. And obviously they have almost no restrictions whatsoever and they have no compunction about paying leaders large sums of money in order to facilitate their advantages"[267].

Stockman was recalling a recurring debate on the efficacy of the Foreign Corrupt Practices Act, whereas the Chinese had "no compunction about paying leaders large sums of money in order to facilitate their advantages"[268]. In response to Stockman's remarks, Representative Karen Bass (CA) said that

> "one of the first things that we can do…is take care of two things, the Power Africa that is over in the Senate and then also AGOA…because to the extent that we can increase our participation – because I know I have heard from many, many African countries how much they do want to do business with us, but, you know, sometimes we put our roadblocks up"[269].

Stockman summed up by stating "I am really upset that we are, time and time again, shooting ourselves in the foot"[270]. The Chairman concluded the hearing by saying that "if we are not in the game, who do [Africa leaders and businesses] turn to? They turn to the Chinese"[271].

Rep. Ed Royce re-introduced the legislation a year later in June 2015 as H.R. 2847 (restoring the title Electrify Africa Act of 2015). AGOA's reauthorization passed later that month[272].

[267] Remarks by Stockman for the House subcommittee on Africa, November 2014, *Supra* p.50-51.
[268] Remarks by Stockman for the House subcommittee on Africa, November 2014, *Supra* p.51.
[269] Remarks by Rep Karen Bass for the House subcommittee on Africa, November 2014, *Supra* p.71.
[270] Remarks by Stockman for the House subcommittee on Africa, November 2014, *Supra* p.74.
[271] Remarks by Rep Chris Smith for the House subcommittee on Africa, November 2014, *Supra* p.74.

Although Royce's House bill garnered 12 co-sponsors by August, the Senate took the lead in pushing it forward. The Bill was re-incarnated in the Senate as S.1933, and referred to the Committee on Foreign Relations, this time under the shepherding of Sen. Bob Corker (R-TN) because Bob Menendez was under corruption investigation. The Bill was re-introduced in the Senate in October 2015 after striking a major motivation for its existence – a multiyear reauthorization of OPIC. Instead, OPIC was re-authorized in Dec. 2015 through the appropriations process, which had become standard since 2007 but deeply frustrating to its advocates. In author interviews, this had been a primary objective of the Bill's existence. Instead of a boon for OPIC, the reformed Bill included provisions for OPIC[273].

With OPIC out, the Senate re-incarnated the Bill as S. 2152, referring it to the Committee on Foreign Relations and then the full Senate in December. Corker was initially joined by Sen. Ben Cardin (D-MD), Sen. Marco Rubio (R-FL) and Sen. Chris Coons (D-DE) as co-sponsors, followed later by 13 Republican and 7 Democrat Senate co-sponsors, who piled on as the Bill moved toward a floor vote. Without the OPIC provisions, the CBO found that S.2152 would have little effect on direct pending or government revenues[274]. In the end-of-year legislative rush in December 2015, the Bill was passed unanimously in both the House and Senate[275]. The bill had 52[276] co-sponsors in the House by the time it had passed. During the House debate in February 2016, when passage was essentially assured, Royce re-iterated the same motivation he had used 21 months earlier:

---

[272] H.R.1295 — 114th Congress. Available: https://www.congress.gov/bill/114th-congress/house-bill/1295/all-actions-without-amendments

[273] Committee on Foreign Relations. "Corker, Cardin Reintroduce Electrify Africa Bill". *U.S. Senate.* Available: http://www.foreign.senate.gov/press/chair/release/corker-cardin-reintroduce-electrify-africa-bill.

[274] "S. 2152, Electrify Africa Act of 2015". Available: https://www.cbo.gov/publication/50920

[275] Foreign Relations Committee (18 December 2015). "Senate Unanimously Passes Electrify Africa Bill". *Senate.* Available: http://www.foreign.senate.gov/press/chair/release/senate-unanimously-passes-electrify-africa-bill.

[276] A 53rd co-sponsor, Rep. Betty McCollum (D-MN-4) joined as a co-sponsor after the bill had become law.

> "The U.S. is not alone in its interest in enhancing trade with Africa. We have competition. Just last month, the People's Republic of China pledged $60 billion in financial support to the continent. If the United States wants to tap into this potential consumer base, we need to be aggressively building partnerships on the continent, which is what this bill does"[277].

President Obama signed the bill into law in February 2016[278]. China appears not to have been an explicit consideration in early market selection for Power Africa, though the pervasiveness of China in large markets and the number of confounding variables in the U.S. calculus (historical relations, existing sanctions, comparative advantages), makes valid inference impossible. However, there is clearer evidence that arguments for advancing a more comprehensive Africa infrastructure package through the U.S. Congress leaned heavily on China.

4.6 Other important variables

4.6.1 Timing and choice of Africa?

New Africa Opportunities**:** Africa's growth trajectory increased substantially in the mid-2000s, which was undoubtedly a powerful factor stimulating renewed U.S. interest in African investments. Sen. Coons, in an op-ed during the U.S.-Africa Leaders Summit, called Africa the "next China", meaning that firms not investing in Africa – as the largest untapped growth market – would be left behind, a realization that Western firms had about China in the 1990s. In the last decade, U.S. and foreign direct investment to sub-Saharan Africa has increased six-fold, reaching US$39.5 billion according to numbers cited in a House hearing[279]. Africa became an attractive

[277] Rep. Ed Royce. Congressional Record - House (1 February 2016). p.H398
[278] Public Law 114-121 (8 February 2016). Electrify Africa Act of 2015.
[279] House Foreign Affairs, 2013 Committee Markup, p.43.

investment destination that captured U.S. administrative and legislative interest. The U.S. had legislation to facilitate trade in Africa, but was severely under-tooled in facilitating foreign direct investment in high-risk markets. The U.S. ExIm and OPIC serve this role but have come under legislative partisan attack in the pursuit of eliminating state-support for exports in deference to the private market.

The U.S. was not the only Western government interested in re-catalyzing diplomatic and commercial opportunity in Africa. In 2005, long before Power Africa the UK created a Commission for Africa calling for a need to substantially increase energy investment in Africa to US$50 billion by 2010[280]. This shift seemed more of a re-assertion coming from the re-assessment of infrastructure that had just transpired at the World Bank (Chapter 7), though also came after a peak year in sub-Saharan African growth (Figure 4.8).

The period under study also coincides with the Millennium Development Goals (MDGs), which were agreed in 2000 by UN member states as targets for accelerating development. As the least developed continent, Africa would be a focal point of development attention, which partially accounts for increasing U.S. and international aid to Africa during this period. According to OECD DAC data, bilateral and multilateral development assistance to sub-Saharan Africa both doubled between 1991-2000 and 2001-2010. However, the MDGs prioritized poverty and hunger, education, gender protections and women's empowerment, health and environmental sustainability. Health grew substantially as a share of development assistance in the post-2000 period in Figure 4.2. But the MDGs do not explain why power sector prioritization would

[280] The E.U. must also avoid "funding prestige projects" that become "white elephants". Quoting Commission p.49, in McDonald 2012, *Supra* p.160.

increase in the post 2000 period, except insofar as infrastructure was again seen as a precursor for extreme poverty alleviation. African leaders and the World Bank wrote in 2006 that indigenous power resources such as hydropower would be important for attaining the MDGs[281]. Such an ideational shift in the previous decade would support the thesis that China's development ideology was influencing Western aid prioritization.

Backdoor reauthorization of OPIC**:** Power Africa had much greater salience than solely a "backdoor effort" to re-authorize and re-tool OPIC, like some of its advocates claimed[282]. The bill had wide support because it gave institutional legitimacy to an existing administrative priority, which in turn had, in effect, formalized an ongoing trend in U.S. development assistance. Interestingly, two of the Bill's biggest proponents, Rep. Royce and Sen. Corker had previously been opponents to reauthorization of both OPIC and the U.S. ExIm Bank, which have been criticized as crony capitalism.

China remains a key causal variable here. The U.S. had in place disciplines at the OECD and WTO aimed to minimize the need for export finance. It was China's finance outside these rules that instigated U.S. perceptions that its firms were uncompetitive under status-quo conditions.

[281] Forum of Energy Ministers of Africa (April 2006). "Energy and the Millennium Development Goals in Africa". *UN World Summit*.
[282] Author interview, January 2015.

4.6.2 Why Power?

Domestic industry coalition: The domestic power industry may have pushed hard for Power Africa as a means of attaining more overseas business. While the U.S. domestic industrial coalitions generally favors stronger public export support (via ExIm and OPIC) evidence indicates that the Power Africa package was more a victim of power sector politics than a result of it. Energy sources specifically mentioned in the House version of the package received objection in the Senate, and Senate efforts to include coal ran afoul of the Administration and climate advocates in the Congress. Industrial interests may have also seen the legislation as a rebuke to the Obama Administration's climate and energy politics, particularly the Climate Action Plan objective of moving public finance away from coal power. The final bill took an "all-the-above" approach. During the House debate in May 2014 Rep. Lummis said:

> "The current Administration has unfortunately sought to dictate what sources of energy can be used in developing nations, promoting some and discriminating against others, namely cheap and abundant coal-fired power…I am pleased that the Electrify Africa Act recognizes [the benefits of an all-of-the-above energy mix], establishing a framework for countries in Sub-Saharan Africa to pursue the energy development that makes the most sense for them"[283].

U.S. industry was undoubtedly eager to compete for contracts with major upcoming infrastructure projects in Africa, including the Grand Inga dam. The Inga project, as one of many, has been re-energized by Chinese firms and government support. Moreover, without explicit U.S. government support, U.S. firms have difficulty competing with highly competitive Chinese firms benefited by Chinese government state support.

[283] Rep. Lummis. Congressional Record - House (7 May 2014). p.H3928

Ideational shift on energy for development**:** The drafters of the legislation argued that they came to understand the debilitating impact of energy poverty on market growth in Africa and opportunities for U.S. business. The hypothesis is unlikely. The connection between energy, poverty and growth has been publicly debated by development advocates and experts for decades[284], and congressional testimony does not indicate an ideational shift on the power sector.

It is plausible that African governments signaled increased interest in the power sector. Approximately seventy percent of Africans surveyed across a broad demographic spectrum said that jobs and infrastructure were their leading priorities[285], a significant contrast to U.S. aid focus on education, health and institutional reform, which was viewed among the African public as a much lower priority. There is no available evidence that power became a greater priority as a result of African development philosophy or industrialization; large power projects have been politicized for decades with recipient governments the biggest proponents of large infrastructure loans from development agencies. However, it is possible that China's firms seeking business in the power sector had an agenda setting influence within African countries, stimulating new demand for power, or enabling recipients to bargain for more power sector assistance from traditional donors.

[284] Goldemberg, J., Johansson, T.B., Reddy, A.K.N. & Williams, R.H. (1988). "Energy for a sustainable world". *Wiley*.

[285] Leo, B. (19 March 2015). "Is the US Ready to Compete in Africa? Recommendations for Modernizing US Economic Policy Tools". *Senate Foreign Relations Committee Subcommittee on Africa and Global Health Policy*. Available: http://www.foreign.senate.gov/imo/media/doc/031915_Leo_Testimony.pdf.

4.6.3 China as a political decoy

Strategic public and lawmaker messaging**:** China may influence U.S. political decision making, but not because Chinese investments in Africa conflict with U.S. interests and influence. This alternative hypothesis allows China to be part of a causal pathway that aligns other U.S. interests around power sector engagement in Africa, without implying a competitive response. This hypothesis would predict that lawmakers and bill advocates in the Administration reference China to rally supporters who may otherwise be opposed to the bill ideologically. Two factors refute this hypothesis. First, if China were only referenced to rally support, there would not be evidence of such attentive analysis and investigation by the government at all levels. Second, if politicians were using China for political cover (exploiting negative public perceptions of China), external communications would be more damning in their assessment of China's implications for the U.S. in Africa while internal communications would present a less exigent view of China's activities. The opposite is true. The Administration rarely addressed China's activities abroad to the public, and in doing so used carefully crafted diplomatic language. Non-public diplomatic cables, while generally analytical, present more serious concerns regarding China's implications for U.S. interests. Congressional testimony, hearings and analyses – while generally public – typically serve as briefings for lawmakers and receive little public attention or press, and were clear in the ramifications of China's activities for U.S. competitiveness.

(Over)using the message strategically? While legitimate attention was paid to understanding, and responding rationally, to Chinese engagement in Africa, China may have become a political 'straw man'. China was invoked by U.S. officials who argued – within the context of the hyper-

partisan development finance environment – that the U.S. should replenish funding to the World Bank and Multilateral Development Banks (MDBs) because "MDBs provide poor countries across Africa an alternative to China for development finance and natural resource development"[286]. These sentiments were conveyed by the Obama Administration's top official speaking for the U.S. at the MDBs. Lael Brainard, Under Secretary for International Affairs at the U.S. Department of Treasury, said that:

> "In infrastructure, the multilateral banks help to level the playing field for U.S. companies to compete. The alternative to multilateral development bank financing for infrastructure in too many of these countries is borrowing from countries like China"[287].

4.7 Challenges to valid inference

Ultimately, inferring whether China was a motivating causal factor in a U.S. bilateral development policy change requires identifying variation in China's involvement (i.e., comparing markets where China is present from where it is absent, or examining variation therein).

Cross-regional analysis would not satisfy unit homogeneity requirements for inference in a comparative analysis. Moreover, while China's commercial, diplomatic and ideological interests are independent and quite different from those of the U.S., both countries see African markets as similarly attractive, though subject to different constraints. The U.S. refrains from doing

[286] Miller, G. (14 June 2011). *In* Subcommittee on International Monetary Policy and Trade of the Committee on Financial Services. "The Role of the U.S. in the World Bank and Multilateral Development Banks: Bank Oversight and Requested Capital Increases". *U.S. House*, 112. p.1.

[287] Brainard, L. (14 June 2011). Subcommittee on International Monetary Policy and Trade of the Committee on Financial Services, *Supra* p.7.

business where there are egregious violations of human rights and rule of law (Myanmar, Sudan, Zimbabwe, among others); China refrains from engagement in countries that recognize the government of Taiwan (Burkina Faso, The Gambia, among others). Outside these markets, there is the risk of endogeneity: the factors driving changes in China's involvement in a market also motivate U.S. involvement.

As an alternative to cross-national analysis, inter-temporal analysis within a market would not capture the critical growth trends in the African market, nor changing governance variables, which might both drive China to enter a market while forcing the U.S. out. Nonetheless, significant leverage could come in future work by examining more deeply the ideational barriers to U.S. and OECD infrastructure investment in the 1980s and 1990s, relative to the shifts in perspective around Power Africa.

4.8 Conclusions

The Power Africa "package" was an interagency and legislative effort by the U.S. government to develop a comprehensive policy to assist sub-Saharan African countries to build out their power infrastructure to support economic growth, electricity sector reform, and U.S. investment and trade on the subcontinent[288]. Officials at USAID, which houses the Obama Administration's Power Africa Initiative, wrote that Power Africa "exemplifies a new model of development" to leverage private sector investment through partnerships with African governments to "make

[288] Remark by Chairman Ed Royce (27 February 2014). "Electrify Africa Act of 2013". Markup before the Committee on Foreign Affairs Hous of Representatives, 113th Congress – 2nd session. H.R. 2548. p.46.

quick-impact interventions and investments"[289]. The sponsor of the legislative version of the policy said that the package was a "template" for how development assistance could proceed that goes beyond aid and toward private sector growth[290].

Examination of the mechanisms and motivations within this case offer the greatest analytical leverage. Examination of the Power Africa policy environment and objective supports several powerful conclusions. Power Africa chose to focus on Africa, which has garnered the most U.S. attention and was seen in the U.S. as fragile developmentally. China also has a powerful presence in Central and South America, across the Middle East and Central Asia, and across Asia. Other policy shifts could also be attributable to China, including the U.S. Silk Road in central Asia (see Chapter 3). The renewed focus on infrastructure and power sector in U.S. international diplomacy and development assistance may be a generalizing trend.

Thomas Christensen, who actively negotiated with the Chinese for the U.S. Department of State, said "the ultimate goal of U.S. foreign policy in Africa is to create a better environment and better prospects for the future for Africans, not to compete with the Chinese for influence"[291]. The U.S. ability to implement reforms that would enable a "better environment" through development assistance was challenged by Chinese participation in Africa and resistance to coordinate with the U.S. The U.S. may not have seen China as a threat to its "influence" (Christensen) but China's activities could not legitimately be seen as facilitating U.S. "interests"

[289] Letter from Eric G. Postel to Representative Chris Smith (2 December 2014). In Subcommitee on Africa, Global Human Rights and International Organizations of the Committee on Foreign Affairs House of Representatives (14 November 2014). "The Future of Energy in Africa". 113th Congress – 2nd session, p.82.
[290] Remark by Royce (27 February 2014). *Supra* p.46.
[291] Committee on Foreign Relations Subcommittee on African Affairs (4 June 2008). "China in Africa: Implications for U.S. Policy" *U.S. Senate* S.HRG.110-649. p.6.

(Ranneberger). Part of creating a better environment for Africans, in the view of U.S. development ideology and central to its interests, involved reform to African governance and institutions. The U.S. tool for influencing such reforms was losing potency.

Where no U.S. adjustment is observable (such as in Zimbabwe), it does not necessarily refute the theory. China's rise in markets with bad governance puts two bedrock ideational U.S. interests into conflict. The first is the implementation of a development ideology by China that conflicts with U.S. priorities of democratic governance, human rights and private sector leadership. The second is that those standards (rights and governance particularly) are central to U.S. identity and global leadership in multilateral institutions, and enforced through sanctioning regimes. While the U.S. may feel most compelled to respond competitively in instances where China adds bad governance to bad, U.S. interests do not allow it to contest China's new authority. Instead, U.S. policy shifts are observable where the U.S. development ideologies are challenged, but the U.S. is not restrained – ideationally – from a strategic response.

U.S. policy adjustment – and similar adjustment across OECD donors – followed a progression. The U.S. first pursued a differentiation approach from China, trusting that U.S. influence would be retained among China's growing share in the African market and confident that China's model was less robust and the U.S. would prevail. As it became clear that the U.S. was being displaced and losing its moral authority in upholding its development ideology, the U.S. became more assertive in markets – Africa and infrastructure – that would allow the U.S. to reclaim legitimacy in promoting an alternate to China's competing development ideology.

Chapter 5 – *Mid Delegation*

Export finance negotiations and the challenge from China

5.1 Introduction

Export Credit Agencies (ECAs) are deeply political institutions. In the U.S. they have served administrative, congressional and industrial priorities since the 1940s, but have been progressively re-oriented toward their mandate of preventing market failures and ensuring U.S. exporters can compete with export subsidies from other ECAs. Over the past two decades, policies to prevent ECAs from financing environmentally harmful projects have frequently been unilateral, though this forfeits export activity to foreign competitors without comparable policies. Such unharmonized unilateral policies create a conflict between an organization's mandate (competitiveness) and stakeholder goals (environment). This chapter seeks to understand the unique challenges of environmental cooperation at ECAs, and particularly how political interests of ECA stakeholders prevail when there is disagreement over what an ECA's mandate requires for a competitive response. The chapter concludes by detailing how the incipient challenge to the OECD export finance regime by China shaped outcomes regarding global export finance for coal. Chapter 6 compares two projects to show that contested authority between ECAs can contribute to backsliding on unilateral standards.

In their fundamental market conception, ECAs provide finance to projects that are considered profitable, or solvent, but which are located in higher risk markets where exporters feel less assurance of debt repayment. ECAs provide benefits to several groups. Firms gain by accessing

profitable projects in difficult markets; project developers in developing countries can access foreign technology at favorable financial terms and without paying a market premium for currency and political risk; and the ECA along with its stakeholder benefits by strengthening a bilateral commercial relationship with the developer country. It is commonplace for bilateral meetings of heads of state to include assurances of strengthened commercial contract relationships, technology transfer and lucrative project pipelines leveraged by export finance.

Despite their market justification, ECAs were founded because of political interests. These interests continue to be their most powerful existential justification. The first known use of government-issued export insurance and finance was Britain's Export Credit Guarantee Department (ECGD) in 1919, to support firms exporting to higher risk markets in Europe. Britain's innovation was quickly replicated with a proliferation of export credit insurance agencies in France, Spain and Italy[292]. Prior to 1939 British export finance was officially considered purely for commercial purposes, but an act in 1939 increased the amount of trade finance guarantees by a factor of six, enabling the funding to be used in connection with projects "expedient in the national interest". Britain's Board of Trade described the trade promotion as "economic rearmament" against Germany[293]. Since those early origins, government-issued export finance has been a means of enhancing national exports, building bilateral relationships, and retaining political influence[294].

[292] Moravcsik, A.M. (1989). "Disciplining Trade Finance: The OECD Export Credit Arrangement". *International Organization* 43(01): 173–205.
[293] Carr, E.H. (1939). "The Twenty Years' Crisis, 1919-1939: An Introduction to the Study of International Relations". *Macmillan* p.128.
[294] Eaton, J. (1986) "Credit Policy and International Competition". *In* Krugman, P. (Ed.). "Strategic Trade Policy and the New International Economics". *Massachusetts Institute of Technology,* p.142.

The U.S. followed the Europeans by establishing its own Export-Import (ExIm) Bank in 1934[295] under the authority of the National Industrial Recovery Act[296] to make foreign loans and assist the U.S. in re-integrating with the international economy after the Depression. ExIm's first program was in support of trade in the newly recognized and geopolitically important Soviet Union[297]. Additional authority for export credits was extended to Cuba through executive action, and then to Haiti. As the authority of the U.S. ExIm was consolidated and expanded, the Bank became an important vehicle for development finance, particularly as part of the U.S. Good Neighbor policy toward Latin America. The ExIm Bank was a precursor to the Marshall Plan in Europe after the Second World War[298]. The importance of U.S. ExIm for post-war diplomacy led to its promotion to an independent agency through the Export Import Bank Act of 1945. By the 1960s, the ExIm Bank's role in credits provided for reconstruction and development were roughly double those from the World Bank[299]. One case from Chapter 8 discusses early competition between the U.S. ExIm and the World Bank.

In its early years the U.S. ExIm Bank almost exclusively served U.S. executive foreign policy priorities[300]. ExIm's Advisory Board included the U.S. Secretary of State to advise the

[295] The Bank was initially called the Export-Import Bank of Washington. "Executive Order 6581". See Franklin D. Roosevelt Library & Museum. "Executive Orders and Presidential Proclamations, 1933-1936. Available: http://www.fdrlibrary.marist.edu/_resources/images/eo/eo0016.pdf.

[296] National Industrial Recovery Act was a law enacted in June 1933 as part of the economic recovery during the Great Depression. *73rd Congress*. Available: http://www.ourdocuments.gov/doc.php?doc=66.

[297] U.S. Department of State. Office of the Historian. "New Deal Trade Policy: The Export-Import Bank & the Reciprocal Trade Agreements Act, 1934". Available: https://history.state.gov/milestones/1921-1936/export-import-bank. [Accessed 25 January 2016].

[298] Rodriguez, R.M. (1987). "ExIm's Mission and Accomplishments: 1934-84" *In* Rodriguez, R.M. (Ed.). "The Export-Import Bank at Fifty: The International Environment and the Institution's Role". *Lexington Books*.

[299] Ruttan 1996, *Supra* p.340.

[300] Becker, W.H. & McClenahan, W.M. Jr. (2003). "The Market, the State, and the Export-Import Bank of the United States, 1934–2000". *Cambridge University Press*, p.63.

Chairperson on key questions of policy[301]. U.S. ExIm focused on promoting U.S. foreign trade insofar as trade met other political motivations to strengthen global relations[302]. Between 1962 and 1973, ExIm engaged in loans and guarantees for military support at the request of the Department of Defense. This was prohibited after 1968 by the Foreign Military Sales Act without a presidential waiver[303].

In the 1970s, congressional pressure – and new constraints resulting from coordination with other ECAs around the world – limited the U.S. Executive's ability to steer ExIm's activities. Instead, ExIm became more driven by its formal mandate of correcting for a market failure – securing U.S. export contracts in risky markets.

ECAs continued to exist – in part – because other governments also had them. In 1971, the U.S. ExIm Bank charter was amended to make the "competitive" mission of the institution explicit:

> "The [Bank] is directed…to provide…guarantees, insurance, and extensions of credit at rates…which are competitive with the government-supported rates…available…from the principal countries whose exporters compete with the United States exporters"[304].

Policymakers have compared eliminating a nation's ECA to unilateral disarmament. Despite this, the Reagan Administration flirted with elimination of the U.S. ExIm Bank because it generally provided finance to large firms like General Electric and Westinghouse[305] and by focusing on higher risk investments was inconsistent with free-market principles. This topic was revisited in

[301] *U.S. Public Law 79-173, 79th Congress, H. R. 3771*, 1945. Available: https://fraser.stlouisfed.org/scribd/?item_id=457094&filepath=/docs/historical/martin/12_01_19450731.pdf.
[302] Ruttan 1996, *Supra*.
[303] Rodriguez 1987, *Supra* p.9.
[304] 12 U.S.C. 635(b). Export Expansion Finance Act of 1971. As quoted in Rodriguez 1987, *Supra* p.17.
[305] Stockman, D. (1987). "The Triumph of Politics: The Inside Story of the Reagan Revolution". Avon Books, New York. *In* Ruttan 1996, *Supra* fn.17, p.608.

2015, when the Bank's authority lapsed due to congressional opposition on similar grounds. Reagan's Director of the Office of Budget and Management, David Stockman was particularly vocal, stating that:

> "export subsidies are a mercantilist illusion based on the illogical proposition that the nation can raise its employment and GNP by giving away its goods for less than what it costs to make them"[306,307].

Reagan conceded that this was an eventual goal that would see the U.S. ExIm eliminated alongside its competitors. However, as long as other ECAs subsidized exports, the U.S. ExIm remained necessary. Despite overtures to the Bank's ostensible purpose of market correction and existence to level the field with competitors, the institution remained an important tool of economic statecraft. According to Rita Rodriguez, a former Director at U.S. ExIm, writing in 1987:

> "since the mid-1970's, the issue has not been whether or not Exim should be involved in foreign policy, but rather whether the objectives that Exim should pursue in that area should be dictated by the president or by Congress"[308].

U.S. ExIm's trade promotion was formally separated from foreign aid, though objectives frequently overlap, with ExIm officials writing in 1989 that it sought "to further US political, strategic, economic and humanitarian goals"[309]. The President appoints the ExIm Bank's Chairperson and members of the Board of Directors who must be confirmed by the Senate. Congress extends the authority of the ExIm for terms ranging between two and five years at a

[306] Ruttan 1996, *Supra* p.341
[307] U.S. ExIm intends to provide finance comparable with rates in lower risk markets, or to create advantages by undercutting rates offered by competitors (in uncooperative environments), but does not actually subsidize production costs as Stockton implies here.
[308] Rodriguez 1987, *Supra* p.9.
[309] "U.S. ExIm Report to Congress 1989", p.12 *In* Ray, J.E. (1995). "Managing Official Export Credits: The Quest for a Global Regime*"*. *Peterson Institute*.

time[310], giving Congress oversight of ExIm activities and the ability to modify its mandate. This has resulted in Congress gradually wresting control away from some Executive's political priorities at U.S. ExIm, and more toward commercial support and market correction. Through re-authorizations, an additional mandate on small business promotion has been added by Congress, as well as promotion of renewable energy. Despite decades of nominally being an "independent agency", it was not until the 1970s that the institution was allowed to make decisions with a degree of separation from Executive branch interests.

Congress's multitude of interests embodied both pursuit of commercial advantage and environmental advocacy, while the Executive more frequently pursued investments that positioned U.S. industry in markets where the U.S. sought diplomatic relation building vis-à-vis competitors.

5.2 Cooperation on financial terms – Story of success

Governments generally support efforts to increase their exports to stimulate domestic manufacturing but tend to prefer fewer imports because of disadvantages to domestic producers[311]. While each state has unilateral incentives to stimulate export competiveness through subsidies[312], uncoordinated export support places states in a race-to-the-bottom. Seeking to win international export contracts, states are pitted against each other and forced to offer increasingly generous terms for export promotion. The successful cartelization of export credit

[310] The U.S. ExIm Bank has been re-authorized in 1947, 1951, 1957, 1963, 1968, 1971, 1974, 1978, 1983, 1986, 1992, 1997, 2002, 2006, 2012, and for one year in 2014.
[311] Brander, J.A. & Spencer, B.J. (1 February 1985). "Export Subsidies and International Market Share Rivalry". *Journal of International Economics* 18(1): 83–100.
[312] Export subsidies can adversely compete with domestic manufacturers. Eaton 1986, *Supra*.

agencies to prevent competition that would otherwise result in mutually harmful cutthroat financial terms has been written about extensively[313].

Competition between states in the provision of export finance empowers buyers in the same manner that firm competition in private markets reduces consumer costs. But unlike with firms, there are no prohibitions on collusion between states. The first known instance of international cooperation between global export-import institutions began among four public and private institutions, called the Union of Insurers for the Control of International Credits (and later International Union of Credit and Investment Insurers), commonly referred to as Berne Union[314]. Berne Union is an international non-profit organization that "foster[s] international acceptance of sound principles in export credits and investment insurance [and provides] a forum for professional exchanges among its members"[315]. The initial champions of export finance controls at Berne Union were the British and French in the late 1950s hoping to prevent their exclusive competitive advantage in their colonies from being eroded by low-interest and long-term credits provided by the U.S. Export-Import Bank[316]. Berne Union's purview did not extend to long-term credits, which pushed cooperation into the Organization for European Economic Cooperation (OEEC, the predecessor to the OECD), and to the GATT, where provisions against export credits were considered ineffective because the institution was too slow to monitor transactions principally involving private-sector decisions[317]. Furthermore, major exporting

[313] Moravcsik 1989, *Supra*; Rodriguez 2002, *Supra*.
[314] From four members at its founding in 1934, the club grew to forty agencies representing thirty-two countries in 1986, and fifty countries in 2016. See Moravcsik 1989, *Supra*. And Hochberg, F. (2015). "Examining the Export-Import Bank's Reauthorization Request and the Government's Role in Export Financing". Washington DC.
[315] Skarp, L. (16 March 2015). "Working Part on Export Credits and Credit Guarantees: Chinese Export Credit Policies and Programmes". *OECD*.
[316] Moravcsik 1989, *Supra* p.179.
[317] Moravcsik 1989, *Supra* p.179.

economy negotiators intentionally avoided the GATT because G-77 governments saw the restrictions on export finance as counter to their interests[318].

In parallel to activities in Berne Union and GATT, beginning in 1963 the OECD created the Export Credit Group (ECG) to coordinate consultation and notification procedures regarding individual export credits transactions[319]. The OECD borrowed on the foundation for cooperation by the nine states of the OEEC and expanded to include the U.S., Canada, and Japan. Furthermore, the OECD was a "neutral forum" relative to the Berne Union, G-5, G-7, and IMF for negotiating on export credits[320]. The early years saw the most progress within the ECG at a sectoral level. Mutual constraints were attempted within the shipbuilding industry in 1969, following several years of negotiations convened through the OECD[321] and covering 96% of the total shipbuilding among OECD countries[322]. The disciplines were not uniformly applied, with some exemptions and opposition by domestic industry. As export finance became a widely accepted and applied tool of Western economic policy, the shipbuilding model was expanded to control the mutual costs of competition.

In 1972, the tumultuous process of formalizing the agreement in writing began at the OECD[323]. Informal agreements, including a 1968 sectoral Memorandum of Understanding on Financing of Earth Satellite Stations, were seen as insufficient because of multiple instances of derogation

[318] For a complete discussion, see Evans, P.C. (2005). "International Regulation of Official Trade Finance : Competition and Collusion in Export Credits and Foreign Aid". Thesis, *Massachusetts Institute of Technology*. Available: http://dspace.mit.edu/handle/1721.1/33684.
[319] Becker & McClenahan 2003, *Supra* p.184.
[320] Moravcsik, A.M. (1989). "Disciplining Trade Finance: The OECD Export Credit Arrangement". *International Organization* 43(01): 173–205.
[321] The U.S. did not participate because it had virtually no shipbuilding industry.
[322] Lewis, P. (June 1969). "OECD Nations Agree Shipbuilding Export Credit Limits". *Financial Times*: 14.
[323] Financial Times (28 July 1972). "Export Credit Agreement".

from the agreement by Canada and Japan without prior notification to other participants[324]. Japan frequently pushed back on the stringency of the terms expressed in the negotiations, citing differences in their system of export insurance[325]. The agreement at the OECD would not be "binding" in any sense except on the reputations of the involved states.

Export competition reached such a level that countries began threatening to use anti-dumping rules in the trade regime to prevent imports receiving export credits[326]. Countries also wished to limit national budgets for export credits – particularly in light of austerity during the oil crises of the 1970s – but uncertainty over whether a strict agreement could put their exports at a disadvantage caused hesitation and intense bargaining. Governments planned to set minimum interest rates and maximum repayment periods and then to require reporting to other participants either on request or if they deviated from the agreed terms. Transparency also had the effect of eliminating the potential for a nation's suppliers to demand export finance because of unsubstantiated claims of rivals with more generous financing[327].

As the negotiations advanced in 1974, Japan was the last holdout as it sought exemptions from the agreed rules[328]. The brinksmanship persisted for so long that the European Commission raised the possibility that Japan be excluded from the Gentleman's Agreement altogether[329].

[324] Brown (25 June 1973). "OECD Export Credits Group (ECG) Meeting June 21-22". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/1973OECDP17414_b.html.
[325] Ingersoll (20 July 1974). "Gentlemen's Agreement On Export Credit". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/1974STATE157538_b.html.
[326] Financial Times (28 May 1970). "Canada Fears Credit Race". London, 5.
[327] Lewis, P. (1 July 1970). "Seeking Agreement on a Delicate Problem". *Financial Times*, London: 19.
[328] Greenwald (26 July 1974). "Gentleman's Agreement On Export Credits". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/1974ECBRU05658_b.html.
[329] Bureau of European and Eurasian Affairs (16 August 1974). "Gentlemen's Agreement On Export Credits". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/1974LONDON10475_b.html

Japan did not wish to be ostracized from an agreement that included the EC and U.S.[330] but the political complexity of the negotiations bought time.

Competitive geopolitical interests encouraged the OECD states to cooperate. The U.S. and European partners categorized the OECD Arrangement as an effort at "East/West Economic Development"[331]. Efforts to expand exports from the industrialized West to the Soviet Bloc and the East more broadly "must rely heavily" on the use of export credits, according to President Gerald Ford in a memo to the leaders of the UK, Germany, Italy and France. However, export credits should be coordinated closely because it was not "economically wise to compete among ourselves"[332] to win export packages[333]. In considering the extent to which NATO governments should notify each other on export credits to non-Soviet Warsaw pact countries, the U.S was also concerned that failing to provide credits from the West would increase Warsaw Pact countries trade relations with the Soviets instead[334]. Another goal of the Agreement was to send a clear signal to the Soviets that the West would not allow the Soviet practice of "frequently play[ing] countries off against each other"[335] to secure more favorable export packages.

[330] Hodgson (6 September 1974) "Export Credits Meeting Sept 10-11". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/1974TOKYO11581_b.html.
[331] Background Paper: List of International Institutions Distributed by Prime Minister Wilson at Rambouillet. *Gerald R. Ford Presidential Library*: Available http://www.fordlibrarymuseum.gov/library/document/0047/phw19760627-01.pdf.
[332] Memo between Italian Prime Minister Moro, U.S. President Ford, UK Prime Minister Wilson, French President Giscard, German Chancellor Schmidt, Japanese Foreign Minister Miyazawa, and U.S. Secretary of State Kissinger (17 November 1975). "Economic Summit, Fourth Session". *Gerald R. Ford Library*, Available: http://www.fordlibrarymuseum.gov/library/document/0314/1553299.pdf.
[333] Bruce (20 February 1975). "NAC Agenda Items Iii And Iv: Export Credits Extended By Nato Countries To European Communist Countries, February 19, 1975". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/1975NATO00949_b.html.
[334] Bruce 1975, *Supra*.
[335] Quote from UK Prime Minister Wilson, Economic Summit, Fourth Session, (17 November 1975). Gerald R. Ford Library. Available: http://www.fordlibrarymuseum.gov/library/document/0314/1553299.pdf.

However, Soviet buying-power complicated cooperation. During OECD negotiations France wished to uphold exemptions that allowed it to extend low interest rates for exports to the Soviet Union[336]. This triggered similar interest by the UK, which then angered the U.S. and threatened to collapse the negotiations well into 1975[337]. By 1976, objections remained from France, Australia and Japan on how to exchange information on financial terms of public export finance[338,339].

Formal agreement, embodied in the OECD Arrangement on Officially Supported Export Credits, was reached in February 1978 in a rush to restrain public expenditures in the midst of rising financial market instability[340]. A few hesitant parties – New Zealand, Austria, Turkey and Iceland – remained outside[341,342]. Even when the Gentleman's Agreement had not been finalized, the U.S. and other nations upheld its principles voluntarily, calling out states that failed to provide notification to others when exceptional export terms were granted[343].

The "Arrangement" was intended to "encourage competition among exporters based on quality

[336] Greenwald (30 September 1974, Brussels). "Results Of EC Discussions On Proposed Gentlemen's Agreement On Export Credits". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/1974ECBRU07586_b.html

[337] Richardson (7 March 1975). "Gentlemen's Agreement". *Wikileaks*. Available: https://search.wikileaks.org/plusd/cables/1975LONDON03542_b.html

[338] Kissinger (17 January 1976). "Japan's Position On OECD Information Exchange On Export Credits". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/1976STATE012049_b.html

[339] In the case of Japan, because rates were set at the time of shipment, Government of Japan argued that it would be difficult to report faithfully the final rate. Shoesmith (23 January 1976) "Japan's Position On OECD Information Exchange On Export Credits". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/1976TOKYO01083_b.html

[340] Ray, J.E. (1995). "Managing Official Export Credits: The Quest for a Global Regime". *Peterson Institute*.

[341] Curry, D. (23 February 1978). "Export Credit Accord Renewed". *Financial Times*: 42.

[342] These OECD holdouts were permitted to join at any time, and non-OECD countries could become Arrangement participants by invitation from the existing participants. See Organization for Economic Co-operation and development, Trade Directorate (1978). "Arrangement on Guidelines for Officially Supported Export Credits". TD/CONSENSUS/78.4(1st Revision).

[343] Albright, R.J. (4 May 1976). "Eximbank Competition -- France And Rmhk Trepca". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/1976STATE108570_b.html.

and price of goods and services exported rather than on the most favourable officially supported financial terms and conditions"[344]. The guidelines constitute a "Gentleman's Agreement", rather than a formal OECD act[345,346]. Although participants in the Agreement have a unilateral interest in defecting to give their industries an advantage, the OECD Arrangement is structured to eliminate those advantages. Participants notify others of their intention to defect from the rules, which allows others to also abrogate the Agreement and eliminate the competitive advantage to the original defector. Negotiations in the OECD made the U.S. ExIm profitable. In the early 1980s ExIm was losing US$50-100 million for every US$100 billion loaned because competition led the Bank to supply finance at lower interest rates than rates for borrowing the money[347].

In practice, defection from the formal agreement – which could be countered by states "matching" the terms of the defector – has been rare. The ExIm has since returned money to the U.S. Treasury, effectively providing a negative subsidy. However, states have found ways to innovate to circumvent the agreement to continue giving their firms a competitive advantage. The OECD agreement has been adaptable to reign in these activities. Challenges regarding export finance from Brazil for its Embraer line of aircraft prompted the OECD to negotiate a special agreement with Brazil, despite Brazil being outside the OECD. The OECD has overcome issues on Germany's use of market windows in recent years, and unified environmental standards through the Common Approaches agreement in 2002. The OECD cooperative

[344] OECD (16 January 2015). "Arrangement on Officially Supported Export Credits". TAD/PG(2015)1. Available: http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?doclanguage=en&cote=tad/pg(2015)1.

[345] OECD. "Summary Overview of the Arrangement". Available: http://www.oecd.org/trade/xcred/summaryoverviewofthearrangement.htm [Accessed 1 October 2016].

[346] U.S. ExIm amended its charter to authorize negotiations to end "predatory export finance program and other forms of export subsidies" and to meet the terms of competitors. (12 U.S.C. 635a-1. Pub. L. 95–630, title XIX, §1908, Nov. 10, 1978, 92 Stat. 3725.)

[347] Former Chairman James A. Harmon of the U.S. ExIm Bank. Testimony in Subcommittee on International Finance of the Committee on Banking, Housing, and Urban Affairs. (17 July 1997). "Reauthorization of the Export-Import Bank of the United States" *United States Senate*, 105th Congress, First Session, p.59.

arrangement is possible because a voluntary club of states that control a large market share of export finance organizes against uncoordinated recipient governments[348]. The states that engaged through the OECD starting in the 1960s were allies, and used a well-established and popular institutional setting to reach a pareto-improving cooperative outcome.

5.3 Ad-hoc project coordination – a story of failure

Where recipients are empowered to undermine coordination at the ECA level, cooperation fails. This is particularly poignant on projects relating to the environment. Most infrastructure projects tend to involve foreign firms that are selected based on quality, technical suitability or pre-existing relationships. Firms pursue export finance from their governments at the expectation of project developers during the bidding process. It is then incumbent on the ECA to provide the requested financing; otherwise the developer can – in principle – pursue a competitor firm from another country backed by more lucrative finance from its national ECA. In this way, multiple ECAs are not necessarily in a simultaneous bidding war to support their respective firms. Instead, there is the shared expectation between project developers and firms that they will request and receive financing as part of an export procurement package. The potential for the project developer to seek export financing elsewhere puts pressure on ECAs to deliver.

There are several mitigating factors to the competitive demands on an ECA. First, differentiation in the quality and suitability of a firm's technology for the chosen application makes firms replaceable only at a cost and thus partially insulated from competition. Project developers

[348] Evans 2005, *Supra*.

seeking highly specialized firms will have less leverage in demanding more generous export finance terms. The second factor is collusion between ECAs. By colluding on an interest rate floor and maximum permissible loan duration in advance, ECAs can offer up to the agreed terms and then have assurance that a competitor will not undercut them on finance. In principle, this allows technology to compete on its merits. ECAs have been very successful in cooperating on financial terms, but much less so on the nature of goods that are actually exported.

Collusion on financial terms and other reforms – including environmental safeguards – has the effect of protecting the ECAs from excessive subsidy costs, not firms or recipients. Multinational firms with complex networks of sourcing, production and ownership can pursue export finance from multiple different ECAs. The interests of an ECA's domestic stakeholders are to court the multinational firm to manufacture and export within their borders, rather than with a competitor. For instance, GE's power sector operations include manufacturing hubs around the world. In this way, export finance itself can be fungible, even if the firms and technology is not. Firms may even relocate operations to take advantage of export finance, widely seen as critical to competitiveness[349]. Even if the commercial interests of the ECA stakeholders (firms and congressional representatives) are met, ECAs as organizations have self-interests in maintaining and building relationships with firms and recipients to ensure long-term business. Forfeiting transactions to competitors strengthens relationships between competitor ECAs and recipients, thus diminishing long-term institutional relevance of abstinent institutions.

[349] For example, see General Electric (28 September 2015). "GE Announces Plan to Build World Class Gas Engine Facility in Canada; Move Products from Wisconsin and Other Sites". Available: http://www.genewsroom.com/press-releases/ge-announces-plan-build-world-class-gas-engine-facility-canada-move-products.

In such a competitive environment, ECAs would be reticent to forgo lending to projects where another ECA could fill its void. A voluntary forfeiture of resources, political power, and legitimacy is counter to expectations that organizations will maximize control over their environmental niche[350]. Instead, it is much more likely that institutions will mimic each other, adopting similar strategies when placed under selective pressure[351], even when these changes may not serve other important goals[352], such as decarbonization or environmental reform.

Existing studies of ECAs have developed theories of how ECAs cooperate, as a function of their preferences, relative power of states, and the unique institutional structure of ECAs within governments[353]. Most of this literature has focused on cooperation between ECAs and their governments on politically sensitive issues, including commercial advantage, tied-aid and sanctions[354].

Meaningful environmental reform at ECAs has a different problem structure. The regulation necessitates action at the recipient's level, not only among fellow ECAs, requiring a strong coalition to make demands on the recipient or else requiring that individual ECAs forgo projects along with the associated political and commercial interests (and no assurance project outcomes will be different because competitors could supply the project to the recipient's specifications). This has led to weak environmental regulation and backsliding across all of the OECD's ECAs

[350] Haas, E.B. (1990). "When Knowledge Is Power: Three Models of Change in International Organizations". *University of California Press*.
[351] DiMaggio, P. & Powell, W.W. (1983). "The iron cage revisited: Collective rationality and institutional isomorphism in organizational fields". *American Sociological Review* 48(2): 147-60.
[352] Pierson, P. (2000). "The limits of design: Explaining institutional origins and change". *Governance* 13(4): 475-99.
[353] Moravcsik, A.M. (1989). "Disciplining Trade Finance: The OECD Export Credit Arrangement". *International Organization* 43(01): 173–205, p.175.
[354] Evans 2005, *Supra*.

for several decades[355]. The dilemma makes compliance with environmental safeguards at ECAs particularly weak and also susceptible to non-compliance of outsiders to the cooperative agreement. The discussion below extends the literature on cooperation between ECAs to the particularly difficult problem structure of environmental reform.

As a tool of statecraft, ECAs are frequently used in sanctioning regimes. The ability for other firms to seek support from ECAs outside the shadow of sanctions makes unilateral action ineffectual[356]. Two brief cases illustrate this point. The failure of ECAs to coordinate on sanctions is well documented, and efforts to sanction – where not triggered by law (Chafee Amendment, Glenn Amendment) – require coalition building.

5.3.1 India Dabhol

ECA involvement in the second phase of the Dabhol 1,444 MW gas-fired power project in India was plagued by politics[357]. In early 1998, Enron Corp awarded the US$1.2 billion EPC contract to Bechtel Enterprises, while GE was short-listed for equipment supply if it could provide US$500 million in export credit from U.S. ExIm. In May, India conducted the Pokhran-II nuclear weapons tests, prompting similar tests by Pakistan days later. The U.S. government

[355] Berne Declaration, Bioforum, Center for International Environmental Law, Environmental Defense Fund, Eurodad, Friends of the Earth, Pacific Environment & Resources Center, & Urgewald (March 1999). "A Race To The Bottom: Creating Risk, Generating Debt And Guaranteeing Environmental Destruction: A Compilation of Export Credit & Investment Insurance Agency Case Studies". Available: https://www.internationalrivers.org/files/attached-files/race_bottom.pdf.

[356] Hufbauer, G. & Rodriguez, R. (2001). "Ex-Im Bank in the 21st Century: A New Approach?" *Peterson Institute for International Economics*. Available: http://econpapers.repec.org/bookchap/iiepiiesr/sr14.htm, p.23-6.

[357] For an overview of the Dabhol project, see Mehta, A. (2000). "Power play: a study of the enron project*"*. *Orient Blackswan*.

applied sanctions under the Arms Export Control Act (known as the "Glenn Amendment"), suspending aid, military assistance, and technology export and credit guarantees. The U.S. also had to oppose lending from international financial institutions[358,359]. U.S. ExIm had already provided US$298 million for the first phase of the Dabhol project[360], but had to put a halt on the new application for the second phase when the sanctions were applied[361]. Enron claimed it could not proceed without export finance and insurance, as it did not have a diversified resource base in the power sector and was new to the Indian market. The State Department, according to a Human Rights Watch interview, thought as of June 1998 that the sanctions had put the India project in "a lot of trouble"[362] – apparently with the impression the sanctions would stifle the project and have the intended effect of real costs for the Indian government, which had prioritized Dabhol as a showcase project.

However, policy to create pressure on recipients has little effect when non-harmonized. In September 1998, Enron claimed that it could proceed with the project by leveraging US$250 million in export finance from Japanese and Belgian ECAs. Enron planned to begin construction right away[363]. It became clear that the Glenn Amendment would have little cost to India, but substantial cost for U.S. manufacturing jobs, prompting the U.S. to reverse its policy. On 1

[358] Dow Jones Online News (13 May 1998). "Clinton Unveils Trade Sanctions On India In Wake Of Nuclear Tests". Accessed through Factiva.
[359] U.S. International Trade Commission (September 1999). "Overview and Analysis of the Economic Impact of U.S. Sanctions with Respect to India and Pakistan". Investigation 332-406, Publication 3236. Washington DC.
[360] Platts (29 May 1998). "Financing, Development Of Projects In India Will Suffer From Sanctions". *Global Power Report*.
[361] U.S. International Trade Commission (September 1999). "Overview and Analysis of the Economic Impact of U.S. Sanctions with Respect to India and Pakistan". Investigation No. 332-406, Publication 3236, Washington DC. p.2-5
[362] Interview with David Kirsch [U.S. Departmnt of State Bureau of Intelligence and Research], cited in Human Rights Watch (no date). "The Enron Corporation", fn. 295. Available: https://www.hrw.org/reports/1999/enron/enron8-3.htm#P1423_287615 [Accessed August 2016].
[363] BBC Monitoring International Reports (1 September 1998). "India: Enron obtains financing for second phase of Dabhol power project". Accessed through NewsBank, Inc.

December 1998, President Clinton waived the restrictions on ExIm, OPIC and the U.S. Trade and Development Agency until 21 October 1999, but then later waived them indefinitely[364]. The competitive loss to ExIm was irrecoverable, though the U.S. rationale may have been that Dabhol was the first in a long line of projects India planned to build with international support. The U.S. later approved OPIC's provision of political risk insurance for Enron, GE and Bechtel's role in Dabhol, once the project was already under construction[365].

Multinational sourcing is increasingly common, making non-globally harmonized sanctions tenuous. In this case, the U.S. appeared tough against India's nuclear posturing but ultimately imposed real costs only on its own political and economic involvement in the Dabhol project.

5.3.2 U.S. efforts to block the Siberian gas pipeline

The West-Siberian gas pipeline is a story of U.S. sanctions that resulted in unilateral economic losses as well as an eventual reversal, despite a geopolitical priority being at stake. In 1981, the Reagan Administration wished to prevent the Soviets from constructing a natural gas supply pipeline from Siberia to Western Europe – depriving the Soviets of revenue and preventing the Europeans from becoming energy dependent on the Soviets in the event of a military escalation[366]. U.S. firms were slated to participate in the massive infrastructure project, but in

[364] Reuters News (26 October 1999). "Clinton Gets Waiver Authority on India Sanctions". *Factiva.*
[365] American Arbitration Association (25 September 2003). "Findings of Fact, Conclusions of Law and Award". *International Centre for Dispute Resolution*, AAA Case No. 50 T195 00509 02; Available: https://www.opic.gov/sites/default/files/docs/2294171_1.pdf.
[366] Margaret Thatcher Foundation (2016). "The Polish crisis of 1981-82". Available: http://www.margaretthatcher.org/archive/us-reagan%20(Poland).asp.

order for the sanctions to have any impact on the Russians, the U.S. pressed European and Japanese firms to withhold material support for the project as well.

However, interests were not aligned for competitors to also forgo export finance for the project, so the U.S. attempted to coerce its partners to apply analogous sanctions. In the 1980s, GE controlled licenses for a substantial volume of gas turbines available on the market globally. The U.S. placed export credit restrictions against U.S. firms including GE, their subsidiaries and firms using technology licenses owned by U.S. firms. This created a bottleneck, and made the sanctions more effective because alternatives were difficult to identify[367]. This caused diplomatic turmoil among European allies, who threatened to adjudicate the issue at the International Court of Justice for "extra-territorial extension of U.S. jurisdiction"[368].

As the Europeans and Japanese fulfilled their export contracts for the pipeline, the Reagan Administration began to place additional sanctions against European firms contravening the U.S. efforts, threatening the initiation of a trade war with U.S. allies. The diplomatic and commercial costs were self-defeating. Within Congress, firms that were impacted by the domestic and extraterritorial export credit ban testified about the high number of jobs that were being lost, although in some cases U.S. firms had already been benefiting from the export of their licensed technology as the Europeans and Japanese flouted the U.S. sanctions[369]. Reagan concluded that unilateral sanctions were more costly to the U.S. economy than to the Soviets, and they were eventually lifted, freeing up U.S. firms to fulfill their contracts.

---

[367] Martin 1993, *Supra* p.220.
[368] European Economic Community Foreign Ministers Council (23 June 1982). *In* Miyagawa, M. *"*Do Economic Sanctions Work?" *Springer*.
[369] This account is given in detail in Martin, L.L. (1993). "Coercive Cooperation: Explaining Multilateral Economic Sanctions". *Princeton University Press*, p.204-25.

5.4 Complexity of cooperation on environment – Mixed success

In contrast to these failed sanctioning regimes, the strength of the OECD Arrangement in reducing export credit competition was in the alignment of interests among a group of ECAs capturing the majority of the global market. By cartelizing the behavior of ECAs, the OECD members had agreed upon a self-enforcing mechanism to resist pressure from developing countries interested in cheaper exports. The project developers in recipient countries are poorly organized to have any recourse, and the benefits – marginally cheaper finance terms – would not warrant requests for state intervention. The OECD Arrangement has not eliminated export finance; to the contrary, the rules have established collective expectations for the level of export finance developing countries will receive.

The expectation of export finance as a part of export packages complicated environmental cooperation among ECAs because it moved the level of cooperation from the institutional level to the project level. Public outcry over a proposed loan from U.S. ExIm for a nuclear power plant in the Philippines focused attention to the issue of environment in U.S. international activities, which had already been under litigation for several years[370]. The Philippines nuclear plant was to be sited close to a geologic fault line (and near four active volcanoes) – the type of situation that the U.S. National Environmental Protection Act (NEPA) was designed to avoid for domestic projects. The U.S. Council on Environmental Quality (CEQ) in the White House formulated a draft plan in January 1978 that would require environmental assessments for

[370] Pierce, J.C. (Summer 1979). "Exports and Environmental Responsibility: Applying NEPA to the Export-Import Bank". *Cornell International Law Journal* 12(2), Article 5: 247–68, provides a detailed legal discussion.

projects receiving federal finance extraterritorially, circulating the plan among inter-agency officials[371].

The Executive's position on NEPA review was divided. The CEQ plan was vigorously contested by the State Department, as well as the Nuclear Regulatory Commission and other agencies on the basis that it undermined recipient country sovereignty[372] and U.S. foreign policy goals, but more importantly, that it could hamper exports. CEQ withdrew its proposal[373].

Meanwhile the export community and some members of Congress joined in opposition to extraterritorial application of NEPA[374,375], since the U.S. dominance in the nuclear export industry was already declining after having supplied over ninety percent of the world reactor export market less than a decade earlier[376,377] leveraged by export finance. A senior official in the Carter Administration questioned the logic of forfeiting exports on environmental grounds in September 1978, asking "what do we gain if some other country comes along and sells [the prospective buyer] the same stuff?"[378]. Carter nodded to opponents by publicly cautioning ExIm against sacrificing export contracts on environmental and human rights grounds.

---

[371] Pierce 1979, *Supra*.
[372] *Natural Resources Defense Council v. Nuclear Regulatory Comm'n,* 647 F.2d 1345, 1365 (D.C. Cir. 1981)
[373] Lewis, B.C. (2003). "It's a Small World After All: Making the Case for the Extraterritorial Application of the National Environmental Policy Act". *Cardozo L. Rev.* 25: 2143.
[374] Hornblower, M. (6 January 1979). "Carter Orders Environmental Studies On U.S. Projects in Foreign Countries". *The Washington Post*.
[375] Pierce 1979, *Supra*.
[376] Joskow, P.L. (July 1976). "The International Nuclear Industry Today". *Foreign Affairs*. Available: https://www.foreignaffairs.com/articles/1976-07-01/international-nuclear-industry-today.
[377] Lawsuits wished to pressure the U.S. to extend Environmental Impact Assessments to nuclear projects abroad; see *Sierra Club v. Atomic Energy Comm'n*, Civil No. 1867-73 (D.D.C. August 2, 1974) *In* Whitney, S.C. (1990). "Should the National Environmental Policy Act Be Extended to Major Federal Decisions Significantly Affecting the Environment of Sovereign Foreign States and the Global Commons", *Vill. Envtl. L.J.* 431, 471.
[378] Rowen, H. (25 September 1978). "Carter Agrees on Plan to Boost Exports; Carter Export Campaign will Relax 'Disincentives'". *The Washington Post* A4.

Sen. John Chafee formalized this sentiment as an amendment to the Bank's charter in November 1978. The Chafee amendment addressed the struggle between the Carter Administration and Congress, which by this time had focused on human rights in Apartheid South Africa. The congressional effort prevented export credits from being used for political purposes[379] but was also effectively the Bank's first authorization to withhold export finance when environmental interests were at stake. The amendment prevented the Administration or Congress from interfering with ExIm transactions on political grounds except when national interests were threatened, including on environmental protection:

> "Only in cases where the President determines that such action would … clearly and importantly advance the United States policy in such areas as international terrorism, nuclear proliferation, environmental protection and human rights, should the Export-Import Bank deny application for credit for nonfinancial or noncommercial considerations"[380,381].

The Executive was wrestling back the authority to guide the ExIm Bank's political direction. In January 1979, Carter issued Executive Order 12114 requiring consideration of environmental effects abroad for major Federal Actions, but with less stringency than initially proposed by CEQ. Unless the transaction affects U.S. territory or global commons (in which case a full environmental impact statement is required), agencies should undertake a "concise" environmental study. Agencies were granted purview to undertake such studies and then to implement them with "appropriate modification" based on considerations including "international commercial, competitive and export promotion factors"[382]. In effect, to appease

[379] Rodriguez, R. (2001). "Introduction". *In* Hufbauer, G. & Rodriguez, R. (Eds). "Ex-Im Bank in the 21st Century: A New Approach?" *Peterson Institute for International Economics*, p.25.
[380] United States 95th Congress (10 November 1978). Public Law 95-630, Sec. 1904.
[381] In October 1979, Executive Order 12166 "Export-Import Bank" delegated this authority to the Secretary of State. (Oct. 19, 1979, 44 F.R. 60971) and P.L. 95-630, 12 USC Sec 635(b)(1)(B)).
[382] "Executive Order 12114--Environmental effects abroad of major Federal actions". (4 January 1979), 44 FR 1957, 3 CFR, 1979 Comp, p.356.

the State Department's concerns regarding NEPA impacts on important U.S. international relationships[383], U.S. ExIm could easily be exempted from NEPA reviews. Furthermore, in 1981 the DC Court of Appeals ruled that NEPA should not be extraterritorially applied for projects in which there is an important foreign policy objective[384]. In the case of the Philippines nuclear reactor, U.S. foreign policy objectives included promised civilian nuclear cooperation in support of non-proliferation goals[385] as well as maintenance of U.S. nuclear export dominance. These origins formed the basis for two periods of change in environmental policy at the U.S. ExIm Bank: 1) development of the Common Approaches regime in the 1990s and early 2000s, and 2) carbon policy and coal power restrictions since 2009.

5.5 Theory of ECA cooperation on environment

ECA rules that impact *project-level outcomes,* as opposed to an element of the *project's finance package*, have an intractable problem structure. Imposing environmental and social safeguards as a condition for export finance requires change in the project – which is under the developer's authority. Project developers have a vision for a project that is informed by compliance with applicable domestic laws and context. Developers select firms and suppliers that are then expected to arrange export finance. If an ECA refuses to provide finance to an exporter because of a feature of the project's environmental performance, the project developer or prospective seller can go to a different ECA. ECAs would need collusion or uniform environmental

[383] Lewis, B.C. (2003). "It's a Small World After All: Making the Case for the Extraterritorial Application of the National Environmental Policy Act". *Cardozo L. Rev.* 25: 2143.
[384] See *Natural Resources Defense Council, Inc. v. NRC*, 647 F.2d 1345, 1349 (D.C. Cir. 1981). Discussed in Lewis 2003, *Supra*.
[385] Barr, D.K. & Anderson, K.R. (1981). "Natural Resources Defense Council, Inc. v. Nuclear Regulatory Commission: Environmental Reviews and Nonproliferation Policy in the Licensing of Nuclear Exports". *Geo. Wash. J. Int'l L. & Econ.* 16: 579.

preferences to gain any leverage over project developers. This is a fungible finance issue encountered with the sanctions regime, though with the goal of modifying, not stifling, the project. While each ECA and its stakeholders have an individual incentive to reduce public expenditures supporting exports – making financial cooperation feasible – incentives for reducing environmental impacts in another sovereign are more diffuse. This makes environmental cooperation difficult. Moreover, because reform to the project is needed, such cooperation by ECAs imposes on the sovereign development choices of the recipient government.

This circumstance is unique among other classes of international financial institutions, where project decisions are more consultative. Unilateral preferences or restrictions at ECAs, even by powerful states such as the U.S., have little bearing on how a project can move forward. In contrast, in multilateral development banks like the World Bank the U.S. can use its dominant voice to stymie objectionable projects. Among the 185 member states at the World Bank, only the U.S. has adequate vote share to veto proposals to amend the Bank's charter. By nature of its informal (but widely acknowledged) power to appoint the Bank President, the U.S. can shift the Bank's overall strategic direction and practices[386]. The U.S. vote share at the World Bank's board is insufficient to block projects once they've reached the Executive Board stage, though when the U.S. strongly opposes a loan, the U.S. has historically been able to rally sufficient European support to veto Executive Board decisions[387]. More commonly, the U.S. uses its institutionalized power within the bureaucracy and its allies to ensure those projects fail to reach

[386] Woods, N. (2006). "The globalizers: The IMF, the World Bank, and their borrowers". *Cornell University Press*.
[387] Weaver, C. (2008). "Hypocrisy trap: The World Bank and the poverty of reform". *Princeton University Press*, p.53-56.

a Board vote[388]. Abstentions, or more rarely "no" votes, show U.S. opposition to a loan program while tacitly approving it.

Developing environmental guidelines for the U.S. ExIm faced opposition owing to the competitive position of the institution, even when stakeholder interests were otherwise aligned. Following longstanding battles with NGOs over the applicability of NEPA reviews to U.S. federal government extraterritorial actions[389], the ExIm Bank's 1992 reauthorization amended the Bank's charter to allow the Board of Directors to deny support for proposed transactions on environmental impact. Projects could be denied based on environmental benefits and adverse effects meeting three criteria: 1) greater than US$10 million in long-term support requested from the Bank; 2) the Bank's support would be critical to the project's implementation; and 3) the project creates environmental effects that spill beyond the countries participating in the project[390]. At the time, Bank officials were not opposed to the environmental goals, but were concerned about the competitive disadvantage U.S. exporters would face[391].

The U.S. ExIm Bank has generally been able to find ways to engage with projects that could fall afoul of the 1992 policy. Three channels have been used for U.S. companies to win export contracts despite adverse environmental impacts that contravene the spirit – if not the letter – of the Bank's policies: 1) U.S. ExIm views mitigating circumstances in order to approve requests in

[388] Ascher, W. (2003). "The World Bank and U.S. Control", p.124, *In* Karns, M.P. & Mingst, K.A. (Eds.). "The United States and Multilateral Institutions: Patterns of Changing Instrumentality and Influence". *Routledge*.
[389] Schaper, M. (2013). "Export promotion, trade, and the environment: negotiating environmental standards for export credit agencies across the Atlantic", *In* VanDeveer, S.D., Selin, H. & Schreurs, M.A. (Eds.). "Transatlantic Environment and Energy Politics: Comparative and International Perspectives". *Ashgate Publishing*, p.198-99.
[390] "Text of H.R. 5739 (102nd): Export Enhancement Act of 1992 (Passed Congress/Enrolled Bill Version)". *GovTrack.us*. Available: https://www.govtrack.us/congress/bills/102/hr5739/text.
[391] Becker & McClenahan 2003, *Supra* p.294.

violation of its policies; 2) projects receive public support through other international institutions where the U.S. has strong influence, such as the multilateral development banks; or 3) U.S. companies route contracts through foreign subsidiaries which seek financing from foreign ECAs. In these ways, the U.S. ExIm Bank has been able to send signals of pro-environment preferences while satisfying industrial interests in export promotion and government diplomatic objectives.

Nonetheless, the uncertainties and short-term losses around these approaches have still driven the U.S. ExIm to seek to multilateralize environmental guidelines through the OECD and other international forums.

1) Mitigating circumstances for policy

The U.S. ExIm's environmental procedures and guidelines[392] were the most stringent and transparent among other export credit agencies around the world. Yet these guidelines were of little consequence for ExIm's ability to support power projects, particularly because the regulations were imprecise and implementation could be balanced against costs of mitigating the environmental harms and competitiveness with alternate foreign bidders. Between February 1995 and September 1996, U.S. ExIm approved seven transactions that did not comply with the agency's published guidelines[393]. Among these projects was a US$408.8 million loan to U.S.-firm Foster-Wheeler Energy Corp for building the 2100 MW Yangcheng coal-fired power plant

[392] U.S. ExIm Bank. "Environmental and Social Due Diligence Procedures and Guidelines June 27, 2013 as revised December 12, 2013". Available: http://www.exim.gov/policies/ex-im-bank-and-the-environment/environmental-and-social-due-diligence-procedures-and-guidelines.
[393] Evans & Oye, *Supra* p.134.

in China[394], despite the plant's violation of ExIm's NO_x pollution criteria. China's power sector was a critical commercial market for U.S. firms and the second largest ExIm customer behind Mexico.

The conclusion of this chapter discusses how Japan orchestrated exceptions at the OECD coal negotiations in 2015 that provided a loophole for 90% of its coal power exports. As discussed in Chapter 6, the U.S. ExIm claimed that commitments by Reliance Power to build new renewable capacity alongside the Sasan Ultra Mega coal powerplant brought the project into compliance with ExIm's Carbon Policy.

2) Use of other international institutions

Forum shopping is a common approach to avoiding restrictions in one set of institutions. The Clinton Administration avoided restrictions on tied-aid contracts using this approach. The U.S. has long been a stalwart of disconnecting private contracts from Official Development Assistance (ODA), and pushed this agenda at the OECD. This left the Clinton Administration with no option to use the ExIm Bank to support an Integrated Gasification Combined Cycle (IGCC) coal power plant in China in the mid-1990s, which would be a non-commercially viable demonstration project. The U.S. Department of Energy initially attempted to secure US$50 million in Congressional funding to support U.S. involvement in the US$400 million project directly but Congress was not receptive[395]. The Clinton Administration became concerned that China would see the U.S. as reneging on its promise to support China's energy and

[394] U.S. ExIm Bank (18 November 1996). "Ex-Im Bank approves $792 million in sales to China" Press Release. Available: http://www.exim.gov/news/ex-im-bank-approves-792-million-sales-china

[395] U.S. Department of Interior and Related Agencies Appropriations Bill (17 June 1994). Report 103-551.

environmental goals and also wanted to showcase U.S. advanced coal technology in the most likely of future markets – the Pacific rim countries of Asia[396]. Controversially, DOE instead approached the Asian Development Bank[397], which financed the project feasibility work and ultimately provided financing for the IGCC plant's construction in Tianjin[398].

ECAs form an important component of an ecosystem of institutions where non-uniform standards can undermine environmental reform by seeking the least environmentally restrictive institution. In another case, insistence by the European Bank for Reconstruction and Development for strict nuclear safety reforms in Eastern Europe and the former Soviet Union as a condition for loan assistance was threatened by the possibility of recipients resorting to unconditional bilateral export credits to help finance new nuclear reactors[399].

U.S. and Japanese negotiators for the November 2015 coal-export finance restrictions at the OECD, discussed further below, were careful not to preclude coal support through the Asian Development Bank. The Bank could be an alternate channel for Japanese firms to finance and be rewarded coal power projects otherwise made ineligible through the new OECD rules. Such leakage (coal finance serving the same set of interests moving from one institution to another) makes agreement less costly and thus feasible, but may also threaten to undermine agreement efficacy if not progressively tightened.

---

[396] For a short discussion see Evans & Oye, *Supra* p.149-50, fn.20.

[397] U.S. Dept of Energy, Asst. Sec for Fossil Energy. "Clean Coal Technology Demonstration Program: Program Update 1996-97". October 1997. Available http://permanent.access.gpo.gov/lps16323/cct97all.pdf

[398] Asian Development Bank. "China, People's Republic of: Tianjin Integrated Gasification Combined Cycle Power Plant Project". Project 42117-013. Available: https://www.adb.org/projects/42117-013/main [Accessed 10 September 2016].

[399] Connolly, B. & List, M. (1996). "Nuclear Safety in Eastern Europe and the Former Soviet Union". *In* Keohane, R.O. & Levy, M.A (Eds). "Institutions for Environmental Aid: Pitfalls and Promise*". The MIT Press*, p.253.

3) U.S. companies seek ECA financing through subsidiaries

As the U.S. triggered sanctions against India in the 1998 Dabhol case discussed above, U.S. firms used global manufacturing networks and subsidiaries to take advantage of other governments' export finance, including in Belgium and Japan[400]. Belgium had no sanctions against India, and Japan's sanctions covered only ODA but not export-finance (the opposite of the U.S. sanctions configuration). Thus, U.S.-based GE retained its equipment contracts with Dabhol by shifting production to its Japanese manufacturing base and gave a share of the project to Japanese manufacturers[401].

U.S. suppliers denied export finance from the U.S. ExIm Bank for the controversial Three Gorges Dam project also routed their bids through subsidiaries and partner firms in countries willing to support Three Gorges. This case is discussed in detail in Chapter 6.

5.6 Competitive political economy at Export Credit Agencies

When an established international financial institution is faced by a competitor with divergent interests or differing expectations for rules of engagement, those institutions will find cooperation difficult. Export Credit Agencies are competitive institutions by nature, because organizational, stakeholder and recipient interests all pull toward a competitive response when an alternate threatens to siphon contracts to firms operating out of other nations.

[400] Hindustan Times (1 September 1998). "Enron Ties up $1 Bn Loans with Japanese, Belgian Exim Banks". Accessed through Factiva.

[401] Evans, P.C. & Oye, K.A. (2001). "International Competition: Conflict and Cooperation in Government Export Financing". p.133. *In* Hufbauer, G. & Rodriguez, R. (Eds). "Ex-Im Bank in the 21st Century: A New Approach?" *Peterson Institute for International Economics*.

The U.S. ExIm Bank seeks to deepen relationships with firms and recipients in order to secure a pipeline of business in line with its economic and political mandate. New business also strengthens the coalition that will advocate for the Bank's reauthorization. A competitor that could erode ExIm's portfolio would be viewed antagonistically. ExIm's stakeholders represent two groups, the Executive and the Congress. The Executive uses the ECA as a tool of foreign policy, primarily to enhance relations through trade but secondarily to exert pressure through sanctions and the withholding of finance. The Executive protects national commercial and political interests that could be eroded by an alternate institution securing projects that ExIm would otherwise build. The Executive also attempts to coordinate with the competitor or else adjusts the behavior of its ECA to remain competitive. Congress meanwhile will represent more diversified interests, including well-organized industrial as well as environmental coalitions, which commonly pull in different directions (industrial toward eliminating and engaging competitors, environmental against engagement). Because Congress has ultimate authority for re-authorization of the ECA, the ECA will yield to the interests that are better mobilized or which have better access in influencing reauthorization. When interests are divided in Congress or where the Executive has explicitly mandated authority over a decision, the ECA yields to Executive preferences toward competitive engagement.

Meanwhile, recipients embrace a contested environment because it increases their bargaining power. Recipients benefit when uncoordinated ECAs compete for contracts, and will use this structure to promote a competitive response resulting in sub-optimal outcomes for each ECA individually but superior development autonomy and financial terms for the recipient. ECAs

have been successful at reform when they are able to coordinate standards that result in mutual cost savings, despite inferior outcomes for recipients. Coordination requires that each of the ECAs commit to sacrificing some of their autonomy to a set of multilateral rules or norms (as with the Gentlemen's Agreement at the OECD). This coordination game requires that a minimum portion of the population of actors in the system participate to make it stable[402]. The Gentlemen's Agreement on export credits allows recourse for defection among members (matching terms), and for imposing reputational costs on non-members. This calculus changes fundamentally when an actor outside of the agreement is large enough to destabilize it. As discussed in the next section, China challenged the authority of the OECD as an exclusive and historically problematic forum for export credit cooperation, and thus undermined it.

5.7 China challenging the OECD Export Credit Group

Because China was excluded from the negotiations on the early OECD agreement on officially supported export credits, they repudiate the rules today. The BRICS generally – but particularly China – have created discord that the OECD regime has struggled to resolve.

The rise in importance of the BRICS outside the OECD Arrangement was abruptly recognized, with increasingly vigorous efforts to integrate them. Brazil, China and India were for the first time invited to participate as *ad hoc* observers to the export credits plenary meetings in the fall 2006[403,404]. Following years of scant reference in official documents or testimony, dealing with

[402] Schelling, T.C. (1978) "Micromotives and macrobehavior". *Norton*, New York.
[403] West 2007, *Supra* p.32

non-OECD competition had become a "priority" in the OECD Agreement negotiations by 2007[405].

Even then the OECD's attitude toward the BRICS was that they "deserve special consideration in order to ensure the OECD's continued relevance and ability to influence the global economic system"[406]. The U.S. called for expanded cooperation with China, Brazil, India and South Africa, while expressing immediate interest in membership for Chile and Israel, and long-term support for Russian membership. There was a general interest in the BRICS joining the OECD, but only if they meet the conditions of membership. There was disagreement within the OECD as to whether programs of "enhanced engagement" were an end in themselves, or simply part of the path toward OECD enlargement[407].

In 2006 a series of amendments to the U.S. ExIm Charter targeted China's growing prominence in export credits (as well as Brazil, through credits for aircraft manufacturer Embraer). The charter's statements on competitiveness were amended to "includ[e] those that are not a party to the [OECD] Arrangement". A tied aid program was also established to "aggressively" promote adherence to the Arrangement rules among foreign export credit agencies that were not participants to the Arrangement[408].

---

[404] XCRED Secretariat (November 2006). "109th Meeting of the Working Party on Export Credits and Credit Guarantees (ECG) 13 and 14 November 2006". *Export Credits*. Paris. Available: http://www.oecd.org/tad/xcred/109thmeetingoftheworkingpartyonexportcreditsandcreditguaranteesecg.htm.
[405] West 2007, *Supra* p.31.
[406] Reid (9 February 2007). "OECD: Mission Views On Enlargement". *Wikileaks.* Available: https://wikileaks.org/plusd/cables/07PARIS525_a.html.
[407] Reid 2007, *Supra*.
[408] 12 U.S.C. 635i-3. Amendments. Pub. L. 109–438. Available: http://www.gpo.gov/fdsys/pkg/USCODE-2011-title12/html/USCODE-2011-title12-chap6A-subchapI-sec635i-3.htm.

As China's export finance grew, in a June 2006 meeting between the U.S. Department of Treasury's Financial Attaché in Beijing, David Loevinger, and the President of the Chinese Export-Import Bank, Li Ruogu, Loevinger encouraged "greater Chinese cooperation" with the OECD Working Party on Export Credits. Li agreed to "constant engagement" with the OECD on its export credits policies, but argued that China tried to abide by the OECD Arrangement, despite not being an OECD member[409,410].

Discussions on export credits paralleled closely related diplomatic dialogue on Chinese foreign assistance (see particularly Chapter 4). In February 2007, the OECD's Development Assistance Committee (DAC) sent Chairperson Richard Manning to China for the first time to engage on Chinese development assistance issues. During meetings in Beijing, Manning met with Chen Jian, China's Assistant Minister at the Ministry of Commerce (MOFCOM), and Wang Shichun, Director General at the MOFCOM Department of Foreign Aid. The motivation was twofold: first, officials sought to understand how concessional financing was arranged and coordinated for Chinese companies. According to diplomatic cables, "from the DAC's perspective, China is a top priority for engaging on aid coordination"; and second, the DAC hoped to "engage China on foreign aid" given that it was "increasingly nonsensical" to exclude China from considerations of development assistance[411].

In May 2007, the OECD ministerial meeting opened discussions on OECD enlargement, not least to "address the competitive challenge from OECD non-member economies in the provision

[409] Randt (6 June 2006). "Finatt Meets China Exim President On Lending To Sudan And Other Poor Developing Countries". *Wikileaks*. Available: https://search.wikileaks.org/plusd/cables/06BEIJING11363_a.html.
[410] Author interview, January 2015.
[411] Sedney (15 February 2007). "Foreign Assistance: OECD Visitor On China's Limited Willingness To Discuss Its Donor Role". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/07BEIJING1094_a.html.

of official export credits and to widen the level playing field"[412]. While the OECD adopted the strategy to open accession discussions with Chile, Estonia, Israel, the Russian Federation, and Slovenia, the major emerging economies of China, India, Brazil[413], South Africa and Indonesia were offered cooperation through "enhanced engagement" with a "view of possible membership"[414].

As soon as the OECD extended this invitation, U.S. officials saw China beginning to pull back[415]. China was averse to signaling that it was supportive of the OECD or wished to join and would withdraw from Enhanced Engagement if put under pressure. The Chinese were extended an open invitation to ECG meetings, but were selective around the meetings they attended. For some meetings, the China Export-Import Bank would send a representative – occasionally the Bank president – to sit and listen for all or part of the sessions.

Membership politics haunted the OECD as a forum for engaging China. In a decade old agreement, Taiwan (or Chinese Taipei) was allowed to participate in the OECD via "regular outreach" as an observer to "several OECD committees, and as an invited guest…at Global Forums and other OECD events"[416]. In a diplomatic memo in November 2006, the U.S. discussed that Taiwan had been making a push for greater involvement in the OECD. This

[412] West, J. (2008). "The OECD and export credits". *Berne Union*, Available: http://www.berneunion.org/wp-content/uploads/2013/10/Berne-Union-Yearbook-2008.pdf, p.35.
[413] Interest in Brazil predominantly regarded exports of the domestic aircraft producer, Embraer. Cooperation was tenable within the parameters of the OECD Arrangement. In July 2007, a sectoral agreement on commercial aircraft was signed with the purpose of including Brazil – the first time that an OECD Agreement related to export credits included a non-OECD country as a full participant. The new agreement was drafted "to facilitate wider participation", in light of China and Russia's planned development of regional aircraft for export as well. See West 2008, *Supra* p.32-33.
[414] West 2008, *Supra* p.35.
[415] Author interview, December 2015.
[416] Stone (6 November 2006). "China And Chinese Taipei At The OECD: Raising The Bar?" *Wikileaks*. Available: https://search.wikileaks.org/plusd/cables/06PARIS7228_a.html.

included observership applications for six new committees, and the suggestion that OECD entertain an eventual application for OECD membership from Taiwan under a favorable interpretation of OECD rules[417].

China, itself an active observer at that time, objected to Taiwan's application for observer status at the OECD's Committee on Science and Technology Policy. According to U.S. diplomats, China threatened to "freeze cooperation with the OECD" on an innovation policy study "in order to pressure the organization". The U.S. policy had been to avoid judgment to the extent possible on applications for Taiwan's OECD committee membership status, assessing the merits of each application as to whether Taiwan was a "major player" and whether there would be "mutual benefit". The U.S. presumed that applications motivated ostensibly by political interests in increasing international perceptions of Taiwanese sovereignty, and not founded on technical and economic motivations, would be weeded out in committee. Although the U.S. chose to maintain this policy despite China's objections, officials recognized the "paramount importance of the China program to the OECD, compared with Taiwan"[418]. Concerned that allowing China to impose unilateral requirements for OECD observership would "presumably also result in increased Chinese pressure in other international organizations", the U.S. stood its ground on Taiwan observership.

The timing of the spat over Taiwan conflicted with efforts to get China to cooperate through "enhanced engagement". According to the leaked cable, the U.S. position was to:

> "make clear to the OECD Secretariat that the OECD should be prepared to accept

[417] Stone 2006, *Supra*.
[418] Stone 2006, *Supra*.

> the possible consequences of [the Taiwan policy], such as withdrawal by Beijing of cooperation with the OECD in one or (worst case) all areas of current cooperation"[419].

The OECD export credit committees indicated in 2011 that it wanted to see the BRICS (plus Indonesia) and their ECAs as "full members"[420]. The export committee indicated that the dearth of cooperation between China and the OECD encumbered the ability for the original 1978 agreement to be "efficacious", the "strategy adopted by the export credit community in the OECD [to bring competitors into the agreement] will need to be refreshed"[421].

The OECD indicated that it was turning more significantly to the WTO to navigate export credit controls, given the non-participation of China and other emerging export financiers[422]. The GATT/WTO included references to export credits among Subsidies and Countervailing Measures (SCM) for developed countries[423,424]. Countries are exempted from the SCM rules for eight to ten years following WTO accession, or longer with agreement of the Committee[425].

---

[419] Stone 2006, *Supra*.
[420] de Ricolfis 2011, *Supra* p.23.
[421] de Ricolfis 2011, *Supra* p.23.
[422] de Ricolfis, F. (2011) "Impending challenges". *Berne Union*, Available: http://www.berneunion.org/wp-content/uploads/2013/10/Berne-Union-Yearbook-2011.pdf, p.23.
[423] WTO SCM, Annex I(k): "Provided, however, that if a Member is a party to an international undertaking on official export credits to which at least twelve original Members to this Agreement are parties as of 1 January 1979 (or a successor undertaking which has been adopted by those original Members), or if in practice a Member applies the interest rates provisions of the relevant undertaking, an export credit practice which is in conformity with those provisions shall not be considered an export subsidy prohibited by this Agreement".
[424] WTO Agreement on Subsidies and Countervailing Measures; see Part II Article 3.1(a), Part VIII Article 27.1-27.2, Annex VII.
[425] Part VIII, Article 27.2(b) and 27.4. "The prohibition of paragraph 1(a) of Article 3 shall not apply to… other developing country Members for a period of eight years from the date of entry into force of the WTO Agreement, subject to compliance with the provisions in paragraph 4.... Any developing country Member referred to in paragraph 2(b) shall phase out its export subsidies within the eight-year period, preferably in a progressive manner. However, a developing country Member shall not increase the level of its export subsidies, and shall eliminate them within a period shorter than that provided for in this paragraph when the use of such export subsidies is inconsistent with its development needs. If a developing country Member deems it necessary to apply such subsidies beyond the 8-year period, it shall not later than one year before the expiry of this period enter into consultation with the Committee, which will determine whether an extension of this period is justified, after examining all the relevant economic, financial and development needs of the developing country

China joined the WTO on 10 November 2001[426] but was not extended this leniency. China's WTO accession agreement specifically stated that "China shall eliminate all subsidy programmes falling within the scope of Article 3 of the SCM Agreement *upon* accession"[427] (emphasis added). According to U.S. trade officials, China has failed to submit annual notifications of their subsidies, as required under Article 25 of the SCM agreement, with "significantly incomplete" reports filed in 2005 and 2011, prompting the U.S. to counter-notify (complain) under Article 25.10[428]. China's poor subsidies planning may be, in part, a function of its efforts to achieve the goals outlined in its five-year plans[429].

In September 2010, the United Steelworkers filed a petition to the US Trade Representative that initiated an investigation under Section 301 of the Trade Act of 1974 regarding alleged violations of WTO rules by China in provision of export subsidies in renewable energy.[430] In the opinion of one legal trade expert speaking before the Congressional-Executive Commission on China, the U.S. is avoiding mounting a potentially costly WTO challenge to China's export credits that could open the U.S. to criticism.

Because of the pace and limited extent of WTO challenges, and China's ability to withstand the pressure to join the OECD Arrangement, China had substantial leverage in bilateral negotiations

---

Member in question. If the Committee determines that the extension is justified, the developing country Member concerned shall hold annual consultations with the Committee to determine the necessity of maintaining the subsidies. If no such determination is made by the Committee, the developing country Member shall phase out the remaining export subsidies within two years from the end of the last authorized period."

[426] WTO (23 November 2001). "Accession of the People's Republic of China: Decision of 10 November 2001". WT/L/432.

[427] WTO/L/432. Part I, Section 10(3).

[428] Office of the U.S. Trade Representative and U.S. Department of Commerce (February 2013) "Subsidies Enforcement: Annual Report to the Congress". Available: http://enforcement.trade.gov/esel/reports/seo2013/seo-annual-report-2013.pdf, p.14.

[429] Office of the United States Trade Representative and U.S. Department of Commerce 2013, *Supra* p.17.

[430] United Steelworkers Union (Fall 2010). "United Steelworkers' Section 301 Petition Demonstrates China's Green Technology Practices Violate WTO Rules". Pittsburgh.

with the U.S. The U.S. Treasury Strategic and Economic Dialogue began working toward an agreement with China on export-credit finance starting in 2012, including through the International Working Group on Export Credits (IWG). The IWG was agreed between President Obama and (then) Vice President Xi Jinping in February 2012[431]. In 2013, the negotiations addressed sectoral guidelines for "ships and medical equipment", with the objective of establishing, by 2014, "international guidelines on the provision of official export financing that, taking into account varying national interests and situations, are consistent with international best practices"[432]. China is the world's largest shipbuilder by delivery volume. China and OECD had been in negotiations on a multilateral shipbuilding agreement until December 2010, when talks were terminated[433]. However, the two sectors are effectively irrelevant to the U.S. The IWG may prove that a new process outside the OECD could be productive as the negotiations eventually expand to "horizontal" guidelines[434,435]. According to one legal expert representing private export firms to U.S. Congress, new guidelines with China that are likely to "fall short of the requirements of the OECD Arrangement, which would be a significant step backward from the rules that have governed export finance for decades"[436].

[431] Palmer, D. (14 February 2012). "UPDATE 1-US, China Agree to Negotiate Export Credit Deal". *Reuters*, Available: http://www.reuters.com/article/2012/02/14/usa-china-exportcredits-idUSL2E8DEJ3520120214.
[432] Joint U.S.-China Economic Track Fact Sheet of the Fifth Meeting of the U.S.-China Strategic and Economic Dialogue (12 July 2013, Available: http://www.treasury.gov/press-center/press-releases/Pages/jl2010.aspx).
[433] See OECD-China Brochure 2013, p.61. Also 2008 report by OECD "The Shipbuilding Industry in China".
[434] White House (12 November 2014). "FACT SHEET: U.S.-China Economic Relations". Available: https://www.whitehouse.gov/the-press-office/2014/11/12/fact-sheet-us-china-economic-relations.
[435] U.S.-China Joint Fact Sheet Sixth Meeting of the Strategic and Economic Dialogue (11 July 2014). Washington DC, Available: http://www.treasury.gov/press-center/press-releases/Pages/jl2561.aspx.
[436] Hearing before the Congressional-Executive Commission on China, 113th Congress. "China's compliance with the World Trade Organization and international trade rules". Prepared Statement by Elizabeth J. Drake. 15 January 2014.

5.8 Multilateralizing coal rules in export finance

U.S. ExIm's reversal on provision of finance for the Sasan Ultra Mega Power Project in India (discussed below in Chapter 6) heightened political pressure to push the coal export finance restrictions at the OECD. In the meantime, the U.S. had attempted to involve China in OECD-like export finance disciplines through the International Working Group (IWG). U.S officials saw the IWG as the post OECD export finance arrangement. It was not until it became clear that the IWG would remain highly constrained in its purview that the U.S. tried to advance the issue at the OECD.

The OECD had already negotiated favorable repayment terms on export credits for renewable energy, and water projects in July 2009, and expanded in June 2012 to include climate mitigation broadly including carbon capture and storage, and expanded again in July 2014 to include adaptation[437]. But these policies were meant to permit more generous export subsidies, not limit or prohibit them as was the U.S. goal for coal power.

The Obama Administration released its Climate Action Plan in June 2013. The plan signaled the government's intention to eliminate public finance for coal, though unspecific exceptions regarding high efficiency coal and poor countries remained:

> "the President calls for an end to U.S. government support for public financing of new coal plants overseas, except for (a) the most efficient coal technology available in the world's poorest countries in cases where no other economically

[437] OECD Trade and Agriculture Directorate (7 July 2014). "Climate Change". Available http://www.oecd.org/tad/xcred/climatechange.htm [Accessed 13 August 2016].

> feasible alternative exists, or (b) facilities deploying carbon capture and sequestration technologies"[438].

U.S. public finance for coal plants is ostensibly provided through a very limited number of channels, predominantly the U.S. ExIm Bank, but also OPIC, USAID, and U.S. contributions in the multilateral development banks. The Climate Action Plan was interpreted as focusing primarily at U.S. ExIm, since OPIC and USAID had not been involved in financing recent coal projects[439]. In October, the U.S. Department of Treasury issued new guidance to the U.S. directors to the multilateral development banks, amending the December 2009 guidance to reflect the U.S. Climate Action Plan[440]. The Climate Action Plan statement goes on to reiterate the existing commitment that the U.S. restrictions would be multilateralized through the OECD.

> "As part of this new commitment, we will work actively to secure the agreement of other countries and the multilateral development banks to adopt similar policies as soon as possible"[441].

The OECD accounted for nearly 60% of global exported turbine capacity since 2000, and the U.S. was only 4% of the global total (8.3 GW). The U.S. had an active enough investment portfolio to have some credibility at the OECD negotiations[442]. As discussed in Chapter 2, the OECD's share of coal equipment export had declined precipitously by 2000, with the exception of Japan, which was over half the OECD capacity. Germany and France remained significant

[438] U.S. Executive Office of the President (June 2013). "The President's Climate Action Plan". Available: https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf.
[439] Author interview, February 2013.
[440] U.S. Treasury (29 October 2013). "Guidance for U.S. Positions on MDBs Engaging with Developing Countries on Coal-Fired Power Generation". Available: https://www.treasury.gov/resource-center/international/development-banks/Documents/CoalGuidance_2013.pdf.
[441] U.S. Executive Office of the President (June 2013). "The President's Climate Action Plan". Available: https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf.
[442] Author interview, May 2015.

exporters, making up 10% and 9% of turbine capacity export globally since 2000. Japan was second in capacity globally only to China (See Figure 2.7).

Therefore getting an agreement to multilateralize the U.S. carbon guidelines would have required that the U.S. convince both the OECD – particularly Japan – as well as China. To China the OECD remained a "four letter word", and most export finance discussion had been stalled in the International Working Group since 2012, which did not include power in its mandate.

The U.S.-China Strategic & Economic Dialogue in 2014 alluded to the asymmetry between the U.S. and Chinese status of coal power involvement domestically and internationally, and the continued tension in finding common ground:

> "the United States and China are to share views on the important role that official financing support policies can play to accelerate the transition to a global energy economy that is more energy efficient and less carbon intensive, taking into account relevant factors"[443].

Because China had become such a critical player in export finance negotiations, it held an empowered position. The U.S. had to balance two priorities, with a deadline. A symbolic message around coal before COP21 and a functional effort to bring China into the OECD arrangement in a way that made it possible for long-term cooperation on issues beyond climate. Two months before COP21 in Paris, the U.S. made a fervent bilateral push with China. On 25 September 2015 the U.S. and China made a joint announcement that included a Chinese commitment on international coal finance:

[443] U.S. Department of the Treasury (11 July 2014). "UPDATED: U.S.-China Joint Fact Sheet Sixth Meeting of the Strategic and Economic Dialogue". Available: http://www.treasury.gov/press-center/press-releases/Pages/jl2561.aspx.

> "China – one of the largest providers of public financing for infrastructure worldwide – agreed to work towards strictly controlling public investment flowing into projects with high pollution and carbon emissions both domestically and internationally"[444].

The terminology "strictly controlling" and "high…carbon emissions" left substantial room for interpretation (including timeline, supercritical versus ultra-supercritical versus CCS) and had even less specificity than Obama's Climate Action Plan. The concession was sufficient to stimulate a full diplomatic push from the U.S. to secure agreement at the OECD.

The Chinese commitment focused attention on Japan[445], which had previously pointed to its regional competitor in justifying its continued export finance. E.U. officials saw it as stimulating momentum toward an OECD agreement.

Japan, Korea and Australia each took turns as a holdout on the agreement. Korea and Japan wished to retain a large market for export of high efficiency coal equipment, and Australia – which does not export coal equipment but coal itself – did not want to appear to discriminate against coal specifically else it might damage relations with its major coal export markets.

The U.S. objective was to make essentially anything but an ultra-supercritical power plant ineligible for government export subsidies or multilateral assistance. The U.S. hoped to copy and paste its own new domestic carbon guidelines to the other ECAs at the OECD. The September

[444] White House (2015). "The United States and China Issue Joint Presidential Statement on Climate Change with New Domestic Policy Commitments and a Common Vision for an Ambitious Global Climate Agreement in Paris". *Office of the Press Secretary*. Available: https://www.whitehouse.gov/the-press-office/2015/09/25/fact-sheet-united-states-and-china-issue-joint-presidential-statement.

[445] Lewis, B. & Volvovici, V. (20 September 2015). "China 'highly polluting project' decision to spur coal subsidy talks". *Reuters*. Available: http://www.reuters.com/article/us-coal-oecd-subsidies-idUSKCN0RU12820150930.

2013 Final New Source Standards specify an emissions limit of 1400 lbCO_2/MWh (~635 gCO_2/kWh) [446], presuming 20% carbon capture with supercritical pulverized coal[447]. This roughly corresponds to the potential efficiency of the most efficient ultra-supercritical power plants. The U.S. proposed a carbon intensity of 700 gCO_2/kWh in the negotiations[448], which would have made CCS a pre-requisite.

Japan was concerned that a CCS rule would have knock-on effects for Japan's domestic power market, and would make coal infeasible given that Japan's geology is poorly suited for CCS. Japan also successfully pushed the negotiations away from a strict intensity target, because thermodynamically an identical generator using identical coal could have higher emissions intensity if it were built in a warmer climate (like India) than in a cooler climate (like Germany). Instead negotiators distinguished Large (>500 MW), Medium (≥300 to 500 MW), and Small (<300 MW) plants; as well as technology types (from the lowest efficiency sub-critical to super-critical and highest efficiency ultra-supercritical; discussed more in Chapter 2).

A month after the U.S.-China announcement, Japan broke from South Korea and Australia making a joint proposal to the OECD that would have allowed finance for ultra-supercritical

[446] A provisional New Source Standard in September 2013 was around 476 gCO_2/kWh, but relaxed to 635 gCO_2/kWh in the final rule. U.S. EPA "Fact Sheet: Moving Forward on the Climate Action Plan. Available: https://www.epa.gov/cleanpowerplan/fact-sheet-moving-forward-climate-action-plan; and U.S. EPA (23 October 2015). "Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units; Final Rule". *Federal Register* 40 CFR Parts 60,70,71 et al. Available: https://www.gpo.gov/fdsys/pkg/FR-2015-10-23/pdf/2015-22837.pdf.

[447] U.S. EPA (14 September 2015). "EPA Fact Sheet: Carbon Pollution Standards – Final Limits on Carbon Pollution from New, Modified and Reconstructed Power Plants". Available: http://www.epa.gov/sites/production/files/2015-11/documents/fs-cps-overview.pdf.

[448] Author interview, December 2015.

generators with repayment over a period of 12 years [449], and supercritical generators smaller than 500 MW for a repayment period of up to 10 years. Ultra-supercritical generators constitute the majority of Japan's export pipeline (see Chapter 2), though the U.S. claimed the proposal would block 80 percent of the capacity in OECD countries' pipelines[450]. Australia meanwhile wanted exceptions for supercritical coal or higher in all but the upper income countries. South Korea – which had no plans to export ultra-supercritical generators – issued a counter proposal that would have put no restrictions on supercritical coal financing whatsoever[451].

At one point in the negotiations, there would have only been exceptions for "IDA-only" countries (referring to countries classified as lower-income by the World Bank). But this would have eliminated much of the market where demand is highest for coal – including India, Indonesia, Vietnam, the Philippines and Turkey. Korea and Australia were keen on seeing these markets stay open, particularly Australia. So the rule was changed to 90% energy access or below, which allowed for each of those markets except Turkey. Korea was ultimately brought in simply with strong-arm diplomatic pressure from the United States[452].

The OECD reached an agreement on 17 November, two weeks before the start of the Paris COP[453]. Coal advocates – including the World Coal Association – criticized the agreement

[449] Friedman, L. (10 November 2015). "NATIONS: U.S. and Japan to Announce Deal Curbing Coal Financing". Available: http://www.eenews.net/stories/1060026972.
[450] Friedman (10 November 2015), *Supra*.
[451] Friedman (10 November 2015), *Supra*.
[452] Author interview, December 2015.
[453] Friedman, L. (17 November 2015). "COAL: OECD Agrees to Phase out Export Financing". *Greenwire.* Available: http://www.eenews.net/stories/1060028148.

because recipients might choose inefficient domestic coal manufacturers over higher efficiency exports if export finance is not available[454].

Table 5.1: Maximum repayment term for OECD country officially supported export finance to different sizes and technologies of coal power generators. Table is based on Table 1 from OECD TAD/PG(2015)9/FINAL, modified to exclude full details of exceptions and cross-referencing to other OECD rules and annexes[455,456].

	Plant Unit Size		
Technology class	*Unit >500 MW*	*Unit ≥300 to 500 MW*	*Unit <300 MW*
Ultra Supercritical Steam conditions: >240 bar and ≥593°C OR Emissions Intensity <750 gCO2/kWh	12 years	12 years	12 years
Supercritical Steam conditions: >221 bar and ≥550°C OR Emissions Intensity 750-850 gCO2/kWh	Ineligible	10 years IDA-eliglble countries with ≤90% electrification rate only	10 years IDA-eliglble countries with ≤90% electrification rate only
Subcritical Steam conditions: <221 bar OR Emissions Intensity >850 gCO2/kWh	Ineligible	Ineligible	10 years IDA-eliglbe countries only

Coal rules succeeded despite conditions predicting their failure, in large part because of China's willingness to tether itself to the OECD agreement. The success may indicate the symbolic importance to the U.S. of an agreement, if only on paper, for demonstrating momentum leading to the 2015 Paris climate negotiations.

Eager to announce an agreement, U.S. officials ignored that as much as 90% of Japan's outward involvement in coal power would not be considered officially supported export credits, and therefore would not be covered under the agreement. Furthermore, while the World Bank made a commitment to limiting coal finance in all but the poorest countries immediately following

[454] Friedman, L. (18 November 2015). "NATIONS: U.S. Strikes Deal to Block Coal Plants Worldwide". Available: http://www.eenews.net/stories/1060028186.

[455] OECD (27 November 2015). "Sector Understanding on Export Credits for Coal-Fired Electricity Generation Projects". TAD/PG(2015)9/FINAL. Available: http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=tad/pg(2015)9/Final&doclanguage=en

[456] OECD (30 November 2015). "Sector Understanding on export credits for coal-fired electricity generation projects (CFSU)". Available: http://www.oecd.org/tad/xcred/cfsu.htm.

President Obama's 2013 pledge, the Asian Development Bank remains a viable pathway for Japan particularly to finance coal projects.

The success may also indicate a deeper shift. Historically, China has sought to maintain its reputation principally among developing states; willingness to avoid OECD opprobrium on coal finance may signal new flexibility in China's development ideology.

Cooperation between export credit agencies on implementation of environmental rules is particularly difficult because project-level changes are required, empowering recipients to undermine collusion between ECAs. The following chapter examines two critical cases of unilateral environmental rules at the U.S. Export-Import Bank, and how neither abstention nor engagement strongly influences project outcomes. As Chapter 5 has shown, cooperation among ECAs to collectively raise export finance standards is tenable. However, Chapter 6 will show that in a contested environment, without closely harmonized rules and expectations, progress is fragile.

Chapter 6 – *Mid Delegation*
Carbon recidivism in the contest for India

6.1 Introduction

The U.S. Export-Import Bank implemented new unilateral standards in 1995 (environment) and 2010 (climate). The first cases to be considered under each policy resulted in a conflict in the ExIm Bank's mandate, between export competitiveness and environmental safeguards – prompting a subsequent political battle. The two projects were similar in terms of the commercial goals they would serve and political coalitions supporting and opposing them, but they had different cooperative environments. In the 1995 Three Gorges hydropower project in China, the U.S. ExIm's competitors were long-time allies and the U.S. believed unilateral action could spur other ECAs to oppose the project on environmental grounds. In that case, the U.S. ExIm upheld its environmental policy. In the 2010 Sasan coal power project in India, the competitor was China, which had vigorously challenged U.S. and OECD export finance rules and was rapidly expanding political and power-sector cooperation with India at a time that the U.S. also had Indian diplomatic goals. The U.S. ExIm found a pathway to justify the Sasan coal project in the bounds of its Carbon Policy. *Was the decision to build the Sasan project motivated in part by China's contesting both the U.S. relationship in India and export finance rules?*

The different contested environments in the two projects set up a natural experiment that helps to understand the resilience of environmental policy in a contested environment – and a window to the U.S. strategic response to China's emergence in power sector finance. While circumstantial

evidence indicates the importance of the China-India relationship to U.S. policy adjustment, the research cannot exclude plausible alternative hypotheses, particularly the relative obscurity of the Sasan decision relative to the high profile Three Gorges Dam project.

Chapter 5 demonstrated that ECAs have been successful at reform when they are able to coordinate standards on financial packages that result in mutual cost savings for competing ECAs, despite inferior outcomes for recipients. Environmental reforms are harder to coordinate because they also involve changes to the project itself – and thus adjustment by recipients. In the case of export finance, where competition cannot be effectively controlled, ECAs find ways to evade their own policies.

What does China's contested export finance regime mean for the implementation of environmental policy at the U.S. ExIm Bank? This chapter examines two cases of environmental policy implementation immediately following U.S. ExIm creation of new unilateral standards on environment in strategic markets. The presence of a competitor with different interests and authority – China – is the explanatory variable and the U.S. ExIm Bank's policy adjustment is the dependent variable. China's growing provision of export finance for the power sector (Chapters 2, 4 and 5) outside the OECD regime has created a contested environment. The analysis claims that different contested environments – one project involving China as an export competitor, and the other involving traditional U.S. political allies as export competitors – contributed to different decision outcomes at the U.S. ExIm Bank.

The Three Gorges Dam project saw the U.S. uphold new environmental guidelines because doing so would not compromise U.S. success in a large pipeline of projects. U.S. firms would also still be involved in Three Gorges by piloting their bids through other governments' ECAs. Competitors were close U.S. allies, with a relationship of close coordination, except rules on the environment. In contrast, the Sasan coal project in India thirteen years later saw the U.S. ExIm circumvent its new carbon policy in part because the project would otherwise be built by China, which by that time was a U.S. competitor in India – a geopolitically strategic and commercial market. Losing the Sasan project would also be perceived as shutting the valve for U.S. firms on one of the world's largest pipelines of coal power projects (See Chapter 2). The analysis attempts to understand ExIm's perceptions of its competitive situation, to understand the underlying mechanisms through which rule making moving forward may be impacted by China's creation of a contested regime for export finance. China's contested export finance rules have created the conditions for backsliding, which one could call "carbon recidivism".

6.2 Three Gorges hydropower project in China

6.2.1 U.S. stands alone for the environment

The 1992 environmental mandate (Chapter 5) was formalized by the U.S. ExIm Bank only in 1995 after extensive consultation with environmental and exporter groups[457]. These Environmental Procedures and Guidelines (EPG) have resulted in only two cases being denied

[457] Becker, W.H. & McClenahan, W.M. Jr. (2003). "The Market, the State, and the Export-Import Bank of the United States, 1934–2000". *Cambridge University Press*, p.277.

by U.S. ExIm on environmental grounds[458]. The first was the Three Gorges Dam project in 1996, and the second was the Camisea natural gas development project in Peru in 2003[459].

Three Gorges is an instance where the U.S. held firm on its unilateral environmental priorities, despite conflicting judgment within the institution and intense pressure from stakeholders. China was a strategic growth market, the project would be built anyway, and there was a strong domestic lobby calling for ExIm's approval. The choice to uphold a unilateral environmental standard is itself a puzzle since project approval is the default at ECAs, and given that similar conditions led to a rejection of the Sasan project in 2010, though that decision was ultimately reversed.

The concept for the Three Gorges hydroelectric dam on the Yangtze River in China originated with China's president Sun Yat-Sen in 1912[460]. The project was developed significantly by the U.S. Bureau of Reclamation in the 1940s as part of U.S. initiatives to strengthen relations with China as a strategic partner in the region. The Three Gorges project was criticized as uneconomical by some of the U.S. planners, and the U.S. left in 1947 as China's civil war escalated[461]. The idea for a massive Yangtze dam was re-introduced in the 1950s by Mao Zedong with the Soviet Union provided technical support but again foundered under the weight

[458] United States (27 May 2013). "Environmental and Social Survey". U.S. submission to OECD. Available: http://www.oecd.org/tad/xcred/ess-2013-usa-eximbank.pdf [Accessed 9 February 2016].
[459] U.S. Embassy (28 August 2003). "Ex-Im Bank Rejects Financing Request for Peru Gas Project". Available: *http://iipdigital.usembassy.gov/st/english/texttrans/2003/08/20030828165544ikceinawza0.9938776.xml*.
[460] Qing, D., Thibodeau, J.W & Probe International (1998). "The River Dragon Has Come!: The Three Gorges Dam and the Fate of China's Yangtze River and Its People". *M.E. Sharpe*. Some sources say 1919 was the first year the dam was proposed. 中国国民党、亲民党、新党访问团相继参观三峡工程 (23 October 2006). Available: http://news.sina.com.cn/c/2006-10-23/113410303856s.shtml.
[461] Sneddon, C. "Concrete Revolution: Large Dams, Cold War Geopolitics, and the US Bureau of Reclamation". *University Of Chicago Press*, 2015. p.43-6.

of the project's technical and economic magnitude. China's Prime Minister Li Peng gave the project its final lift in the 1980s[462].

The U.S. Bureau of Reclamation got re-involved in the project at the behest of the Chinese Minister of Water Resources around 1983[463]. The project would be the largest impoundment dam in the world, capable of generating nearly 20 GW of electricity. The Bureau in coordination with the U.S. Trade and Development Program[464] (initially within USAID before becoming an independent U.S. government agency) prepared a proposal to provide China with US$4 million as a token toward the project as well as an offer to assist substantively in engineering and management. The U.S. government would offer its assistance in close coordination with U.S. firms having the clear expectation of commercial benefit. The Trade and Development Program saw Three Gorges:

> "as an opportunity to put some seed money into our private sector, with the expectation that Allis-Chalmers [now Voith Hydro] would get the turbines, and that Harza would get the engineering and Bechtel would do construction management, and Rotech *[sic]* would put conveyer systems, and Caterpillar would put tractors, etc"[465].

The U.S. and China envisioned a consortium that would also involve the World Bank and Asian Development Bank given the significant capital needs of the Three Gorges project[466]. As momentum for the project grew, so too did pressure from environmentalists, resulting in arrest of

[462] Stone, R. (2006). "Three Gorges Dam: into the unknown". *Science* 25: 1034.
[463] Guy, S.D. (1999). "Oral History Interview". Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Storey, Senior Historian, U.S. Bureau of Reclamation, at the Denver Federal Center, Colorado. Edited by Brit Allan Storey. Repository for the record copy of the interview transcript is the National Archives and Records Administration in College Park, Maryland. p.16.
[464] The U.S. Trade and Development Program was renamed Trade and Development Agency in December 1992 in the Jobs Through Export Act. The Program/Agency promotes U.S. foreign development goals while supporting U.S. commercial and export interests.
[465] Guy 1999, *Supra* p.25
[466] McParland, K. (19 December 1992). "China Forges Ahead with Three Gorges". *Financial Post*.

prominent activists and intellectuals opposed to the project within China[467], coinciding with the 1989 Tiananmen Square pro-democracy protests[468]. Three Gorges opponents pointed to unmitigated seismicity concerns and landslides, threats to endangered species, and displacement of 1.2 million people and submersion of culturally significant historical sites with a reservoir covering 630 square kilometers[469]. The newly inaugurated Clinton Administration grew concerned as opposition mounted from environmental and human rights advocates[470]. The U.S. government terminated its direct involvement with the Three Gorges project in December 1993[471], about a year before construction began in earnest. The Bureau Commissioner, Dan Beard, explained publicly and to the Chinese Government that there had been a pivot in perception about the economic role of dams in development[472] (also discussed in Chapter 7), and that it would be "hypocritical" for the U.S. to support a "visible symbol" of an abandoned water management methodology like the Three Gorges[473]. The directive to abandon the project had come from the Clinton Administration directly and took the Bureau officials by surprise. According to an interview with the International Program Head of the Bureau at the time, some in the Clinton Administration thought that because China wanted the Bureau and the Army Corps of Engineers involved, the U.S. decision to withdraw would push China to mitigate the environmental impacts or cancel the project altogether[474].

---

[467] Tan, L.H. (1 January 1990). "China Update: Dai Qing" *Index on Censorship* 19(1): 42.
[468] Dai, Q. (1994). "Yangtze! Yangtze!" *Earthscan*.
[469] Embassy of the People's Republic of China in the U.S. (Date unknown). "Some Facts about the Three Gorges Project". Available: http://www.china-embassy.org/eng/zt/sxgc/t36512.htm [Accessed 5 February 2016].
[470] Qing 1998, *Supra*.
[471] Gleick, P.H. "Three Gorges Dam Project, Yangtze River, China ". *Water Brief 3*, Available: http://worldwater.org/wp-content/uploads/sites/22/2013/07/WB03.pdf.
[472] Benjamin, R. (17 August 1994). "Chinese Dam Carries Symbolic Weight A Test of Power". *The Sun*.
[473] Kahn, J. (18 April 1994). "Asian Infrastructure (A Special Report) --- Big Dam or Big Bust?" *Asian Wall Street Journal*.
[474] Guy 1999, *Supra* p.28-29. The quote is as follows: "…because China wanted the Bureau and the Corps as government agencies involvement, some people in [the Clinton] Administration felt that we could use us as agencies, say, 'If you don't do a better job on environmental investigation and mitigation, we're going to pull out and kill your job.' Well, pretty naive, but this Administration can be pretty naive, but that was the idea,

The U.S. did not have so much sway. Other countries were courting China to develop the project from well beyond the U.S. Japan purportedly considered offering to pay large shares of the project, though ultimately decided against[475]. Simultaneous to U.S. involvement, the Canadian Government had funded and conducted an extensive technical and environmental assessment of the project for the Chinese Government between 1986 and 1988, with the World Bank serving to coordinate and supervise the study[476]. The Canadians had commercial interests in the Three Gorges project similar to the U.S., leading to accusations that the environmental review was compromised[477]. The World Bank ended its involvement after concluding that the project was not "an economically viable proposition"[478,479]. In the early 1990s Canada also withdrew from the project citing economic viability and population displacement.

Rather than be deterred as international official government support for the project crumbled, China redoubled its commitment to Three Gorges. The project became a symbol of national pride and engineering prowess in China[480], choosing to build it primarily with domestic resources, as well as any international concession financing made available to support equipment

---

seriously, that we could use involvement of the government agencies as a pawn to put pressure on China to have them do, either, one, a better job, or maybe, hopefully, not build the job. Pretty naive, but that was the thinking".

[475] Kahn 1994, *Supra*

[476] Fearnside, P.M. (1994). "The Canadian feasibility study of the three gorges dam proposed for China's Yangzi River: a grave embarrassment to the impact assessment profession". *Impact Assessment* 12(1): 21-57.

[477] Fearnside 1994, *Supra*.

[478] Original quote not available in current World Bank sources. Cited in Kahn, J. (20 April 1994). "Dammed Yangtze: Despite Vast Obstacles, Chinese Move to Tap Power of Historic River --- Giant Hydroelectric Project Would Displace a Million And Create an Inland Sea --- Raising Money Is Difficult". *Wall Street Journal, Europe*; Also Kojima, Y., Murai, K., Pang, H. & Vitale, E. (Spring 1998). "The United States, China And The Three Gorges Dam: Toward A Sounder Foreign Environmental Policy". *Journal of Public and International Affairs* 9: 145–66.

[479] Fearnside, P.M. (May 1988). "China's Three Gorges Dam: 'Fatal' Project or Step toward Modernization?" *World Development* 16(5): 615–30.

[480] The president of the project developer, the Three Gorges Corporation, is quoted as saying: "Very few countries could build a dam of this size. China has the ability". in Kahn 1994, *Supra*.

contracts. Indeed foreign firms began to line up to build parts of the project[481]. Three Gorges received the support of China's People's Congress in 1992 and construction began in 1994. In November 1994, less than a year after the U.S. and World Bank tried to turn international opinion against the project by withdrawing their support, Canada's new Prime Minister Jean Chrétien renewed Canada's backing to the project during a trade visit to Beijing. The move prompted accusations that Chretien backtracked on previous denunciation of the dam's environmental impacts in order to temper a rising separatist movement in Quebec – home base of Canada's hydroelectric industry[482]. The Canadian ECA lined up behind General Electric Canada's bid for equipment contracts. An international export credit race ensued.

6.2.2 Export finance for the Three Gorges Project

In the 1990s China's growth outlook for the power sector was the largest in the world and attracted international firms and technology through foreign direct investment and technology partnerships[483,484]. Long before China began providing export credits (the subject of much of this thesis), as a massive export market China was a complicating factor in OECD countries wishing to adhere to export finance disciplines. Because of China's unilateral market power to play one

[481] McGregor, J. (19 January 1993). "China Bulldozing Ahead on Dam Despite Opposition --- Three Gorges Plan Minimizes Imports To Reduce Environmentalists' Clout". *Wall Street Journal, Eastern Edition*.
[482] Johnson, I. (31 December 2007). "Politics & Economics: Canada's Aid Seeded China Dam; Study Steered Contentious Three Gorges, but Warnings Existed". *Wall Street Journal*.
[483] Tan, X. & Seligsohn, D. (2010). "Scaling up low-carbon technology deployment: Lessons from China". *World Resources Institute*.
[484] Yue, L. (2012). "Dynamics of clean coal-fired power generation development in China". *Energy Policy* 51: 138-42.

ECA off the other, China was often "a complicity partner in intensifying export credit competition"[485].

China was explicit in its intention to take the project forward even if its international supporters were fickle. One of the Three Gorges technical project leaders in China, Yu Shizhong said that to hedge against the risk of governments and international institutions abandoning the project under environmental pressure:

> "[In] our cost structure, we have accounted for the minimum amount of imports we can get by with. If foreign loans are blocked, we are prepared to use our foreign exchange reserves"[486].

The China Development Bank financed a majority of the long-term loans for the project[487], though it had difficulty finding foreign private underwriters because of reputational risk[488]. Despite U.S. government withdraw from equity financing and planning of Three Gorges, U.S. private firms coordinated with the project developer – China Yangtze Three Gorges Project Development Corp – throughout the planning process, hoping to secure commercial contracts. In 1995, two firms indicated to the U.S. ExIm Bank that they would be expected by the Chinese government to bid for equipment and management contracts with backing by officially supported export credits. U.S. ExIm knew that other U.S. companies would be lining up for U.S. export support as well.

---

[485] Evans & Oye 2001, *Supra* p.137

[486] McGregor, J. (19 January 1993). "China Bulldozing Ahead on Dam Despite Opposition --- Three Gorges Plan Minimizes Imports To Reduce Environmentalists' Clout". *Wall Street Journal, Eastern Edition*.

[487] Sanderson, H. & Forsythe, M. (2012). "China's superbank: debt, oil and influence-how China Development Bank is rewriting the rules of finance". *John Wiley & Sons*, p.62.

[488] Webber, M. (May 2012). "The Political Economy of the Three Gorges Project". *Geographical Research* 50(2): 154–65.

The outgoing Chairman of the Bank at the time, Kenneth Brody, requested that the Clinton Administration offer guidance on Three Gorges, given the complex U.S. history with the project. An independent review of U.S. export subsidies for the project was initiated by the National Security Council (NSC). In a leaked memo, the NSC advised ExIm against financing the project in October 1995[489], citing potential environmental and human rights abuses[490]. The White House weighed in publicly with its own letter expressing concern that the project would prompt protracted legal challenges by environmental groups against ExIm[491]. Secretary of State Warren Christopher re-iterated the White House view to ExIm officials a week before the Bank was expected to make a decision[492].

The Administration's position against Three Gorges prompted industrial lobbying and pressure from Congress on Kamarck to approve the project. The Chinese government communicated clearly that the project would proceed with or without U.S. involvement. Caterpillar's group president James Owens is quoted as saying that:

> "The dam's construction is currently well underway. The only question that remains is from which country the Chinese will buy needed capital equipment. We want the same opportunity to compete for this business as our competitors in Japan, Europe and Canada"[493].

The ultimate decision was left to U.S. ExIm as an independent agency. Since export credit subsidy rules were tightened at the OECD in the 1980s, the U.S. congress had amended U.S.

[489] Kmpster, N. (15 Octobr 1995). "U.S. to Block Aid for China Dam Project". *Los Angeles Times*. Available: http://articles.latimes.com/1995-10-15/news/mn-57290_1_dam-project.
[490] Dunne, N. (12 December 1995). "US Export-Import Bank Pressed on China Dam Finance". *The Financial Times*.
[491] Blustein, P. (14 October 1995). "White House Against U.S. Funds for Chinese Dam". *The Washington Post*.
[492] Cooper, H. (31 May 1996). "Ex-Im Bank Snubs Chinese Dam Project". *Wall Street Journal, Eastern Edition*.
[493] Agence France Presse (1 December 1995). "Caterpillar urges US government support for dam contracts". *LexisNexis Academic*.

ExIm's charter to ensure it was "fully competitive" and less prone to political manipulation[494]. However, because the Chairman at the time, Martin Kamarck, had been a controversial Clinton recess appointee[495], for Kamarck to override the Administration's strong preference would have been unlikely.

Administration officials were keenly aware of the commercial and diplomatic repercussions of rejecting financing for such a massive project in a critical growth market for U.S. business, creating tension in advance of a White House visit by Chinese Premier Jiang Zemin. The President of the Three Gorges project developer chided the U.S. that "if the decision…means anything, it will be a major setback for power-equipment makers in the United States"[496], but not for U.S. competitors or the project. Chairman Kamarck and staff involved with the environmental evaluation visited Beijing to soften the impending ExIm decision. According to Kamarck[497] the visit ameliorated concerns among Chinese officials that the U.S. did not value China's business, allowing the ExIm to take a hard line environmentally while making clear that ExIm would be a partner in future projects. This view was consistent with the NSC memo, which purportedly stated that "the U.S. Government should refrain from publicly condemning the Three Gorges project"[498].

[494] Rodriguez 1987, *Supra* p.19. The current bill language reads as follows: "To meet this objective in all its programs, the Export-Import Bank is directed…to provide guarantees, insurance, and extensions of credit at rates and on terms and other conditions which are fully competitive with the Government-supported rates and terms and other conditions available for the financing of exports of goods and services from the principal countries whose exporters compete with United States exporters, including countries the governments of which are not members of the Arrangement (as defined in section 635i–3(h)(3) of this title)"
[495] Becker & McClenahan 2003, *Supra* p.277.
[496] Hongyong, L. (25 October 1995). "US Decision Won't Hurt Dam Plan Three Gorges Project Proceeds". *China Daily*.
[497] Interview with Chairman Martin Kamarck (14 September 2000). *In* Becker & McClenahan 2003, *Supra* p.279.
[498] Inserted testimony from Manzullo (5 June 1996). Congressional record – House. P.13120.

At this stage it was made clear that the U.S. neither hoped to stop the project, nor to prevent U.S. companies from profiting. In blocking ExIm's involvement in the project, Kamarck hoped that firms would remain competitive enough to allay expected Congressional and industry anger:

> "This decision does not in any way limit or impede U.S. companies from doing business in the Three Gorges project on private terms and with financing from other sources"[499].

On 30 May 1996, ExIm formalized its opposition to the project by declining to issue a Letter of Interest to Caterpillar for the project[500,501]. In a public statement, ExIm Bank outlined specific measures that – if "addressed, resolved, and/or mitigated" – could prompt the ExIm Board to reconsider its decision. ExIm claimed that China was not forthcoming with this information when requested[502]. ExIm staff had indicated to the Board that in most cases, the requested environmental and human impact information simply did not exist[503], leaving the U.S. with no justification for claiming satisfaction of the 1992 environmental guidelines[504]. According to ExIm officials, the environmental impact assessment scarcely addressed the potentially serious consequences of the project[505], including water quality issues, endangered species, and human rights of displaced people[506].

---

[499] Chairman Martin Kamarck (30 May 1996), quoted by Vásquez, I. "Testimony: The Export-Import Bank, 1997". *Subcommittee on International Finance Committee on Banking, Housing and Urban Affairs U.S. Senate.* Available*:* http://www.cato.org/publications/congressional-testimony/exportimport-bank#FOOTNOTE_6.

[500] U.S. ExIm Bank. "Annex – Timeline: History of Ex-Im Bank's Environmental Guidelines".

[501] The Letter of Intent is used by the potential exporter to show that export finance or a loan guarantee is likely to be forthcoming in negotiations with the project developer or lender. U.S. ExIm. Information sheet: Letter of Interest. Available: http://www.exim.gov/tools-for-exporters/applications-forms/letter-of-interest/sample-letter-of-interest-and-terms-sheet. [Accessed 11 January 2016].

[502] Author interview, May 2015

[503] Statement of the Board of Directors of the Export-Import Bank of the United States (30 May 1996). As recorded in U.S. House on 5 June 1996. p.13122.

[504] Author interview, May 2015

[505] Author interview, May 2015

[506] Becker & McClenahan 2003, *Supra* p.278

Project advocates questioned ExIm's justification. U.S. Rep. Ray Lahood (R-IL), whose district represents Caterpillar, countered that his office staff had inquired "repeatedly" to ExIm whether more information was needed for review of the project, and that the Bank said it "had enough information to make a recommendation"[507]. Furthermore, it was generally recognized that the most serious environmental and human impacts of the project at the planned scale could not be easily mitigated, so more information would have been unlikely to change the calculus. The ExIm Bank analysis itself found no serious financial or technical issues with the project, in contradiction to the World Bank's position[508].

6.2.3 Perceptions of U.S. competitive loss

The perceptions of U.S. competitiveness appears to have been a relevant factor to the decision-making within ExIm, as well as for Administration and congressional stakeholders.

While the U.S. knew it could not stop the project from proceeding, the U.S. was hopeful that its decision to withhold financing would embolden the ECAs of its close European and Japanese allies to follow along with a similarly hard line on the lack of environment and social safeguards in China. No other country at the OECD had agreed to environmental guidelines as strict as those of the U.S., but the U.S. carried substantial diplomatic gravity. Competitor ECAs were aware of Canada's ECA support, which U.S. ExIm tried to downplay as an outlier. ExIm's public statement on Three Gorges indicated that "only" Canada had made a government-

[507] Lahood (5 June 1996). Congressional record – House. p.13117.
[508] Export-Import Bank of the United States (1996). "Frequently asked questions about the Three Gorges Dam Project". Available: http://www.exim.gov/3gorges.html (Revised 5 June 1996 – website not active as of October 2016). Cited in Kearins, K. & O'Malley, G. (September 1999) "International Financial Institutions and the Three Gorges Hydroelectric Power Scheme". *Greener Management International* 27: 85.

supported finance offer, and that the U.S. was aware that requests for financing "may have been made to one other" government ECA[509], presumably Japan.

Supporters of the ExIm decision in the U.S. House parroted this reassurance, saying that the decision's competitiveness impact was ameliorated by the fact that only Canada was supporting the project. During a heated exchange about the U.S. refusal to offer export credits to the project in the House of Representatives, Rep. Nancy Pelosi (CA) remarked that "only one other country, Canada, is providing the financing that is referenced in this debate"[510]. Pelosi had been a longstanding advocate of extra-territorial application of U.S. laws by U.S. firms. Rep. Charlie Wilson (TX) added, in response to the decision's opponents: "[Are the critics] aware that the only other government in the world that is furnishing financial support for the Three Gorges Dam is Canada? It is not Germany, it is not Japan, it is not France"[511].

Those critics responded that media outlets, industry sources, and the Chinese government had all indicated that Japan, Germany, the UK, and France were indeed under domestic pressure to provide government export finance to support their firms' bids at Three Gorges, in addition to Canada. Presumably ExIm would have been aware of this. Rep. Dennis Hastert (R-IL) lamented "$1 billion in exports and 19,000 American jobs at stake" and disadvantages for U.S. companies against German, Japanese, Russian and Canadian competitors supported by export finance. These remarks were embellished with some geopolitical flare; there is no available evidence that

[509] The statement by Chairman Martin Kamarck (5 June 1996) read: "we currently are aware of only one official government-supported financing offer for sales to this project. It comes from EDC, the Canadian export credit agency. In addition, we also understand that requests for financing may have been made to one other export credit agency. We are not aware of any other governments which have made financing offers to this project." *In* Congressional record – House. p.13122.

[510] Pelosi (5 June 1996). Congressional record – House. p.13121.

[511] Wilson (5 June 1996). Congressional record – House. p.13120.

Russia's ECA – which is not a participant in the OECD Arrangement – was considering providing export credits.

The U.S. rejection would not be a total loss to the U.S., regardless if competitor ECAs in Europe and Asia provided export credits. If those countries rejected China's overtures and withheld public finance siding with the U.S., it would be a U.S. diplomatic success on environmental conditionality and would allow U.S. firms to compete with European and Asian competitors on an even playing field, without government backing. However, if European and Asian governments provided finance, U.S. firms could still route their bids through foreign subsidiaries and manufacturing hubs – remaining competitive despite U.S. ExIm's decision. Therefore U.S. industrial demands would not suffer substantially either way – while ExIm could take the moral high road on the project's impacts. The U.S. decision and nature of the announcement left open both pathways. Meanwhile, painting Canada as the only country providing export finance exposed it to ostracism in the international community, hoping that other countries would converge around the U.S. This also explains why the U.S. decision came several months before the deadline for governments to assemble export finance behind firm consortia making bids for Three Gorges.

Japan's diplomatic relationship with China had been strained by China's nuclear tests in August 1995 and confrontation over contested islands in the East China Sea. However, China was Japan's largest export finance destination, and Japan sought to strengthen relations with Beijing and Washington simultaneously, out of concern that U.S. rapprochement with China would

weaken the U.S. alliance with Japan[512]. Japan and Europe were also in competition with the U.S. to strengthen relations with China, commercially and politically. Following the U.S. ExIm announcement on Three Gorges, Japan publicly hesitated on providing export finance claiming to be examining the environmental risk and concern over forced relocation[513,514], deflecting U.S. diplomatic pressure[515]. The UK's Export Credit Guarantee Department and Germany's ECAs Hermes and KfW were mute on the project immediately following the U.S. decision[516]. In October, Germany broke the logjam by promising finance through KfW claiming confidence that the Chinese government would adequately address environmental and humanitarian issues[517,518]. Japan followed in December 1996 as Japan Export-Import Bank offered support to its exporters making bids for Three Gorges contracts[519]. Within days, the UK said that it would not hold up export finance on environmental or human rights grounds, after consultations at the "highest level" within the British Government[520]. Switzerland and Sweden eventually also provided credits[521].

The missed export opportunity was seen in the U.S. Congress as continuation of a trend whereby politics was undermining competitiveness. U.S. civilian nuclear cooperation with China's booming nuclear power market had been suspended by sanctions following the Tiananmen

[512] Johnstone, C.B. (1998). "Japan's China Policy: Implications for U.S.-Japan Relations". *Asian Survey* 38(11): 1067–85.
[513] The Daily Yomiuri (18 December 1996). "Agency Frets over Three Gorges Ecological threat".
[514] Quote associated to Bank governor Hiroshi Yasuda (6 December 1996). "Japan's Ex-Im Bank chief defers on Three Gorges Dam backing". *Agence France Presse*. LexisNexis Academic.
[515] Glain, S. (2 October 1997). "Europe Inc. Muscles Aside the U.S. and Japan in Asia --- Government Loans and Lobbying Help European Firms Win Big Public Projects". *Wall Street Journal, Eastern Edition*.
[516] "US Ex-Im Stands Alone on Three Gorges". (1996). *Project & Trade Finance* 159:18.
[517] "Germany Backs Dam Project but Other Nations Shy Away". *South China Morning Post*. October 27, 1996.
[518] Tong, T. (24 September 1997). "Gorges Project Loans Signed". *China Daily*, North American ed.
[519] Asian Wall Street Journal (19 December 1996). "Japan Bank Floats Bid To Credit Dam Project".
[520] Kohli, S. (20 December 1996). "UK dam bids may secure guarantees". *South China Morning Post.*
[521] Johnson, I. (31 December 2007). "Politics & Economics: Canada's Aid Seeded China Dam; Study Steered Contentious Three Gorges, but Warnings Existed". *Wall Street Journal*.

Square protest violence and concerns about China's export of dual-use technology. U.S. industry was already frustrated by the forfeit of nuclear reactor sales to French, Russian and Canadian companies backed by export finance[522]. The failure of this unilateral nuclear sanctions policy only heightened sensitivity to doing the same in another key sector on environmental grounds.

The U.S. trade deficit with China was also growing quickly. President Clinton had just extended Most Favored Nation status to China through an executive order, which would exacerbate the imbalance. There was a perception that the U.S. was being ideological to such an extent that it undermined important commercial and diplomatic interests. By forfeiting business to international competitors, the ExIm decision would strengthen competitors' relationships with China diplomatically and for later business[523].

The congressional frustration over the project threatened to implode on ExIm. Just days after the Three Gorges rejection, U.S. Rep. Don Manzullo (IL) joined others in proposing an amendment to the Appropriations bill that would reduce the budget of the ExIm Bank implicitly in response to the Clinton Administration's politicization of the Bank over the environment[524, 525].

[522] Opening statement by U.S. Senator Frank Murkowski (R-Al), Chairman. (23 October 1997). "U.S.-China relations: hearing before the Committee on Energy and Natural Resources, on peaceful nuclear cooperation with China". *United States Senate*, 105th Congress, first session: I-50.

[523] Singleton, S. & Griswold, D.T. (1999). "Economic Casualties: How U.S. Foreign Policy Undermines Trade, Growth, and Liberty". *Cato Institute*.

[524] The amendment would reduce ExIm's appropriation from US$47.6 million by US$3.136 million. While Rep. Manzullo claimed the amendment was an effort to cut agencies fairly across the government, Rep. Wilson questioned: "I know the gentleman from Illinois [Mr. Manzullo] is a forthright Member of this House. However, I would like to ask the gentleman a question, and that is, if the Three Gorges Dam had been approved, would the gentleman be here today with this amendment?" Wilson, Congressional record (5 June 1996). *House*, p.13120.

[525] Lahood. Congressional record (5 June 1996). *House*, p.13117.

Congressional advocates called for ExIm to revisit the Three Gorges decision[526]. The U.S. had ample opportunity into late 1996 as competitor export packages were announced.

As anticipated at the time of the ExIm decision and as threatened in the days after, the debate continued well into the ExIm Bank's 1997 Reauthorization, which was otherwise largely non-controversial. Rep. Manzullo objected to ExIm's choice to take direction from the Clinton Administration, rather than focusing on its Congressionally-established mandate. He said, "I don't know how clear Congress can be that you only have the latitude that Congress gives you"[527]. The congressional debate over reauthorization occurred before China had accepted final bids from international consortia supported by Export finance, creating the impression it was not too late for the U.S. to change course. Rita Rodriguez, the President of the ExIm Bank, defended the ExIm position as "easily one of the toughest decisions I have been confronted with at the Bank in my nearly 15 years of service at the Board"[528]. Rodriquez went on to defend the ambiguity in how the environmental guidelines conflict with ExIm's competitiveness mandate:

> "[The Three Gorges case was] a clear conflict between two mandates that we have, one to be fully competitive – clearly there was competition, clearly we knew there will be more competition – but it is also a mandate to look at the impact of the exports we support on the environment, so we did"[529].

According to ExIm officials in later interviews, the decision had caused serious internal conflict within the ExIm Bank[530]. Publicly, ExIm had always left open the potential for reversing the decision, but China was not forthcoming with new information: "We asked for the information.

[526] Manzullo. Congressional record (5 June 1996). *House*, p.13116.
[527] Manzullo (Reauthorization 29 April 1997). *Supra* p.14.
[528] Rodriguez, R. (Reauthorization 29 April 1997). *Supra* p.14.
[529] Rodriguez, R. (Reauthorization 29 April 1997). *Supra* p.14.
[530] Author Interviews, May 2015

We continue asking for the information. We are waiting for it"[531]. New information never came.

Three Gorges proceeded with US$600 million in export credits supporting US$1.1 billion in foreign contracts from Canada, France, Germany and the U.K., still a small share of the overall project, estimated to cost well over US$25 billion[532]. The U.S. industry could only balk so much. U.S. firms participated in multi-million dollar deals despite ExIm's decision[533], and were on paper the largest beneficiaries of Three Gorges contracts[534]. Because U.S. firm involvement dated back to the late 1980s when the Bureau was involved, much U.S. business proceeded but was shuttled through foreign ECAs[535].

Caterpillar claimed that it lost US$200 million in business to European and Japanese competitors. Rotec, an Illinois based firm that supplies concrete conveyor systems, meanwhile had submitted proposals for over US$143 million of U.S. manufactured equipment but only received US$65 million in orders. The remainder went to a Japanese-French consortium, which Rotec claimed had never before supplied a similar product, but now would have a competitive advantage in the Chinese market. Rotec sub-contracted US$15 million of contracts through a Korean company upon the urging of China Yangtze Three Gorges Project Development Corp in order to take advantage of Korea Export-Import Bank, instead of manufacturing in the U.S. – a

[531] Rodriguez, R. (Reauthorization 29 April 1997). *Supra* p.14.
[532] Evans & Oye 2001, *Supra* p.137.
[533] Kempster, N. (15 October 1995). "U.S. to Block Aid for China Dam Project". *Los Angeles Times*, Available: http://articles.latimes.com/1995-10-15/news/mn-57290_1_dam-project.
[534] China Daily, North American Ed. (25 October 1997). "Dam Project to Spend $1b on US Equipment".
[535] Tomlinson, R. & Kahn, J. (10 November 1997). "Dam! America Misses Out On The World's Biggest Construction Project". Available: http://archive.fortune.com/magazines/fortune/fortune_archive/1997/11/10/233818/index.htm.

first for the company[536]. Voith Hydro (formerly Allis-Chalmers) re-routed its bid through its German parent Siemens, which won an US$85 million contract[537]. General Electric remained an important project partner through its Canadian subsidiary.

Between approval of the Environmental Guidelines & Procedures in 1995 – discussed earlier – and the ExIm Bank's 1997 reauthorization in Congress, the ExIm Bank had considered the environmental effects of about 120 export applications[538]. During that period only Three Gorges was rejected on environmental grounds. Motivated by the Three Gorges decision[539], U.S. Sen. Frank Murkowski (AL) introduced legislation in October 1998[540] that would prohibit ExIm from withholding export finance on environmental grounds in cases where any other G-7 country were also providing similar support[541]. Although the bill did not leave committee, it reflected the political salience of foregoing competitive export finance on environmental grounds. The Three Gorges case gave momentum to efforts by the U.S. to multilateralize the 1992 environmental policy at the OECD – which gave rise to the Common Approaches agreement in 2002. The goal was to prevent a repeat of Three Gorges.

[536] Ledger, Steve. Written Testimony to the House Subcommittee on Tax, Finance and Exports. Rotec Industries. 24 June 1999. *In* Subcommittee on Tax, Finance, and Exports of the Committee on Small Business (24 June 1999). "Do Unilateral Economic Trade Sanctions Unfairly Penalize Small Business?" *House of Representatives*, 106th Congress, First Session, Washington DC.
[537] Senate. *Congressional Record* 144 (1 October 1998): S11282.
[538] Rita Rodriguez, prepared testimony (Reauthorization 29 April 1997). *Supra* p.14
[539] 144 Cong Rec S 11279 (1 October 1998). Statements On Introduced Bills And Joint Resolutions. 105- 2, Vol. 144 No. 135 p.S11279.
[540] U.S. Senate (15 October 1998). "Export–Import Bank and the Environment". Congressional Record 144: S12639.
[541] U.S. Senate (1 October 1998). *Congressional Record* 144: S11282.

6.2.4 Three Gorges analysis

The U.S. ExIm rejected the opportunity to support the Three Gorges project. It was the first implementation of ExIm's 1992 environmental guidelines, following strong pressure from the Clinton Administration as a voice for environmental advocates. The decision also sought to take a hard line on China's lack of human rights safeguards. Despite Congressional and industrial pushback, and conflict within ExIm, the decision was upheld. There were several mitigating factors. When the U.S. made its decision, it thought it was plausible that allies in Europe and Japan would take a similarly hard stance on the environment. Although they did not, the commercial loss was ultimately modest, as industry was able to win contracts through foreign subsidiaries. Japan and Europe were both interested in getting a foothold in the Chinese market, though it is unlikely U.S. policymakers were viewing missed opportunity costs as relative to the gains of OECD counterparts. Furthermore, ExIm Bank knew even if it upheld its rejection of Three Gorges, it would still have a steady stream of business in China's hydropower sector beyond Three Gorges, allaying fears that the project would cause an existential threat in the 1997 Reauthorization. Indeed, within a month of the U.S. ExIm refusal to issue the Three Gorges Letter of Interest, the Clinton Administration signaled its approval for China's 1.8 GW Xiaolangdi dam on the Yellow River[542], which an ExIm official publicly called "environmentally friendly"[543].

[542] The project displaced around 200,000 people, and also involved the World Bank in financing. "Xiaolangdi Hydroelectric Power Plant". *Power Technology*. Accessed January 31, 2016. Available: http://www.power-technology.com/projects/xiaolangdi/.

[543] Agence France Presse (5 July 1996). "US Export-Import bank to approve financing for Chinese dam". *LexisNexis Academic*.

6.3 Sasan Ultra Mega coal power in India

6.3.1 U.S. backslides in a contested environment

Pressure from environmental groups on U.S. ExIm was persistent through the 1990s, and over time shifted focus to the climate implications of ExIm financed projects. A lawsuit brought by Friends of the Earth and Greenpeace against both U.S. ExIm and OPIC in late 2002 argued that both institutions are required under NEPA to consider carbon emissions in their international financing activities. ExIm claimed that direct emissions from its projects were insignificant globally, and could not amount to more than 0.8% of the global total in the year 2001. FOE, however, argued that OPIC and ExIm-financed projects accounted for as much as 7.3% of global greenhouse gas emissions if indirect emissions were included[544]. To this, the Bank countered that "virtually all of the projects [that ExIm supports] would have gone forward even if Ex-Im Bank financing had not been forthcoming". But the court did not agree[545]. The result of the case is the origin of the ExIm Carbon Policy.

After seven years of litigation, the settlement in 2009 (shortly after President Obama's inauguration) required that ExIm within 60 days begin providing information of the CO_2

[544] Supplemental Declaration of Richard Heede, p.4, 11-13 & Att. A, *In* Friends Of The Earth, Inc., et al., v. Robert Mosbacher, U.S. District Court for the Northern District of California, 30 March 2007.

[545] Critical to the case was whether U.S. ExIm involvement in projects constituted a "major federal action" and whether an agency providing finance for a project "can influence or does possess actual power to control non-federal activity". ExIm used the defense that their financing constituted a small portion of the overall projects, and that "virtually all of the projects would have gone forward even if Ex-Im Bank financing had not been forthcoming" (A.R. Tab 2 at 34). The court found that because ExIm can withhold financing on environmental concerns (by its statute 12 U.S.C. § 635i-5(a)(2)), ExIm is able to exercise some influence over the projects and project developers. This defense justifies the Bank's environmental impacts on the grounds that the project would have proceeded anyway, and in this way the Bank does not have power over the outcome by nature of available alternate Banks. See Friends Of The Earth, Inc., et al., v. Robert Mosbacher 2007, *Supra*.

emissions on potential transactions for consideration by the Board of Directors, and a judgment on the necessity of a NEPA review. ExIm was also required to develop a carbon policy. The court ruled that while ExIm must present the proposed policy to the Board requesting approval, "Ex-Im Bank's staff cannot control the Board's ultimate disposition of its request"[546], giving the Board some flexibility in how the policy is implemented. Finally, ExIm was also required to take a "leadership role" in promoting consideration of climate change "within the OECD and amongst export credit agencies…in a manner that ensures a level playing field"[547].

The ruling came when the U.S. government's attitude regarding carbon-intensive finance abroad had already "shifted dramatically" with the Obama Administration's entry[548]. Obama signaled receptivity following decades of pressure regarding public finance for coal at international financial institutions, including the multilateral development banks[549]. In April 2008 the International Financial Corporation (a private-sector lending facility of the World Bank Group) controversially invested in a 4 GW supercritical coal project called Tata Mundra[550] (as discussed in Chapter 2). The World Bank Group was once a leading financier of coal power infrastructure globally[551] but had begun moving away from coal by adding renewable energy mandates and providing general power sector policy support instead[552]. Before the Tata Mundra storm had settled, the Bank was considering another project of similar magnitude in South Africa.

[546] Friends of the Earth, Inc., et al. v. Spinelli, et al. (Civ. No. 02-4106, N.D. Cal.)
[547] Friends of the Earth, Inc., et al. v. Spinelli, et al. (Civ. No. 02-4106, N.D. Cal.)
[548] U.S. ExIm Bank Engineering & Environment and Structured Trade Finance Divisions (9 June 2010) "Memorandum to the Board of Directors. AP084337XX, India. Sasan Coal Fired Power Plant – High Carbon Intensity Project". Freedom of Information Act request # 201500065F.
[549] Rich, B. (2009). "Foreclosing the Future: Coal, Climate and Public International Finance". *Environmental Defense Fund*, New York.
[550] "Green Groups Oppose World Bank's India Coal Plant". *UPI Arabia 2000,* 8 April 2008. Available: http://search.proquest.com.ezproxy.princeton.edu/docview/467950355?accountid=13314.
[551] Rich, B. (1994). "Mortgaging the earth: The World Bank, environmental impoverishment, and the crisis of development". *Island Press*.
[552] Nakhooda, S. (1 September 2011). "Asia, the Multilateral Development Banks and Energy Governance". *Global Policy* 2: 120–32.

The International Bank for Reconstruction and Development (IBRD, the mid-income division of the World Bank Group) brought forward the Medupi supercritical coal project in 2009[553]. To pre-empt the Medupi debate, the Obama Administration developed guidance on when it was appropriate for MDBs to be involved in coal fired power generation. The policy was drafted in summer 2009 and released in December 2009 after substantial stakeholder consultation[554].

Controversy over whether the U.S. would use its power to stop approval of the IBRD loan for Medupi prompted the project developer, Eskom, to add a "sweetener" of 100 MW in renewable capacity. This made a "no" vote on the project costly to project opponents in the U.S. and Europe. The World Bank Board approved the project in April 2010, though the U.S. triggered its new coal guidelines and abstained from the vote, signaling its disapproval without blocking the project. The U.S. Treasury issued a statement that the project was "incompatib[le] with the World Bank's commitment to be a leader in climate change mitigation and adaptation"[555]. After intense debate the UK had also abstained from voting. The U.S. opposition to the projects caused tremendous tension with recipient governments, which were closely coordinated on the issue of coal finance, perceiving developed countries as being hypocritical for opposing coal project in energy poor countries while relying on such plants domestically. The U.S. said in a statement that Medupi should be the last World Bank engagement of its kind in a middle-income country:

"We expect that the World Bank will not bring forward similar coal projects from

[553] The project was also receiving export finance from German ECAs. "South Africa Infrastructure Report - Q1 2009". *Business Monitor International,* UK, p.36.
[554] U.S. Treasury (14 December 2009). "Guidance to MDBs for Engaging with Developing Countries on Coal-Fired Power Generation".
[555] Friedman, L. (9 April 2010). "South Africa Wins $3.75 Billion Coal Loan". *Climatewire* via *The New York Times*. Available: http://www.nytimes.com/cwire/2010/04/09/09climatewire-south-africa-wins-375-billion-coal-loan-17887.html.

> middle-income countries in the future without a plan to ensure there is no net increase in carbon emissions"[556].

Amidst the discussions raised by these projects, the Chinese delegation to the World Bank was under the impression that Bank President Robert Zoellick had been captured by the climate agenda. China wished to protect the potential for coal to serve as part of a broader development agenda[557]. In the following years – as the World Bank moved toward a 2013 policy that prohibited coal power investments in middle income countries – the effort to get the World Bank to establish a policy on coal again ran afoul with China. European partners joined the U.S. in supporting restrictive language on coal. China was the leading voice among developing countries in trying to be least restrictive on power sector options, and wanted no reference to coal restrictions whatsoever[558,559].

Simultaneous to the public and diplomatic battles at the international financial institutions, the Obama Administration had to satisfy its court mandate of establishing carbon policy for the bilateral financial institutions: U.S. ExIm and OPIC. The intention of the Administration was to take a slower approach with coal at the ExIm Bank than at the MDBs[560]. Unlike the MDBs, where a domestic constituency is at arm's length, reform at ExIm has more direct implications for domestic industry, which could mobilize against carbon restraints – particularly during a period of high unemployment following the 2007-08 financial crisis.

---

[556] Friedman, April 9 2010, *Supra*.
[557] Author Interview, May 2015.
[558] Author Interview, May 2015.
[559] When the new World Bank president, Jim Kim, took the helm at the institution in 2013 he prioritized a more amicable relationship with China. Shifts at the Bank came as a result of rising reputational risk for China from outside the Bank, including Christiana Figueres public endorsement for MDBs to move beyond coal. The Bank's Energy Sector Directions Paper was released within weeks of the Obama Administration's Climate Action Plan in June 2013, which elaborated and replaced Treasury's 2009 MDB coal guidance.
[560] Author interview, May 2015.

6.3.2 Developing a coal project alongside coal guidelines

The ExIm Bank was confronted with multiple conflicting priorities in 2009 when a coal power plant was brought to its Board for a vote. Several priorities come into focus: 1) Job creation was President Obama's central promise coming out of the financial crisis; 2) the U.S. was eager to support India as an ally in the region and to get the relationship off on the right foot; 3) President Obama wished to signal seriousness about commitments to reign in climate change; and 4) the U.S. hoped to bring China into the negotiating forum at the OECD. The clash of these priorities resulted in a coal project that was rejected, only to have its fate overturned weeks later.

India is geopolitically positioned between Pakistan, Afghanistan, Myanmar and China – and is a critical U.S. democratic ally in Asia. Since the latter years of the Bush Administration, India's relationship with China has blossomed. A key element of China's trade and diplomatic relationship with India is the construction of power projects, particularly coal (discussed in Chapter 2). The U.S. has simultaneously tried to maintain a vigorous relationship with India, and the U.S. Department of State followed India's relationship with China closely. U.S. competitive and strategic considerations became compelling arguments for getting involved in the Sasan coal project.

After sanctions were lifted on India in 2001 for a 1998 nuclear weapons test, the U.S. sought to expand its trade relationship with India. President Bush in July 2005 established the U.S.-India Trade Policy Forum to resolve trade and investment issues. U.S. exports to India grew from US$3.6 billion in 2000 to US$17.7 billion in 2008.

India hoped that part of expanded trade relations would be investments in India's booming power sector. The Government of India designed the Ultra Mega Power Project (UMPP) program in 2005 to attract foreign investment and finance – and made overtures to the U.S. hoping to attract foreign direct investment and equipment contracts. Private developers would compete for the projects on the basis of lowest tariff, and then the government would help accelerate land acquisition and environmental clearances for the projects. The UMPPs were inspired by the Chinese model of power sector development, which had built out power capacity on the order of 100 GW annually[561].

The scale of the UMPPs meant that international involvement would be needed to build all sixteen of the plants that India was initially planning[562]. Chinese Premier Wen Jiabao held talks on energy and trade cooperation with India during a visit in April 2005[563], framing the partnership as "an energy shield"[564]. The U.S. ExIm Bank Vice President Barbara O'Boyle issued a Letter of Interest to Pan American Financial Resources, part of Khanjee Holding Group, for US$1 billion in one of the UMPPs[565]. The Indian power ministry solicited support for the UMPPs directly from foreign governments in 2006, and U.S.-based AES Power, China based Shanghai Electric, Hong Kong's China Light and Power, and South Korea's Korea Electric among others expressed interest[566]. AES ultimately withdrew its first bid because of coal price

[561] This fact is attributed to Secretary Anil Razden at India's Ministry of Power. *In* Owen (7 November 2007). "Secretary Paulson Speaks At Indian Infrastructure Conference Highlighting Investment Potential". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/07MUMBAI649_a.html.
[562] Mulford (19 September 2008). "New Delhi Weekly Econ Office Highlights For The Week Of September 15 To September 19, 2008". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/08NEWDELHI2533_a.html.
[563] Congressional Research Service (31 December 2006). "China-U.S. Relations in the 109th Congress". *Wikileaks*, Available: https://file.wikileaks.org/file/crs/RL32804.pdf, p.46
[564] International Coal Report (18 April 2005). "Chinese Premier Jiabao Proposes Chinese-Indian 'Energy Shield'".
[565] The Hindustan Times (5 May 2006). "More States Keen On Ultra Mega Power Projects". New Delhi.
[566] Sarkar, J. (17 April 2006). "India Seeking Foreign Investors". *Platts International Coal Report*.

volatility was not built into the project cost structure[567]. The U.S. government in diplomatic cables expressed skepticism of the centrally-orchestrated UMPP model. India's Ministry of Finance was surprised in 2007 that U.S. firms were not making more bids for the UMPPs[568]. Investors were reluctant to engage with the projects because of financial and regulatory uncertainties.

There were also serious concerns regarding the financial viability and regulatory environment of the UMPPs. The Mundra UMPP in Gujurat and Sasan UMPP in Madhya Pradesh were the first two to be bid by the Indian Ministry of Power, and the Tilaiya UMPP in Jharkhand and Krishnapatnam UMPP in Andhra Pradesh were to follow in close succession. U.S. officials in India and at the U.S. ExIm Bank monitored the projects for potential involvement. Mundra (discussed above) was bid to Tata, which developed the project with loans from the International Finance Corporation, Asian Development Bank, and export finance from South Korea, which also supplied the supercritical boilers.

The 3960 MW Sasan UMPP was initially bid to a consortium of Globeleq-Singapore and Lanco Infratech of Hyderabad. Industry sources indicated to U.S. officials watching the project that the Globeleq-Lanco bid of INR 1.19/kWh was unrealistically low, and that India's national power company, NTPC, thought that its own competing "twice-as-high offer was the minimum realistic price"[569]. Tata had built the Mundra project (albeit intended to use higher-cost imported coal)

[567] Sarkar, J. (18 September 2006). "AES India Pulls out of 'Ultra Mega Power' Plant Bid, Dealing Blow to Indian Showcase Program". *Platts International Coal Report*.
[568] Owen (7 November 2007). "Secretary Paulson Speaks At Indian Infrastructure Conference Highlighting Investment Potential". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/07MUMBAI649_a.html.
[569] White (27 July 2007). "New Delhi Weekly Econ Office Highlights". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/07NEWDELHI3429_a.html

for INR 2.26/kWh, nearly twice the Globeleq-Lanco bid for Sasan. Because of legal challenges, the initial Sasan bid was cancelled, and India's Reliance Anil Dhirubhai Ambani Group (Reliance Power) won in the second-round, after reducing its bid to the same rock bottom tariff that Globeleq-Lanco had promised initially. Reliance was hoping that the captive coal bloc, which was allocated alongside the Sasan contract, could be used to feed both expansion of the Sasan plant, and other nearby plants Reliance intended to build[570,571]. As the Indian government continued its struggle to attract foreign investors in the UMPP schemes, U.S. embassy officials wrote in March 2008 that conflicting views on "payment security concerns" and other reported problems at Sasan "will hardly inspire global confidence to invest in an industry that is still haunted by the Dabhol debacle"[572] (discussed in Chapter 5).

The U.S. government had been using substantial diplomatic capital behind the scenes in India – "strong and persistent advocacy"[573] – to support the efforts of one U.S. firm, AES of Arlington, Virginia to do business in India's power sector. AES saw India as an important growth market in power and was considering a bid for the Tilaiya UMPP in 2007, but that contract was ultimately awarded to Reliance Power. AES successfully bid to build a coal mine and invest US$1.2 billion in each of two coal power plants, a 1200 MW expansion project in Odisha and a 1440 MW greenfield project in Chhattisgarh[574]. The U.S. had expressed to the Government of India that other U.S. power companies and investors would be waiting to see the results of the AES

[570] Author interviews, March 2015
[571] Mukul, J. (3 September 2015). "India's Mega Power Projects Grind to a Slow Halt". Available: http://www.business-standard.com/article/companies/india-s-mega-power-projects-grind-to-a-slow-halt-115090301248_1.html.
[572] Owen (3 March 2008). "Can Ultra Mega Power Projects Re-Kindle U. S. Interest In Power Generation In India?" *Wikileaks*, Available: https://www.wikileaks.org/plusd/cables/08MUMBAI77_a.html.
[573] Jardine (16 April 2008). "Aes Expansion Plans Indicate Power Sector Success Story In India's Smaller Markets" Wikileaks, Available: https://www.wikileaks.org/plusd/cables/08KOLKATA123_a.html.
[574] Jardine 2008, *Supra*.

projects before deciding to engage with the UMPPs:

> "Embassy New Delhi had underscored to the [Government of India] that many U.S. power companies and investors were watching the AES project [in Odisha and Chhattisgarh] as a test case of whether they should consider re-entering India's power sector, including for the proposed Ultra-Mega Power Projects"[575].

The AES litmus test for India as an investment destination had mixed results. While both projects were scheduled for completion in 2011-12, as of 2016 the Odisha expansion is still under construction; and the Chhattisgarh project remains in planning. Serious challenges with liquidity, coal supply and import price volatility, and supplier over-capacity have stifled India's capacity additions in recent years.

Prior to 2011, India's coal power sector had rapid projections for growth, and financing appeared to be forthcoming from domestic and international sources. Since then, commercial banks in India have reached their exposure limits in the power sector, causing financial institutions to be more cautious[576]. Project developers are also having difficulty servicing debts because of regulatory delays with coal sourcing, land and environmental clearances, and price volatility for imported coal. These challenges were compounded by a September 2014 decision by India's Supreme Court that voided nearly all coal bloc allocations since 1993 – with exception of the four UMPPs with captive coal blocs – because of improper competitive bidding procedures. Those voided allocations had to be re-bid[577]. India's power sector stagnation may not have

[575] Jardine 2008, *Supra*.
[576] India Infrastructure Research (June 2014). "Indian Power Sector and Equipment Market Outlook (2014-19)". New Delhi.
[577] Mahapatra, D. (24 September 2014). "Supreme Court Cancels All but Four Coal Blocks Allocated since 1993" *The Times of India*. Available: http://timesofindia.indiatimes.com/india/Supreme-Court-cancels-all-but-four-coal-blocks-allocated-since-1993/articleshow/43314962.cms.

factored into U.S. ExIm decision making at time of the Sasan project, but Embassy officials in New Delhi were clearly wary of regulatory uncertainties.

In April 2009[578] the lead financial institution of the Sasan UMPP, Standard Chartered Bank of Mumbai, approached ExIm seeking a guaranteed loan to support the export of U.S. mining equipment for Sasan[579]. Export finance would support Bucyrus International, Inc. of Milwaukee, Wisconsin as well as contractor services from North American Coal Company and Black & Veatch[580]. ExIm officials knew that to be in compliance with the court ruling, they could not judge such a power project without first establishing the required carbon rules around export finance.

The U.S. ExIm Board approved a broad-terms "Carbon Policy" on 2 November 2009[581] as an acknowledgement of the Bank's intention to limit carbon-intensive power. The Policy briefly preceded the release of the Obama Administration's guidance to the Multilateral Development Banks to reduce engagement in coal-fired power generation in December 2009. The ExIm Policy was also consistent with the vague commitment by G-20 governments to phase out public subsidies for fossil fuels at their September 2009 meeting in Pittsburgh. The Obama Administration championed the subsidies issue despite China reportedly wishing not to discuss

[578] This timing corresponds to achieving financial closure (Friedman, 23 June 2010, *Supra*).
[579] U.S. ExIm Bank Engineering & Environment and Structured Trade Finance Divisions (9 June 2010), *Supra*.
[580] U.S. Office of Inspector General 2015, *Supra* p.9.
[581] U.S. ExIm Bank (2 November 2009). "Press Release: Export Import Bank Adopts Carbon Policy to Encourage Renewable Energy and Climate Friendly Technologies". Available: http://www.exim.gov/news/export-import-bank-adopts-carbon-policy-encourage-renewable-energy-and-climate-friendly.

climate and energy issues at the G-20[582]. More specific guidance used to judge projects were to follow, a process that lasted into Spring 2010.

On 10 November, barely a week after the barebones Carbon Policy was announced, ExIm Bank officials were approached by Bucyrus[583] at an ExIm conference in Chicago outlining the request for loan guarantees for the Sasan project to supply draglines and shovels[584]. Bucyrus equipment would primarily support the Moher and Moher-Amlohri Extension coal mines, which were to feed coal to the minemouth Sasan plant, and the remainder would be sold to the market and eventually used for Sasan complex's future expansion up to a total of 12 GW. The captive mine at Sasan was a tactical decision by the Indian Ministry of Power to simplify coal sourcing in India. Because of this arrangement, both the Sasan plant and captive mine fell under the purview of ExIm's carbon guidelines, even though Bucyrus was only involved in the mine. Bucyrus said their selection had not been formalized; Reliance Power would expect export finance as part of a successful equipment contract.

The Environment & Engineering (E&E) Division of ExIm was in charge of adding definition to the Guidelines, at the same time that it was assessing the carbon emissions of the Bucyrus request for Sasan. The impetus to define the carbon guidelines was to have a real project that

[582] Piccuta (24 June 2009). "China/G-20 Pittsburgh: Focus On IFI Reform And Aid, Not Climate Change And Rebalancing". *Wikileaks.* Available: https://wikileaks.org/plusd/cables/09BEIJING1720_a.html.

[583] Bucyrus International was purchased by Caterpillar in November 2010 for US$8.6 billion. Caterpillar has a longstanding relationship with U.S. ExIm. The purchase came shortly after the Sasan transaction was approved and cited Caterpillar's interest in "expand[ing] its leadership in the mining equipment industry" and particularly its interest in "capitaliz[ing] on the robust long-term outlook for ….growth in emerging markets". Caterpillar (15 November 2010). "Caterpillar to Acquire Bucyrus Creating Mining Equipment Company With Unmatched Product Range, Unrivaled Customer Support; Highly Complementary Combination Expected to Drive Strong Synergies". Press Release.

[584] Letter from John Bosbous (Treasurer, Bucyrus International) to John A. McAdams (Senior VP U.S. ExIm), 18 December 2009. Freedom of Information Act request # 201500065F.

needed a decision[585]. In a letter on 18 December 2009 Bucyrus indicated they were still "in discussion with" Reliance Power about the US$200 million equipment procurement agreement[586], and sent ExIm technical and financial details for assessing the bankability of the project, and its emissions. Bucyrus learned through Reliance that Sasan was being considered under ExIm's new Carbon Policy. Pre-empting the political battle to come, Bucyrus wrote that they were "somewhat troubled" by the carbon considerations, but hoped that ExIm would err in favor of "significant employment opportunities and sales recognition"[587].

As it became clear the project would not be processed immediately, Bucyrus took its political pressure to higher levels. An email to ExIm Chairman Fred Hochberg on 29 December 2009 from Bucyrus indicated that the firm had "received…approval for the purchase", which would help Bucyrus "recall approx. 50 employees [lost after the financial crisis] and add a minimum of 30 additional manufacturing jobs for a 2 year period"[588]. Undoubtedly hearing about the intense battles on coal at the MDBs and simultaneous domestic efforts to pass the Waxman-Markey domestic climate legislation, Bucyrus urged Hochberg not to allow the project to become a casualty of a "political agenda"[589].

Bucyrus' congressional representative Jim Sensenbrenner (WI-5th), wrote to ExIm that Bucyrus had been selected over "offers supported by export finance" from other countries, but also that "support of the Export Credit Agencies of the respective countries would be one of the essential

[585] Author interview, February 2015
[586] Bosbous to McAdams 2009, *Supra*.
[587] Bosbous to McAdams 2009, *Supra*.
[588] Emails from John Bosbous (Treasurer, Bucyrus International) to Brit Schiel (on behalf of Rep Sensenbrenner), 13 January 2010.
[589] Bosbous to Schiel 2010, *Supra*.

criteria for evaluation of the proposals"[590].

ExIm's Carbon Policy assessment took several months to develop through March 2010[591]. The Carbon Policy's implementation plan was formalized as an Annex in the ExIm Bank's Environmental Procedures and Guidelines. The Plan envisioned a 2-step process. Projects over 50 MW (net) would be assessed in terms of their carbon intensities, measured in grams CO_2 per kilowatt-hour of generated electricity. Projects are broken into categories of carbon-intensity: low (<700 gCO_2/kWh), high (700-850 gCO_2/kWh) and highest (>850 gCO_2/kWh).

The new Policy permitted the ExIm Board of Directors to make a preliminary decision on projects based on carbon alone. "Low" carbon projects clear the Board's preliminary review and proceed to a standard technical and financial analysis; "High" carbon projects automatically trigger additional requirements, including use of best available technology and an alternatives analysis. It is also left to the Board's discretion as to whether such projects are allowed to proceed, are rejected outright, or are permitted to proceed with verifiable offsets (mitigants). The "Highest" projects automatically require mitigants for ExIm to engage at all. The levels were chosen carefully to consider different technology types, including the distinction between supercritical and more efficient ultra-supercritical coal power technologies. The levels are summarized in Table 6.1, below.

[590] Bosbous to Schiel 2010, *Supra*.

[591] As a lender of last resort, ExIm was awash in business during this period but without an increase in funding for new staff, which would have required Congressional action. This may have been partially responsible for the slow pace of developing the guidelines.

Table 6.1: ExIm's categorization of carbon intensity by power technologies with appropriate ExIm treatment for each category. Table is based on Table 1 from U.S. ExIm Bank (published in U.S. GAO, July 2010 Appendix III, p.35) with modification[592].

Carbon intensity group	Applicable technologies	Ex-Im Bank Treatment
Group 1: Low Carbon < ~700 gCO2/kWh	Typcal IGCC plant Highest efficiency ultra-supercritical coal Coal with CCS	*Standard review* No additional requirements
Group 2: High Carbon ~700-850 gCO2/kWh	Lesser efficient IGCC plants Typical supercritical coal	*Enhanced Due Diligence* Early Board review Must use Best Appropriate Technology, be consistent with host carbon policy Discretionary use of offsets Preliminary environmental review fee assessed
Group 3: Highest Carbon > ~850 gCO2/kWh	Typical subcritical coal plant	*Offsets required* Emissions mitigants are required to bring mission to within Group 2

As a result of the policy, the ExIm Board has discretion to reject projects outright if their emissions exceed 700 gCO_2/kWh, though the Board has substantial flexibility; even the Highest carbon projects could be accepted with conditions. In choosing to reject High or Highest carbon projects, the Board need not necessarily consider any other element of the project. The E&E Division expected that if the Sasan project fell above the 850 gCO_2/kWh threshold the Board would likely reject it, avoiding the wrath of environmental groups and with a legitimate argument to push back on industry supporting inefficient technologies.

The carbon intensity of the Sasan project is primarily a function of the boiler technology, cooling system, and coal quality. The boilers, turbine and generator for the project were to be supplied by Shanghai Electric, which had a burgeoning partnership with Reliance Power supported by China's ExIm Bank. According to analyses by both Reliance and ExIm, the Sasan project was

[592] Table 1 in U.S. Government Accountability Office. "Export Import Bank: Reaching New Targets for Environmentally Beneficial Exports Presents Major Challenges for Bank" (July 2010). GAO-10-682, p.35. Original source listed as Ex-Im Bank.

thought to straddle the 850 gCO_2/kWh line[593]. The engineers after careful study and communication with Shanghai Electric, determined that the Sasan plant could feasibly be operated below the threshold. Essentially the decision was left to the Board.

The intensity analysis was redacted because it contains confidential commercial and financial information, as well as information on the inter- or intra-agency decision making processes[594]. However, an E&E Division memo to the Board of Directors reports the emissions of the plant are "initially expected" to be 830 gCO_2/kWh[595], without listing an uncertainty band – which had been an important part of the assessment. ExIm officials knew the project included uncertainties that could be as high as 7-8%, which would put the upper bound on the carbon-intensity at 896 gCO_2/kWh, well above the Highest threshold. It is unclear – because of redactions – whether and how this information was communicated to Board. If the uncertainty band was communicated, mitigants would likely be required or the project would be rejected outright.

It was made explicit to the Board that their vote would be the "first transaction under the newly adopted Ex-Im Bank Carbon Policy"[596]. The Board was enabled to "withhold financing from a project for environmental reasons"[597]. However, the Directors may "render their own considered judgment about the potential adverse environmental effects" of the project emissions. The Directors were further advised that they are given discretion in balancing the environmental

[593] Author interview, February 2015
[594] Title 5 U.S.C. § 552(b)(4), (b)(5), and (b)(6)
[595] U.S. ExIm Bank Engineering & Environment and Structured Trade Finance Divisions (9 June 2010), *Supra*.
[596] Cordone, J. (10 June 2010). "Guidance to the Board of Directors on Its Role and Responsibilities under the Ex-Im Bank Charter, Carbon Policy, and Environmental Procedures and Guidelines". Memorandum of the Ex-Im Bank of the United States, p.1. Freedom of Information Act request # 201500065F.
[597] As authorized under Section 11(a)(2). Freedom of Information Act request # 201500065F.

effects against requirements in the ExIm Charter, including that the Bank consider "any serious adverse effect…on the competitive position of United States industry"[598].

6.3.3 U.S perceptions of China in India

ExIm found itself wedged in a complex position. The White House Council on Environmental Quality issued a memorandum to Heads of Federal Departments and Agencies on 18 February 2010, providing draft guidance for considering greenhouse gas emissions, when a NEPA review is required[599]. The CEQ memo had in part advised ExIm's Carbon Policy development but moreover signaled the intent of the Obama Administration to make carbon a multi-agency priority beyond ExIm's court mandate. However, as indicated earlier in the chapter, CEQ and Department of State priorities around NEPA have come into perennial conflict, and ExIm's charter had been amended periodically to ensure that ExIm was export-oriented first, and political only second. The ExIm Board was scheduled to make its decision on the Sasan project in early Summer 2010.

Less clear was how other priorities weighed next to the environmental imperative, including job creation, the U.S. relationship with India, and overtures to bring China to control its export finance. President Obama announced a National Export Initiative (NEI) in his January 2010 State of the Union address. The policy was formalized through an executive order that Obama

[598] Cordone 2010, *Supra* p.5.
[599] Council on Environmental Quality suggested that any project with the direct emissions of 25,000 metric tons of CO_2eq or more should face greater scrutiny. The U.S. ExIm Bank agreed that this would be meaningful to the public and decisionmakers. U.S. ExIm Bank Engineering & Environment and Structured Trade Finance Divisions (9 June 2010), *Supra*.

announced in a speech at the ExIm Bank annual conference in March 2010[600,601]. The order created an Export Promotion Cabinet, whose members include Secretary of Commerce Gary Locke, the Secretary of State, and the President of the ExIm Bank. Placing job creation as a "top priority" of the Administration, the NEI planned to double exports including through increasing use of export credit. Another focus of the program was stronger enforcement of illegal export subsidies by competitors[602]; the biggest culprit by far was China, which had refused to engage with the OECD Arrangement.

Any U.S. hesitation to invest in the Indian power market may have been eliminated by watching China's growing success and political clout there. Indian President Manmohan Singh signed an agreement in December 2006 with Chinese President Hu Jintao to assist India with 16 GW of coal power, 22% of the capacity planned for India's 11th Five Year Plan. In an indication of the high level attention from the U.S., a July 2008 meeting between U.S. officials and the Chinese Consul General discussed China's growing coal power equipment exports to India alongside the India-China border dispute and U.S.-India civilian nuclear agreement[603]. In late 2008, other U.S. officials considering the impacts of the financial crisis on India's power sector planning noted that some developers were turning to Chinese equipment but that the quality was questionable[604], or the Chinese companies could not compete because they were handicapped by technology

[600] White House (11 March 2010). "Executive Order 13534 - National Export Initiative". Available: https://www.whitehouse.gov/the-press-office/executive-order-national-export-initiative.
[601] White House (11 March 2010). "Remarks by the President at the Export-Import Bank's Annual Conference". Available: https://www.whitehouse.gov/the-press-office/remarks-president-export-import-banks-annual-conference.
[602] Office of the U.S. Trade Representative & U.S. Department of Commerce (February 2011). "Subsidies Enforcement: Annual Report to Congress".
[603] Jardine (9 July 2008). "Kolkata-Based Chinese Consul General Expresses Personal Reservations About Indo-U.S. Nuke Deal". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/08KOLKATA202_a.html.
[604] Folmsbee (5 December 2008). "Indian Infrastructure Finance Grapples With New Realities Due To Financial Crisis" *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/08MUMBAI569_a.html.

transfer agreements[605]. ExIm officials were copied on these diplomatic cables. Nonetheless, the U.S. was beginning to understand the scale of China's success in India's coal power market and generally across the developing world as discussed in Chapter 4. Officials wrote that:

> "[A Chinese official] commented that Chinese companies had experience with constructing coal power stations but that China's domestic market was becoming saturated. He added that if the Indians closed their country to the Chinese power companies that [China] will look to markets in Africa, and specifically mentioned South Africa … A reflection of China's present commercial rise and international impact is in the narrow context of its desire to export coal power plants to India or Africa"[606].

Since 2005, roughly 60% of the coal power equipment ordered by private developers in India have come from Chinese equipment vendors (see Chapter 2), frequently accompanied by concessional financing from China's export-credit agency and state banks. U.S. diplomats during the Bush Administration even questioned the consistency of China's plans to assist India's power sector with international environmental goals, including whether China's coal developments abroad would undermine international efforts on climate change[607].

China had its own motivations for getting involved in India's power sector, both commercial and strategic, which the U.S. watched even more closely. The Bush Administration agreed in 2007 to sell India nuclear power technology from the U.S. despite India being outside the Non-Proliferation Treaty, which China condemned as hypocritical but did not block at the National

[605] Owen (3 March 2008). "Can Ultra Mega Power Projects Re-Kindle U. S. Interest In Power Generation In India?" *Wikileaks*, Available: https://www.wikileaks.org/plusd/cables/08MUMBAI77_a.html

[606] Jardine (9 July 2008). "Kolkata-Based Chinese Consul General Expresses Personal Reservations About Indo-U.S. Nuke Deal" Available: https://search.wikileaks.org/plusd/cables/08KOLKATA202_a.html.

[607] The exact quote is "[China's] aggressive efforts to export dirty power technologies to emerging markets at a time when the global community is starting to confront the problem of greenhouse gasses will only undermine international efforts at combating global warming". Jardine (9 July 2008). "Kolkata-Based Chinese Consul General Expresses Personal Reservations About Indo-U.S. Nuke Deal". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/08KOLKATA202_a.html.

Security Council. China was simultaneously building a 300 MW reactor called Chashma 2 in eastern Pakistan[608]. According to U.S. cables, a Chinese government official in a meeting with U.S. diplomats stated that "some in China" saw the U.S.-India civil nuclear agreement as part of a "strategic effort to build-up India as a counter-weight to the China *[sic]*"[609]. Meanwhile Indian officials were criticizing the U.S. for permitting China's provision of nuclear equipment to Pakistan, despite the fact that Pakistan had – unlike India – blatantly flaunted the principles of the NPT[610]. One central objective of the agreement was to support U.S. industry in gaining a foothold with civilian nuclear exports in the high-potential Indian market. India viewed the agreement as an "essential part of transforming" the U.S.-Indian relationship[611].

During this period the U.S. was reminded of the "value of influence with India" as a democratic ally in the region. In February 2007 U.S. Ambassador to India, David Mulford, wrote that a trilateral meeting between India, China and Russia was "quickly and rightly assumed" by the media to be a challenge to the interests and regional leadership of the U.S. Mulford concluded that the meeting "provides the U.S. with greater political cover to engage India in a broader, strategic relationship"[612]. India, for its part, was "playing the field, welcoming all suitors" that recognized India's value as a strategic partner[613].

---

[608] Blake (29 June 2005). "Us-India Non-Proliferation Dialogue" *Wikileaks*. Available: https://wikileaks.org/plusd/cables/05NEWDELHI4961_a.html.

[609] Jardine (9 July 2008). "Kolkata-Based Chinese Consul General Expresses Personal Reservations About Indo-U.S. Nuke Deal" Available: https://search.wikileaks.org/plusd/cables/08KOLKATA202_a.html.

[610] Blake (29 June 2005). "US-India Non-Proliferation Dialogue". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/05NEWDELHI4961_a.html.

[611] Roemer (11 February 2010). "Scenesetter For Codel Kerry's Visit To India". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/10NEWDELHI287_a.html.

[612] Mulford (16 February 2007). "India, Russia, And China Trilateral Meeting Perceived As Counterweight To Uni-Polar World". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/07NEWDELHI816_a.html.

[613] Mulford (16 February 2007). "India, Russia, And China Trilateral Meeting Perceived As Counterweight To Uni-Polar World". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/07NEWDELHI816_a.html.

While the U.S. placed increased emphasis on exports, and on preventing China from undercutting them, China had been seen as inevitable in replacing the U.S. as India's largest trade partner[614]. It eventually did so in 2014[615]. The U.S. reported to the Department of State that Mukesh Ambani (the CEO of Reliance Industries, a separate company from Reliance Power owned by Mukesh's brother Anil) had worked to facilitate greater Chinese investment in thermal power in West Bengal. And to the consternation of the U.S., China had also sidled up to the Marxist Communist Part of India and would be making an address to a joint session of India's Parliament in November 2006, in an "easy slap to the face" for President George W. Bush, who had been blocked from addressing Parliament during a visit earlier in the year[616,617].

Some Indian private firms, including Reliance and Adani, benefited significantly from China's overtures of highly concessional export finance to support infrastructure development in the power sector. Chinese firms were able to deliver coal power equipment far below market rates and months faster than Indian domestic and other international equipment suppliers. But Indian officials backed by an industrial coalition of developers (National Thermal Power Corporation) and major power equipment manufacturers (Bharat Heavy Electricals Limited, Larson & Tuobro, and others) attempted to stifle China's intense import competition by disqualifying Chinese equipment on quality grounds, though power sector observers perceived that quality was political

[614] "Hu and Singh's new goal of doubling trade to $40 billion by 2010 appears very achievable and puts China neck and neck with the US as India's largest trading partner" *In* Mulford (30 November 2006). "Hu Jintao Fails To Commit To Indian Relationship". *Wikileaks*. Available: https://search.wikileaks.org/plusd/cables/06NEWDELHI8067_a.html.

[615] Times of India (2 March 2014). "China Emerges as India's Top Trading Partner: Study". Available: http://timesofindia.indiatimes.com/business/india-business/China-emerges-as-Indias-top-trading-partner-Study/articleshow/31268526.cms.

[616] Jardine (1 November 2006, Calcutta). India's Communists Lobby For China. *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/06CALCUTTA495_a.html

[617] The New York Times (28 February 2006) "President Bush Goes to India". Available: http://www.nytimes.com/2006/02/28/opinion/28tue1.html.

cover for protecting domestic industry[618]. Chinese investment in power was less a geopolitical concern than was China's similar success in telecommunications, which was perceived as more militarily vulnerable[619]. The Government of India eventually imposed duties on Chinese power plant equipment in 2012 after intense industry pressure, though China's cost advantage was so significant that the effect of the tariffs was unknown[620], and contract development continues.

The U.S. did perceive that China's trade relations with India were outpacing China's progress on diplomatic rapport[621]. Little progress was made between China and India on a border dispute in several north eastern states, including Arunachal Pradesh[622]. Around the time of the Sasan requests to ExIm in 2009. A December 2009 cable from the U.S. embassy in Delhi summarized:

> "We have followed closely as India and China have sought warmer relations through periodic dialogue and increased trade, but Indo-China ties are strained by contentious border issues and a sense of mutual suspicion"[623].

Meanwhile, as the Sasan project was under consideration at ExIm in early 2010, U.S.-India relations were on the upswing. The Obama Administration placed early priority on strengthening cooperation with India in the energy sector, beyond the civilian nuclear agreement that had bought good will with the Government of India. In November 2009, Prime Minister Manmohan Singh made a state visit to the White House where the U.S. and India formalized a

[618] Author interview, July 2014.
[619] Author interview, February 2015.
[620] Author Interview, September 2014.
[621] Mulford (30 November 2006). "Hu Jintao Fails To Commit To Indian Relationship". *Wikileaks*. Available: https://search.wikileaks.org/plusd/cables/06NEWDELHI8067_a.html.
[622] Bhaumik, S. (23 November 2010). "India to Deploy 36,000 Extra Troops on Chinese Border". *BBC News*. Available: http://www.bbc.co.uk/news/world-south-asia-11818840.
[623] Roemer (18 December 2009). "Scenesetter For Codel Gregg". *Wikileaks*. Available: https://search.wikileaks.org/plusd/cables/09NEWDELHI2529_a.html.

bilateral Memorandum of Understanding on a range of energy issues, specifically calling for (as recounted by diplomats):

> "stepped up engagement beyond the existing Energy Dialogues to include a focused Clean Energy Research and Deployment Initiative to rapidly disseminate clean energy technologies, including solar, wind, hydro, as well as shale gas and cleaner coal"[624].

ExIm and a broad multi-agency team were tasked with execution. Determining what qualified as "cleaner coal" as part of the Administration's clean energy cooperation with India was not a simple question.

China's growth in India's power sector also had a crescendo in summer of 2010, concurrent with the Sasan negotiations. The U.S. was aware that Reliance Power was building a relationship with Chinese firms and state banks. Sasan's tie-in with Shanghai Electric had been decided in late 2007, shortly after the Sasan project reached financial closure[625]. Then in October 2010, Reliance announced that it had entered into a long-term agreement with Shanghai Electric to purchase nearly 30 GW (42 packages of 660 MW) of supercritical boiler, turbine and generator packages for Reliance's coal power development. The agreement was accompanied by an MOU providing financing of up to US$12 billion from a consortium of Chinese state-backed banks, including the Bank of China, China Development Bank, China Export-Import Bank, and the Industrial and Commercial Bank of China[626]. This development led to a rush for Chinese

[624] Roemer (11 February 2010). "Scenesetter For Codel Kerry's Visit To India". *Wikileaks,* Available: https://wikileaks.org/plusd/cables/10NEWDELHI287_a.html.
[625] Author interview, March 2015.
[626] Rao, N. Reliance Power, Press Release: 28 October 2010 (Shanghai).

financing among other power developers, including Lanco Infratech, Adani, Jindal, and Abhijeet Group[627,628].

6.3.4 Initial decision to reject Sasan

The ExIm Bank knew that to forgo export finance on carbon grounds would have a large opportunity cost for job creation, and could put a hamper on the Administration's promises to support cleaner energy development in India. This conflict between jobs, Indian relations, and the new carbon policy compelled staff to seek guidance directly from the White House on the Sasan project – as had been done with the Three Gorges Dam project twenty years earlier. A memo from ExIm welcomed the White House's views before the vote of the Board of Directors. In unclassified communication to the White House, the ExIm Bank made clear that it "preliminarily believes [the] capital structure [and] financing package … would provide Ex-Im Bank with the required reasonable assurance of repayment" though further reviews would be required once the project passes the carbon policy hurdle. It was expected that a vote to proceed on carbon grounds would result in an eventual decision to support the project. Functionally, the carbon vote was the only political opportunity to stop the coal project from proceeding. ExIm downplayed the uncertainty and made clear that the project was in the "High" range of the Carbon Policy, not the "Highest", stating without equivocation the "output of 830 of CO2 gms/kWh does not require offsets *[sic]*"[629].

[627] Moneycontrol (15 December 2010). "China's Dongfang Electric in $2.5 bn deal with Abhijeet Grp". Available: http://www.moneycontrol.com/news/business/chinas-dongfang-electric3625-bn-dealabhijeet-grp_505440.html.
[628] Author interviews, August 2014.
[629] Memo from U.S. ExIm Bank to the White House, Re: Potential Ex-1m financing for Sasan Coal Fired Power Plant - A High Carbon Intensity Project in India. 10 June 2010. Freedom of Information Act request # 201500065F

The ExIm memo cited Bucyrus's estimate that the transaction would support 375 to 400 jobs[630], including sub-suppliers, though these estimates were viewed internally as being over-inflated[631]. The memo goes on to indicate that:

> "competition for [Bucyrus] equipment comes from low cost manufacturers in China, India, Russia, Belarus and Poland [and that several] of these equipment manufacturers, from non OECD countries may also be able to provide soft loans from their governments to support the purchases of equipment…Bucyrus is convinced that without Ex-Im financing, this sale will be lost to foreign competition…India will proceed with or without US participation"[632].

The ExIm Bank knew that if they rejected the Bucyrus loan request the equipment would come from China, with a soft loan from a Chinese state bank[633]. From public communications, it is unclear if this was communicated to the White House, or why ExIm chose to imply competition from "India, Russia, Belarus and Poland" despite there being no evidence companies from these firms were competing for the project. In other ExIm public communications, officials refrain from mentioning China directly, typically referring generally to BRICS, even when it was clear that China was the focus.

While ExIm waited to get a pulse on the project from the Obama Administration, there was also tremendous opposition from environmental advocates that balanced the industry lobby's support. The environmental opposition threatened the Bank's reauthorization, scheduled for 2012. The magnitude of the CO_2 emissions from the Sasan project – predicted to reach 26.4 million tonnes

[630] Memo from U.S. ExIm Bank to the White House, *Supra* 10 June 2010. Freedom of Information Act request # 201500065F.
[631] Author interview, February 2015
[632] Memo from U.S. ExIm Bank to the White House (10 June 2010) *Supra.*
[633] Author interview, February 2015

of CO_2 per year – would drive ExIm-responsible emissions far above any previous year. ExIm argued in a memo that this amount is a tiny fraction of the "total amount of global anthropogenic greenhouse gas produced during 2005" at 39 billion tonnes CO_2[634], presumably making the case that Sasan's contribution is marginal in relation. But environmental groups, in a letter opposing the ExIm Sasan financing stated that ExIm was underestimating the emissions from the project; the proposed coal mine would be serving the Sasan project as well as the 4000 MW Chitrangi coal plant also in Madhya Pradesh[635], which as discussed earlier would also have been supported by Shanghai Electric[636].

ExIm's stakeholders were divided. Firms that would lose the bids were pitted against congressional opponents to U.S. public financing for fossil fuels. A month before the Board's carbon vote, in May 2010, one of the ExIm Bank Vice Presidents, Gray Sasser, met with congressional staff from both parties and both chambers of Congress who were expected to be opponents of the ExIm Bank taking on large coal transactions, including Rep. Barney Frank, Rep. Spencer Bachu, Sen. Richard Lugar, Sen. Patrick Leahy, Sen. John Kerry and Sen. Chris Dodd (who served as Chairman of the Senate committee in charge of ExIm reauthorization). ExIm Chair Fred Hochberg hosted a roundtable of civil society on 11 May 2010, at which time the NGOs voiced "strong concern that the Bank was considering support for a coal fired project of this nature"[637].

[634] U.S. ExIm Bank Engineering & Environment and Structured Trade Finance Divisions (9 June 2010), *Supra*.
[635] Chan, M., Genovese, K., Coequyt, J., Kretzmann, S., Dobson, C., Lekalakala, M., D'Sa, D., Norlen, D. & Dubey, S. (23 June 2010). "Letter to ExIm Bank Board of Directors from Civil Society". Freedom of Information Act request # 201500065F.
[636] Author interview, September 2014.
[637] U.S. ExIm Bank Engineering & Environment and Structured Trade Finance Divisions (9 June 2010), *Supra*.

A fact sheet circulated widely to key decision makers by ExIm officials was sent to, among others, Tim Rieser who is a senior staffer to Patrick Leahy. Leahy is the Ranking Member of the Senate Appropriations Subcommittee with responsibility for re-authorization of the ExIm Bank and a common advocate for the environmental community. Rieser pressed ExIm on NGO concerns in the lead up to the vote[638], and the Bank took this as an indicator of what to expect from the Democrats in response to an approval of Sasan[639], particularly during reauthorization.

ExIm staff cautioned the Board that "approval of the contemplated transaction likely will result in tough questions during any hearings on reauthorization", which is the main time during which ExIm is forced to justify its value added to taxpayers and as discussed in Chapter 5 for political adjustment of ExIm's mandate. Additionally, given the coalition in Congress against public fossil fuel finance, ExIm considered the possibility of the project being formally objected to by Congress. Generally Congressional notification of projects was practiced only as a courtesy, with objections stymieing a project only in exceptional circumstances[640].

ExIm appealed to the fungability of U.S. export finance – the project would be built by competitors if not by the U.S. According to the fact sheet, "most coal fired plants are financed by Germany, Japan and now, China whose suppliers are more competitive". The Board briefings indicated the Government of India's "confirmation" of its "plan to proceed with the UMPP program" with or without U.S. ExIm support. The memo further states that India will continue

[638] Letter from Sasser to Varney, 17 June 2010. Freedom of Information Act request # 201500065F
[639] Letter from Sasser to Varney, 17 June 2010. Freedom of Information Act request # 201500065F
[640] Sasser, G. (13 May 2010). "Memorandum to Chairman Fred P. Hochberg, Regarding Congressional Reaction to India Coal-Fired Power Plant". Freedom of Information Act request # 201500065F.

to "remain dependent on coal over the coming years" because of a dearth of suitable alternatives[641].

The White House view was communicated by the National Advisory Council (NAC) – though those documents are not public. There was a meeting between the NAC and the Board immediately before the Board vote. The NAC comments were communicated by Sharon Yuan, who was the Deputy Assistant Secretary of Treasury for Trade and Investment Policy. The content of Yuan's presentation to the Board regarding Sasan is unknown. The NAC is chaired by the Dept. of Treasury and reviews individual ExIm transactions, and is an important voice in the strategic calculus of the ExIm Bank, representing it at the OECD export credit negotiations, and also advising on use of the Tied Aid Capital Projects Fund (referred to as the War Chest – discussed earlier[642])[643]. Yuan's position at Treasury put her in charge of managing the U.S.-China economic relationship, such that she was integral to the Strategic and Economic Dialogue with China, including on issues of China's use of exchange rate to privilege its exports. Yuan led U.S. efforts to engage China in multilateral negotiations on export finance[644]. It would be unexpected if U.S. interests vis-à-vis China in India and on export finance issues *were not* presented to the ExIm Board.

[641] U.S. ExIm Bank Engineering & Environment and Structured Trade Finance Divisions (9 June 2010), *Supra*.
[642] Ilias, S. (23 June 2011). "Reauthorization of the Export-Import Bank: Issues and Policy Options for Congress". *Congressional Research Service* 7-5700, R41829.
[643] Subcommittee on Domestic and International Monetary Policy of the Committee on Banking and Financial Services (29 April 1997). "Statement of Meg Lundsager, Deputy Assistant Secretary, Trade and Investment Policy, U.S. Treasury Department at the Reauthorization of the Export-Import Bank of the United States". *House of Representatives, 105th Congress*: I-196.
[644] The Asia Group. "Biography of Sharon Yuan, Principal", Available: http://www.the-asia-group.com/global_team [Accessed 3 February 2016].

On 24 June 2010, the U.S. ExIm Bank Board voted not to proceed with the Sasan project, arguing that it violated the guidelines on carbon intensity[645]. The vote split two opposed to the project, and one in favor. While the ExIm Board typically consists of five members, only three were on the Board at the time of the vote, with two Obama appointees waiting for Senate confirmation. Director Bijan Kian had been appointed by President George W. Bush in 2006 and Diane Farrell was appointed in 2007. Fred Hochberg was nominated by Barack Obama as Chairman of the Bank in 2009 and also serves on the Board.

Director Kian voted in favor of the Sasan transaction, while Farrell and Hochberg voted against. According to officials involved in the lead up to the decision, Farrell was in charge of managing the India relationship for the Bank and her "no" vote was a surprise. Hochberg was likely taking a stand with the Obama Administration, and Farrell may have felt compelled to vote with the changing direction of the Bank[646]. Farrell was also aware that a "no" vote would not necessarily be final, and that the decision could be reversed.

Within days of the rejection, the ExIm Bank was flooded by industry groups and state and national representatives urging the Bank to reconsider the decision. In one notable public letter to Fred Hochberg on 28 June 2010 (four days after the project was voted down), U.S. Rep. James Sensenbrenner (WI-5th District) and Rep. Paul Ryan (WI-1st District) argue that the loan guarantee for the Sasan project would "use machinery constructed in China and Belarus", and is akin to "simply exporting American jobs to China". The letter claims that China's heavy reliance on coal as a domestic energy source is reason for the U.S. to compete on technological

[645] U.S. ExIm Bank (24 June 2010). "Summary of the Meeting of the Board of Directors". Available: http://www.exim.gov/news/minutes/board-meeting-minutes-2010-06-24.
[646] Author Interview, February 2015.

parameters, since "the offshoring of [China's coal] production may increase global carbon emissions"[647]. Others in Congress piled on in favor of overturning the decision (Table 6S.2). Reliance, Bucyrus, and members of Congress vocally criticized the decision to ExIm officials. The White House began looking for damage control.

6.3.5 Reversing the decision

Compounding this pressure, in a poor stitch of planning, President Obama had been scheduled to attend a town hall rally in Racine, Wisconsin on 30 June 2010, less than a week after the initial Sasan vote. The President was expected to deliver an encouraging message on the economy in a manufacturing town recovering from the economic crisis. Instead, the United Steelworkers of America union president called for union leaders and members to turn out in force for the Racine Speech[648] to protest the Sasan decision, creating a highly embarrassing situation for the President[649]. Furthermore, the Conference Board's index of consumer confidence was reported to have fallen in advance of the rally[650], and the Labor Department was anticipating release of a report showing an increase in unemployment two days later[651].

[647] Sensenbrenner, F.J., & Ryan, P. (28 June 2010). "Letter to Chairman Fred Hochberg of the Export-Import Bank of the United States urging Export-Import Bank to Reverse India Plant Ruling".
[648] Barrett, R. (28 June 2010). "Export-Import Bank May Reconsider Bucyrus Decision". *Milwaukee Journal Sentinel*. Available: http://www.jsonline.com/business/97319564.html.
[649] Author interviews: January 2015, February 2015, December 2015.
[650] Rooney, B. (29 June 2010). "Consumer confidence craters in June". *CNN Money*, Available: http://money.cnn.com/2010/06/29/news/economy/consumer_confidence/.
[651] Digital, IIP (30 June 2010). "White House Press Gaggle En Route to Racine, Wisconsin". U.S. Official Transcript, Available: http://iipdigital.usembassy.gov/st/english/texttrans/2010/06/20100630152732sblebahc0.717796.html#axzz3y0X1sEK2.

The Administration issued an explicit instruction to ExIm for the decision to be reversed. On the morning of the president's remarks in Racine, ExIm announced in a letter to Reliance that it would re-submit the Sasan project to the Board for reconsideration, along with a message to key congressional stakeholders[652]. The Wall Street Journal reported the anticipated shift[653]. News of the potential reversal did not stop Rep. Glenn Thompson from lambasted the ExIm decision on the floor of the House on 1 July 2010[654].

What had begun as an effort to serve an Administration priority resulted in ExIm staff scrambling to find political cover to orchestrate a face saving reversal. The E&E Division on 8 July 2010 indicated that "new information was received by Ex-Im Bank regarding the intent of Reliance … to maintain the carbon intensity of the Project below 850 grams [CO_2eq/kWh]"[655]. A Memorandum of Understanding was prepared between Reliance and ExIm indicating that Reliance also agreed to develop 250 MW of new renewable power as part of its total project portfolio, with the "mutual desire that the project be sourced from United States companies on commercially competitive terms"[656]. The ExIm staff considered this outcome to be "material with respect to the requirements of Annex G [mitigants for high carbon intensity projects in the Carbon Policy]"[657]. Almost the entirety of this Memorandum of Understanding is redacted, pursuant to inter- and intra-agency decision making as well as business confidentiality.

---

[652] Email from Gray Sasser to Tim Rieser (30 June 2010). "Letter to Reliance". Freedom of Information Act request # 201500065F.
[653] Hagerty, J.R. (30 June 2010). "U.S. Ex-Im Bank Reconsiders India Coal Project". *The Wall Street Journal*.
[654] Thompson, G. (1 July 2010). H5493, Congressional Record of the House of Representatives.
[655] U.S. ExIm Bank Engineering & Environment and Structured Trade Finance Divisions (8 July 2010). "Memorandum to the Board of Directors Regarding AP0853927XX, India Sasan Coal Fired Power Plant – High Carbon Intensity Project". Freedom of Information Act request # 201500065F.
[656] Letter from Fred Hochberg to Anil Ambani (30 June 2010). Freedom of Information Act request # 201500065F.
[657] U.S. ExIm Bank Engineering & Environment and Structured trade Finance Divisions (8 July 2010). "Memorandum to the Board of Directors Regarding AP0853927XX, India Sasan Coal Fired Power Plant – High Carbon Intensity Project". Freedom of Information Act request # 201500065F.

Reliance committed to operate the plant within the established carbon intensity range, otherwise this would be considered a breach of contract. This is standard practice, according to ExIm disclosures to OECD[658]. The commitment was considered by ExIm staff to be a strong mechanism for ensuring adherence to the carbon standard, though in practice ExIm does not have a strong system in place for monitoring environmental and social performance of projects[659].

Civil society groups questioned the additionality of the renewable energy "mitigant" agreed in the MOU[660]. The renewable capacity may have already been agreed during a India-U.S. Memorandum of Understanding on energy cooperation from November 2009[661]. Because ExIm would not be involved in these "commercially competitive" projects, some officials did not see the solar commitment as an authentic offset[662]. Alternatively, the 250 MW commercial commitment for solar could have been part of the early negotiations for a later MOU between Reliance and ExIm that included 900 MW of wind and solar (discussed further below). In any case, the E&E Division had not expressing to the Board or the White House prior to the first vote that there was any uncertainty around 830 gCO_2/kWh, including by saying that the project "does not require offsets"[663]. But the reversal rested on the claim that mitigants could ensure emissions

[658] OECD (27 May 2013). "Environment and Social Survey (version 1)". Available: http://www.oecd.org/tad/xcred/ess-2013-usa-eximbank.pdf.
[659] U.S. Office of Inspector General 2015, *Supra* p.34.
[660] Pacific Environment, Friends of the Earth, Oil Change International and Groundwork. "Obama to finance dirty coal in India, stealing clean energy jobs from U.S". Archived from Friends of the Earth. Available: https://coto2.wordpress.com/2010/07/14/obama-to-finance-dirty-coal-in-india-stealing-clean-energy-jobs-from-u-s/ [Accessed 21 September 2016].
[661] White House (24 November 2009). "Joint Statement between Prime Minister Dr. Singh and President Obama". Available: https://www.whitehouse.gov/the-press-office/joint-statement-between-prime-minister-dr-singh-and-president-obama.
[662] Author interview, January 2015 and February 2015.
[663] Memo from U.S. ExIm Bank to the White House (10 June 2010). "Re: Potential Ex-1m financing for Sasan Coal Fired Power Plant - A High Carbon Intensity Project in India". Freedom of Information Act request # 201500065F.

remained below 850 gCO_2/kWh. This evidence suggests that the Sasan MOU was cover for an embarrassing political reversal.

Chairman Hochberg later said that the carbon policies gave ExIm "leverage" in requiring the projects be operated in a more environmentally sustainable manner[664]. Hochberg also suggested that the project developers, through the message sent by ExIm's guidelines, feel more pressure to pursue lower-carbon options. According to Hochberg in 2013:

> "there continues to be evidence that the owners of these projects are also directing more attention and resources to the development of alternative low-carbon producing projects"[665].

The Sasan reversal was a "relief" to exporters, which were concerned the Administration was taking a hard line on coal projects[666]. ExIm and industry officials knew that the Reliance relationship was likely to bring two additional coal projects – the forthcoming Tilaiya and Chitangi UMPP projects that had been bid to Reliance for development by the Indian Government. The long delay on Sasan was seen as a reputational risk for the U.S. working relationship with India. One official, writing to Director Diane Farrell in advance of Farrell's meeting with Reliance Chief Executive Jayarama Chalasani, wrote:

---

[664] Responses to written questions of Senator Crapo from Fred P. Hochberg. "Nomination of Fred P. Hochberg: Hearing before the Committee on Banking, Housing, and Urban Affairs, United States Senate, One Hundred Thirteenth Congress, First Session" *Nomination of Fred P. Hochberg: Hearing before the Committee on Banking, Housing, and Urban Affairs, United States Senate, One Hundred Thirteenth Congress, First Session*: 7 May 2013, i-60.

[665] The full quote is as follows: "In the case of India and South Africa where Ex-Im Bank provided financing for coal-fired power plants, those plants would have gone forward with or without Ex-Im Bank financing. However, through the leverage it has gained by applying its high-carbon intensity guidelines to these projects, Ex-Im Bank believes that the projects will be operated in a more environmentally responsible manner, with measures taken to control the level of greenhouse gases that they will produce. Finally, there continues to be evidence that the owners of these projects are also directing more attention and resources to the development of alternative low-carbon producing projects." This statement by Hochberg was made to Senator Crapo in U.S. Senate *Nomination of Fred P. Hochberg* (7 May 2013), *Supra*.

[666] Author Interview, May 2015

> "Thank [Chalasani] for our patience during the Carbon Policy creation process, Environmental Review Pre-Board "no" vote, subsequent turn-around of that decision, patience with the delay on the final approval … and tell him we hope that none of this happens again on his next application[667,668].

The budding relationship with Reliance[669] involved both coal and gas. ExIm realized that if the Sasan project was held up, the agreement on gas and additional projects could collapse as well, likely also forfeiting the projects to Chinese developers. Alongside coal, gas was a geopolitical priority for the Obama Administration, so much so that the U.S. was eavesdropping on GE's Japanese competitor MHI-Hitachi (as discussed in Chapter 8). The cost of losing the Sasan project could have had repercussions well beyond the U.S. coal interests.

On 14 July 2010[670], the ExIm Board unanimously reversed its decision, citing the relatively low carbon intensity of the Sasan supercritical coal power plant and Reliance Power's commitment to build a new 250 MW renewable energy facility that would serve as a mitigant to the Sasan emissions[671]. After the project had been reconsidered and permitted to proceed to a full financial and technical analysis, which was approved unanimously in August, the ExIm Bank followed a symbolic procedural step in "recommending" the project to the U.S. Congress. In letters to the

[667] The quote continues… "for Sasan (2400MW gas-fired power, GE turbines, other equip, close to $1B?) which is almost in-house *[sic]*". The latter part of the quote errantly referred to Sasan, but intended the Samalkot gas plant expansion in Andhra Pradesh. The latter project sourced turbines from General Electric with financing from U.S. ExIm during a state visit to India by President Obama. See Reliance Power (6 November 2010). Press Release. Available: http://www.reliancepower.co.in/1100/39_102.pdf.

[668] ExIm staff email to Director Diane Farrell on 9 February 2011, Freedom of Information Act request # 201500065F.

[669] ExIm was also interested in building its relationship with Anil Ambani. ExIm had done business in the telecom sector with Makesh, which was transferred to Anil when the company split. The ExIm staff knew several of the key Reliance players, including from involvement in the earlier Dabhol project.

[670] U.S. ExIm (14 July 2010). Summary of Minutes of Meeting of Board of Directors. Available: http://www.exim.gov/news/minutes/board-meeting-minutes-2010-07-14.

[671] U.S. ExIm Bank (14 July 2010). "Ex-Im bank approves preliminary review of export financing application for India's Sasan Power Plant", Washington DC. Available: http://www.exim.gov/newsandevents/releases/2010/ex-im-bank-approves-preliminary-review-of-export-financing-application-for-indias-sasan-power-plant.cfm. Also see Dasgupta-Schuster letter on 21 October 2010. Freedom of Information Act request # 201500065F.

House Speaker Nancy Pelosi and President of the Senate, Joe Biden, Hochberg states that "the proposed support is needed due to foreign competition" and that if ExIm support is unavailable, Reliance Power "intends to secure capital goods from alternative sources where financing is available"[672,673]. On 21 October 2010, the ExIm Bank completed its full review and approved an export finance guarantee of US$917 million to support exports by Bucyrus International Inc. for the Sasan project[674,675,676].

China remained important to ExIm's ongoing strategy with Reliance and in India generally. The Chairperson of the Reliance Power, Anil Ambani, spoke at the U.S. ExIm Annual Conference in April 2011, shortly after receiving full confirmation of the Sasan transaction. On a panel titled "The Shifting Global Economy and Implications for Trade", Ambani compared the strategies of Chinese firms in India to U.S. firms in India. Ambani suggested that strategic differences account for India's emergence as China's largest trading partner (a position long held by the U.S.) and India being China's largest market[677]. Ambani cautioned that while Reliance has required its employees to pursue American companies, rather than rush to China, the U.S. had to be ready to deliver on finance. This implicit reference to the Sasan project is indicative of the

[672] Hochberg, Fred (25 August 2010). "U.S. Export-Import Bank Letter to Speaker of the U.S. House of Representatives Nancy Pelosi". Freedom of Information Act request # 201500065F.
[673] Hochberg 2010, *Supra*.
[674] The project would also support Black & Veatch in Missouri and Siemens Energy & Automation in Georgia.
[675] ExIm Bank Office of Communications (21 October 2010). "Ex-Im Bank Approves US$917 Million Export Financing For India's Sasan Power Plant Supporting Approximately 1,000 U.S. Jobs, Indian Buyer Commits to Renewable Energy". Available: http://www.exim.gov/newsandevents/releases/2010/ex-im-bank-approves-917-million-export-financing-for-indias-sasan-power-plant-supporting-approximately-1-000-u-s-jobs.cfm.
[676] According to the U.S. Office of Inspector General 2015, *Supra* p.10, the loan amount was reduced after Board approval: "Subsequent to loan approval, Reliance Power reduced the scope of the Bucyrus contract and Ex-Im Bank revised the loan commitment to $650 million. As of April 30, 2015, loan outstandings were $508million."
[677] "Anil Ambani challenges US firms to 'Come and see potential of India'". (4 April 2011). *CoolAvenues*. Available: http://www.coolavenues.com/company-updates/anil-ambani-challenges-us-firms-to-come-and-see-potential-of-india.

new market power that China possesses in India, and the difficulty the U.S. would have in trying to institute unilateral policy.

On his U.S. visit, Ambani also met with outgoing U.S. Commerce Secretary Gary Locke to discuss the U.S.-India bilateral business relationship and the importance of U.S. ExIm Bank financing[678]. Locke had just been nominated as U.S. Ambassador to China.

6.3.6 Sasan Analysis

Public and declassified accounts discuss job creation as the central variable that caused the ExIm Bank to sidestep its Carbon Policy to approve the Sasan project. However, three factors suggest that the U.S. perception of China's growing role in the power sector and in export finance in India may have been an important consideration in the Sasan decision reversal.

1) *Bucyrus's competition was ostensibly Chinese firms and state banks, not other countries as had been communicated by ExIm*.

Reliance required that international suppliers bring export finance to support its purchases, and "will base its decisions on this aspect, ultimately"[679]. ExIm Bank required that Reliance demonstrate the "additionality" of potential ExIm finance, meaning that Reliance must show that Bucyrus's competitors would plan to provide export finance. Reliance showed letters of interest

[678] The Economic Times of India (1 April 2011). "Anil Ambani meets Gary Locke, discusses momentum in US-India ties". Available: http://articles.economictimes.indiatimes.com/2011-04-01/news/29370374_1_discussion-economic-relationship-momentum.

[679] Memo from U.S. ExIm Bank to the White House, Re: Potential Ex-1m financing for Sasan Coal Fired Power Plant - A High Carbon Intensity Project in India. 10 June 2010.

from Kimatsu in Japan supported by JBIC[680], as well as a Chinese firm that had the committed support of the China Development Bank. ExIm officials knew that China's tender in competition with Bucyrus for mining equipment was in addition to its substantial finance and equipment for the Sasan Boiler-Turbine-Generator system through Shanghai Electric and China ExIm[681]. Reliance expressed a preference for Bucyrus equipment in terms of size and capacity, and believed it could be cheaper on lifecycle costs[682]. Moreover, Standard Chartered was interested in having U.S. ExIm in the deal for leadership and assistance with structuring the finance.

Reliance had the goal of diversifying the finance package to have US$1 billion from the U.S., US$1 billion from China, and the remaining US$1 billion from Indian banks, because the Indian banks had substantially higher interest. The US$1.14 billion finance package from Bank of China, China Development Bank, and China ExIm Bank for the equipment package was formalized in December 2010 during a visit by Premier Wen Jiabao, after "extensive due diligence"[683]. U.S. officials knew that Reliance was going to choose either the U.S. or China[684]. ExIm knew Reliance was pitting the U.S. against China to get favorable interest rates. China's export finance would be LIBOR based[685], and thus the U.S. could match it and avoid being undercut. The U.S. offered 3-4% interest for a 14 years fixed-term loan. ExIm also knew that if

[680] Author interviews, February 2015 and May 2015
[681] China ultimately did not provide US$1.1 billion in promised financing. U.S. Office of Inspector General (28 September 2015). "Report on the Project Financing of Sasan Power Limited" Report OIG-INS-15-02. Available: http://www.exim.gov/sites/default/files/oig/reports/Final%20Sasan%20Report%20-%20Redacted.pdf.
[682] Author interview, March 2015
[683] Rao, Nagraj. Reliance Power Media Release: 15 Decembr 2010, Mumbai.
[684] Author interview, February 2015
[685] Libor is London inter-bank lending rate, a global benchmark interest rate calculated as a composite from lending across currencies and banks.

officials couldn't get the Board approval vote the bid would go to China and the U.S. would lose the jobs and suffer future loses for its India relationship[686].

Industry and non-governmental project advocates may have appealed to Germany, Russia, Belarus and China as potential suitors for the project[687]. But ExIm knew the project would be built by China. Likely for diplomatic purposes in communications that were declassified, ExIm downplayed strategic competition in the region.

Competition was second only to jobs as the most referenced reason representatives used to advocate for the Sasan project (Table S6.2). And appeals to competition became more intense when ExIm initially rejected Sasan (Table S6.3). Prior to the first Sasan decision, six out of seven letters from Congress used jobs as a rationale for approving Sasan, and three of the seven used competition to advocate for the project. After the decision, advocates pushed harder on competition; of twenty-two state and four national representatives who wrote in opposition to the initial Sasan rejection, all used both job creation as well as the argument that the project would be lost to competitors.

2) *The U.S. had a keen interest in challenging China's bullish activity on export finance, and wished to strengthen relations with India commercially and politically. The U.S. involvement in Sasan and Reliance Memoranda of Understanding coincided with China's market rise in India's power sector.*

[686] Author interview, February 2015
[687] Friedman, L. (30 June 2010). "FINANCE: Bucyrus and NAM Ask Obama Administration to Reverse Ex-Im Bank's Decision". Accessed February 8, 2016. Available: http://www.eenews.net/stories/92711.

As discussed earlier in this chapter and in Chapter 5, the U.S. and other OECD countries had tried to pull China into line with the Arrangement but China refused. In 2010, the Obama Administration began taking a harder line with China, attempting to increase its bargaining power to bring China into conformance with the OECD rules. Under OECD guidelines, an OECD participant may "match" non-compliant finance terms provided by a non-participant[688]. In February 2010 the U.S. ExIm exercised this norm in an effort to secure a US$477 million rail project bid for GE in Pakistan[689] after the "Chinese government offered financing that did not conform to international standards and practices"[690]. U.S. geopolitical interests in strengthening its commercial and political relationship aligned with Pakistan's preference for U.S. technology – if the U.S. could match China's terms. Because of flexibility allowed under the OECD rules, the U.S. was able to secure the sale for GE.

Occurring just months before the first Sasan vote, the Pakistan transaction signaled a "significant policy change" according to the ExIm Chairman[691] and indicated "a new willingness to take on China"[692]. Congress was deeply involved in examining the question of China's unfair trade subsidies and export finance – particularly in the power sector – at the time that the Obama Administration was considering the Sasan project. In April 2010, the U.S. Senate Committee in charge of ExIm Reauthorization – Banking, Housing, & Urban Affairs – had a hearing on

[688] OECD (16 January 2015). "Arrangement on officially supported export credits". *Trade and Agriculture Directorate*, TAD/PG(2015)1.
[689] Pomfret, J. (12 January 2011). "More Western nations match China's financing strategy to win contracts". *The Washington Post*. Available: http://www.washingtonpost.com/wp-dyn/content/article/2011/01/11/AR2011011107893.html?hpid=topnews.
[690] Hochberg, F.P. (24 May 2012). "Official testimony by to the House Financial Services Committee Subcommittee on International Monetary Policy and Trade". Available: http://www.exim.gov/news/archives/speeches/house-financial-services-committee-subcommittee-international-monetary-policy-and-trade.
[691] Hochberg 24 May 2012, *Supra*.
[692] Hochberg, quoted by Pomfret 2011, *Supra*.

China's currency manipulation, and effects on U.S. exports[693]. Sherrod Brown (D-OH) presided over the meeting, and was also one of the many legislators who wrote to ExIm in June 2010 supporting the Sasan project.

Industry complaints to the Obama Administration increasingly focused on China in 2010. In September the United Steelworkers Union filed a petition[694] to the US Trade Representative's office to investigate unfair subsidies by China for its clean energy exports, including export credits in the power sector around the world[695]. The Obama Administration agreed to examine the petition on October 2010[696], in one of many efforts to take an aggressive stance on China's state export promotion policies.

The U.S. ExIm Bank's 2011 Competitiveness Report states that the drastic growth of competitive export financing from Brazil, India and China "rendered 2010 the 'tipping point' for the G-7 export credit activity conducted within the bounds of the OECD rules"[697]. The report expresses continued concerns of declining U.S. ExIm competitiveness as a result of an increasing share of officially supported export finance occurring outside of the OECD's purview[698]. India's export finance is generally seen as a concern for the future, while conflict with Brazil has largely

[693] Committee on Banking, Housing, and Urban Affairs (April 2010). "China's Exchange Rate Policy and Trade Imbalances" *U.S. Senate*.
[694] Under Section 301 of the U.S. Trade Act of 1974
[695] Hearing before the Congressional-Executive Commission on China, 113th congress, second session. "China's compliance with the World Trade Organization and international trade rules. Prepared Statement of Elizabeth J. Drake. 15 January 2014.
[696] United Steelworkers (2010). "Steelworkers Applaud Obama Administration Acceptance of Trade Case". Available: http://www.usw.org/news/media-center/releases/2010/steelworkers-applaud-obama-administration-acceptance-of-trade-case.
[697] ExIm Bank (June 2011). "Report to the U.S. Congress on export credit competition and the export-import bank of the United States".
[698] ExIm Bank (June 2014). "Report to the U.S. Congress on the export-import bank of the United States and global export credit competition".

been curtailed through the aircraft agreement. Thus the frustrated language from ExIm Bank is almost exclusively targeted at China[699].

ExIm Bank staff communications regarding competitiveness concerns are not only to drum up political support (through public and media announcements), but were also central to briefings to the White House, Congressional Staff, and the ExIm Bank's Board of Directors. The fact that ExIm understates the competitive threat from China may simply be a diplomatic move (consistent with the U.S. official external messaging on China in Chapter 4) – pointing to the BRICS as a whole – with the goal of alerting policymakers to U.S. ExIm's competitive disadvantages without raising diplomatic tension with China. India was a key export credit battleground. Chairman Hochberg gave a public interview in India in 2012 on the U.S. effort to be an infrastructure partner for India. He called China a "formidable competitor" and criticized China ExIm's lack of transparency. He said he would like "China to be a more active member of the OECD", but that "China has chosen not to"[700].

The White House was balancing many priorities during the Sasan decision. The potential importance of the competitiveness variable is indicated by the involvement of the leading U.S. official dealing with China's export finance issues to relay the Administration's calculus on Sasan. What remains unclear is whether the Sasan decision reversal was premeditated. Rejection of the project allowed ExIm to indicate to environmental advocates that ExIm took the

[699] Author interviews, January 2015 and December 2015.
[700] Kalavalapalli, Y. & Pilla, V. (13 January 2012). "Interview transcript with Fred Hochberg". *LiveMint*, Available: http://www.livemint.com/Companies/1DPhTao4uoYfLQZQ9e2vXJ/Fred-Hochberg--I-see-a-very-strong-growth-in-India.html.

carbon considerations seriously. The conditional reversal allowed ExIm to create jobs, build its key energy relationship with India, and deprive China of another export finance victory.

3) *The Sasan project's financial and emissions review downplayed financial and emissions uncertainties.*

The U.S. watched the UMPPs through their evolution, and in 2007 and 2008 had specific concerns about risk with the Sasan project[701], particularly given Reliance's unfeasibly low tariff structure. At the time, the U.S. even speculated that the low bid may be a result of Reliance trying to boost its share price in advance of an impending initial public offering, which occurred in early 2008[702]. Although U.S. Embassy officials in India who watched the Sasan tendering had "payment security concerns" just a year earlier, ExIm communicated both to the White House and in its full assessment that the project had reasonable assurance of repayment. Several variables could have changed U.S. perceptions of the project's feasibility: 1) *New information* – Reliance's tie-in with inexpensive equipment and capital from Chinese firms and state banks was established before the bidding[703], giving Reliance a major cost advantage that other bidders would perceive as infeasible, and which U.S. ExIm would have seen in its independent financial analysis; 2) *Willingness to accept higher risk* – ExIm may have been willing to accept a higher level of risk because of the importance of the project to U.S. interests, including its relationship with India and preventing the forfeit of Indian energy export market to Chinese firms; or 3)

[701] White (3 August 2007). "New Delhi Weekly Econ Office Highlights". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/07NEWDELHI3528_a.html
[702] The Economic Times (19 January 2008). "Reliance Power Issue Price Fixed at Rs 450". Available: http://economictimes.indiatimes.com/reliance-power-ipo/reliance-power-issue-price-fixed-at-rs-450/articleshow/2713974.cms.
[703] Author interview, March 2015

Limited purview of the analysis – The ExIm analysis focused on the mining aspect of the Sasan project, and not the physical plant.

Several concerns about Sasan's financial viability – and the UMPPs generally – have come to fruition. After fully commissioning the final unit of the Sasan project in March 2015, Reliance Power has requested in August 2015 that the project be bought out by Government of India's Power Finance Corporation, citing "breach of representation" over de-allocation of the Chhatrasal coal bloc that was to provide some of the coal for the project[704]. In April 2015, Reliance Power also terminated its contract for the Tilaiya UMPP over land clearance issues in Jharkhand[705]. The Krishnapatnam UMPP, also awarded to Reliance in 2007, is also being abandoned in 2016 because of escalations in imported coal prices from Indonesia[706]. Aside from the Tata Mundra project, which has been fully commissioned[707], and Sasan which faces an uncertain future, all remaining UMPPs have not proceeded to the bidding stage pending regulatory reforms.

The U.S. Office of Inspector General investigated ExIm's involvement in the Sasan project, releasing a report in September 2015, finding several deficiencies in ExIm's financial analysis of the project. In particular, ExIm failed to adequately hedge against rupee depreciation. Despite

[704] Trivedi, S. & Jai, S. (29 August 2015). "R-Power asks PFC to buy out Sasan UMPP". *Business Standard*. Available: http://www.business-standard.com/article/companies/r-power-asks-pfc-to-buy-out-sasan-umpp-115082900032_1.html.

[705] Jai, S. (29 April 2015). "Reliance Power pulls out of Tilaiya UMPP". *Business Standard.* Available: http://www.business-standard.com/article/companies/reliance-power-pulls-out-of-tilaiya-umpp-115042900046_1.html.

[706] Economic Times of India (26 January 2016). "Reliance Power seeks to exit Krishnapatnam UMPP; writes to Andhra govt". Available: http://economictimes.indiatimes.com/industry/energy/power/reliance-power-seeks-to-exit-krishnapatnam-umpp-writes-to-andhra-govt/articleshow/50731361.cms.

[707] Even the Tata Mundra project has faced issues with profitability. The plant sources coal from Indonesia, which raised the price, prompting legal challenges as Tata requested permission to renegotiate the tariff at which the power is sold.

ExIm's Board memorandum analyzing this issue, the risk was not included in parts of the financial model[708]. Ultimately the Sasan project's construction had a cost overrun of US$1.45 billion, some of which is due to the rupee devaluation[709]. The currency hedge issue was exacerbated when the Chinese banks supporting Shanghai Electric did not follow through with financing, resulting in more rupee exposure and expensive rupee loans from Indian banks. The Inspector General found that the risk rating calculations were "potentially vulnerable to subjective interpretation" and "cannot be independently verified"[710]. Such ambiguity in the financial viability allows a larger role for political variables to determine whether a project gets ExIm support.

6.4 Comparing the Three Gorges Dam and Sasan Projects

The Three Gorges and Sasan projects were proposed to the U.S. ExIm under similar conditions domestically and in destination markets. The Three Gorges and Sasan project conditions led to conflicts in ExIm's mandate, which left decisions to the discretion of the institutions leadership. The natural experiment allows comparison of the effect of different competitive environments on an institution's adherence to environmental priorities. The difference in the outcomes of the Three Gorges and Sasan projects could have been a consequence of the competitive environments, though other important variables exist which make determinate inference impossible.

[708] U.S. Office of Inspector General 2015, *Supra* p.20.
[709] U.S. Office of Inspector General 2015, *Supra* p.12.
[710] U.S. Office of Inspector General 2015, *Supra* p.24.

6.4.1 Similarities:

Both projects were the first implementation of new unilateral safeguards that, at the time, was a large step ahead of any other government ECA. In both cases the ExIm Board had the discretion to approve or reject the transaction. The projects represented a legitimate conflict in the ExIm's mandate, where environmental impacts could not be easily mitigated without the developer radically reconsidering the project design. At the time of making its decision, ExIm was fully aware that both the Three Gorges and Sasan projects would proceed with or without ExIm's support. Abstention would lead to U.S. lost jobs if other ECAs provided finance in the place of the U.S.

Three Gorges was a keystone project for the Chinese government and a symbol of China's domestic capability. Involvement of international firms and financial institutions represented both a diplomatic opportunity as well as a gateway for long-term commercial relationships. The Indian government placed similar weight on the UMPPs, including the Sasan project. Both projects also had investment momentum behind them resulting from U.S. interest in increasing trade (U.S. giving China Most Favored Nation status, and Bush's bilateral trade initiative with India followed by Obama's National Export Initiative emphasizing export finance).

The Clinton Administration's NSC memo to the ExIm board was leaked, and the Administration made multiple public statements against the project. The Obama Administration, while opposing other coal projects at MDBs, did not publicly oppose the Sasan project, instead keeping those

deliberations within ExIm. This alone may indicate U.S. interests in seeing the Sasan project go forward relative to the U.S. willingness to forfeit Three Gorges.

The decision on Three Gorges and Sasan to approve or reject threatened to be a flashpoint against the ExIm Bank's upcoming re-authorization. Both Administrations operated in a post-Reagan environment where export support was to be minimized – with the eventual goal of elimination – though industry-backed Congressional advocates offset this tendency. Both Administrations were also attempting to send progressive environmental messages backed by strong environmental coalitions: Clinton deferred to Vice President Al Gore on many environmental issues who wanted the U.S. to take a leadership stance on core environmental issues; Obama wished to signal a shift in U.S. seriousness about climate change in a departure from the Bush years. The projects occurred at a time when China (in the 1990s) and then India (post 2010) held the mantle of leadership among developing countries. Both were highly sensitive to the perceptions that the U.S. would attempt to undermine their development sovereignty by withholding support for a commercial deal. Therefore, the likelihood of serious adjustment by recipients (China providing detailed environmental impact assessments or India relinquishing is coal dependence) was low.

Finally, the composition of the debate among civil society, congress and industry was similar for both projects. Pressure to build the project was higher for Three Gorges, given the diversity of the industrial coalition behind it, though the project also had a more public profile and wider media coverage. A powerful environmental coalition opposing the project also raised audience costs of the U.S. supporting the project.

6.4.2 Differences:

At the time of consideration for the Sasan project, the U.S. was pulling out of a deep recession that framed the U.S. political debate around "jobs". Unemployment was declining but at 9.4%, double pre-recession levels. The Sasan contract to Bucyrus would create as many as 1000 jobs, but probably significantly fewer directly. The Three Gorges project, by contrast, was proposed at a time when unemployment was much lower, 5.6% and also declining, signaling optimism about the economy's direction. However, in the context of this lower unemployment, the jobs potential of supporting Three Gorges was as many as 19,000 – a difference from Sasan that would have amplified U.S. interests in competitively supporting U.S. export contracts. ExIm's congressional advocates for Three Gorges were reeling from other lost opportunities to do export business with China, including in the nuclear power industry. The stakeholder advocacy surrounding both Three Gorges and Sasan centered on job creation. Even though Sasan would create fewer jobs they may have been more salient in the context of higher unemployment. The future outlook for a pivotal market was important in both projects. U.S. ExIm communicated clearly its expectation to support further business in China's hydropower sector.

Sasan was a gateway to much larger jobs creation – even beyond coal in other technologies where U.S. industry had a greater competitive advantage. Less than a month after Sasan's final approval at ExIm, ExIm signed an additional MOU with Reliance promising US$5 billion in export support for renewable and gas-fired thermal power[711]. One US$1.06 billion direct loan and loan guarantee as part of that program – in December 2012 – was estimated to have

[711] Rao, N. (6 November 2010). "Press Release: MOU between ExIm Bank and Reliance Power". *Reliance Power*. Available: http://www.reliancepower.co.in/1100/37_102.pdf.

supported approximately 12,300 jobs in the U.S.[712] That MOU, which coincided with a visit to India by President Obama, was targeted to support 8 GW of General Electric's gas-turbines, produced in New York and South Carolina, for the Indian market. The magnitude and timing of the US$5 billion MOU between the U.S. and India was seen by media as the U.S. "weigh[ing] in alongside"[713] China's US$10 billion Memorandum of Understanding between Shanghai Electric and Reliance just a week beforehand[714].

Institutional learning could have been a powerful variable. James Mahoney, the Vice President for Environment at ExIm, headed the E&E Division for both the Three Gorges and Sasan projects. Mahoney's institutional memory could have urged Sasan to reconsider taking the hard line, given the inability for the U.S. to change the outcome. But the ultimate decision on both projects was left the Board, which changes quickly and must respond to the Bank's mandate and the interests of stakeholders. It is hard to speculate whether the Clinton Administration viewed stopping hydropower projects with greater priority than the Obama Administration cared about stopping coal projects. Both project types were symbolic of broader political trends.

[712] King, L. (4 December 2012). "Ex-Im Approves $2.1 Billion to Finance Export of U.S. Petrochemical Goods and Services to India". *ExIm Press Release*. Available: http://www.exim.gov/news/ex-im-approves-21-billion-finance-export-us-petrochemical-goods-and-services-india.

[713] Kirkland, J. (9 November 2010). "Obama and GE Make Clean Tech Export Case to India as Currency Issues Boil". *ClimateWire*, reprinted in *The New York Times*. Available: http://www.nytimes.com/cwire/2010/11/09/09climatewire-obama-and-ge-make-clean-tech-export-case-to-19304.html.

[714] Rao, N. (28 October 2010). "Press Release, Shanghai". *Reliance Power*.

Table 6.2: Summary comparison of the Three Gorges and Sasan projects.

		Three Gorges Dam	Sasan
Project	Project	*18 GW impoundment hydro*	*4 GW supercritical coal*
	Time of decision	*May 1996*	*June 2010*
	Policy invoked	*1992 Environmental Guidelines*	*2010 Carbon Policy*
	Conditions for reconsideration	*Environmental impact review*	*Mitigants*
	Policy implementation	*Rejected*	*Rejected, Reversal*
Executive / Legislative Interests	President	*W. Clinton (D)*	*B. Obama (D)*
	National unemployment rate	*5.6% (downward trend)**	*9.4% (downward trend)**
	Export contract value	*US$1.5 billion*	*US$0.9 billion*
	Upper estimate of job creation	*19,000*	*1,000*
	Public attention	*High*	*Low*
	Exporters (equipment)	*Rotec (IL), Voith-Hydro (PA), Caterpillar (IL)*	*Bucyrus International (WI)*
	Diplomatic interests	*Commercial, human rights*	*Commercial, geopolitics*
	Industry interests	*China market (hydropower)*	*India market (coal)*
	Governmental review	*National Security Council*	*National Advisory Council*
Organizational Interests	Administration position	*Opposed*	*Unclear, ultimately in favor*
	Next ExIm re-authorization	*1997*	*2012*
	Agency under-staffed	*Yes*	*Yes*
	Time the Chairman in office	*Transition Brody to Kamarck*	*Hochberg newly confirmed*
Contested authority	Project to be built anyway	*Yes*	*Yes*
	Competitors	*Japan, France, Germany, Canada*	*China, India, Russia, Belarus, Poland*
	Perceived export competition	*Canada promised finance*	*China, possibly others*

* U.S. Department of Labor, Bureau of Labor Statistics. Accessed 27 January 2016. Available: http://data.bls.gov/pdq/SurveyOutputServlet.

The strategic competitive positioning of the U.S. in each project is circumstantially important to the Three Gorges rejection and Sasan's approval. In Three Gorges, the U.S. abstention retained the hope that U.S. allies Japan, UK and Germany – who had been coordinating on export finance for decades through the OECD – would follow the U.S. lead. This would eliminate export finance competition, though the U.S. knew that Canada had committed public export support and that others would feel pressured to follow suit. By contrast, the Sasan project was a zero-sum game; if the U.S. rejected export support, the contracts would go to China. Even though U.S.

efforts to cooperate ultimately failed in Three Gorges, ExIm had recourse in that U.S. firms would pursue contracts through foreign subsidiaries and ECAs. In Sasan, it was clear that the project would be lost to a Chinese competitor and would further embed China's growing advantage in India's power sector enabled in part through the use of export credits.

However, it is impossible to exclude the alternate hypothesis that the environmental salience of the Three Gorges Dam project made it too politically costly for the U.S. to engage, particularly in light of the international hydropower politics at the time (see Chapter 7).

6.5 Hierarchy of ECA decision-making:

Given that China's export credit competition appears to be an important variable in U.S. ExIm strategy, how do competitive political tendencies interact with other decision variables at ECAs? What follows are observations of how decision variables weigh against others, drawing on lessons from Sasan, Three Gorges and cases discussed in Chapter 5.

1st dimension (commercial):

> The majority of export credits are provided to offset provision of similar credits by other governments. ECAs are self-interested in coordinating to reduce export credit competition, while recipients are self-interested in perpetuating deeper subsidies. In the vast majority of projects that are technically and financially sound and where competition

is contained, ECA boards will approve projects. This level of decision-making aligns the interests of most stakeholders and is the perfunctory activity of ECAs.

2nd dimension (geopolitical):

Foreign policy goals serve the interests of the Executive, typically to build relationships with allies or offsetting influence of competitors. These relationships underlie the pipeline of activity available to ECAs, aligning organizational and Executive interests. Although the U.S. legislature has tried to strip strategic discretion from U.S. ExIm insofar as it hinders commercial interests, the Executive's authority over the institution makes strategy a key variable where stakeholders are otherwise conflicted.

3rd *dimension (principled, progressive or symbolic):*

Governments are willing to serve non-commercial political goals through their ECAs, such as unilaterally refraining from providing finance for environmentally harmful projects or imposition of a finance sanction for violating international norms. These activities can be intended as symbolic, or "moral", or purposive by inducing the recipient or other governments to follow suit. Such activities cause a mis-alignment of stakeholder preferences because abstaining from projects conflicts with the dominant decision variables, by disadvantaging domestic firms relative to foreign competitors, weakening diplomatic relations with export finance recipients and threatening the continued legitimacy and authority relevance of the organization. These decisions are rare, and

unless progressive policies are sufficiently strong or coordinated with competitors, ECAs are prone to succumb to commercial or strategic considerations instead.

This work has not sought to explain all ExIm decision making on environmentally sensitive projects. The Three Gorges and Sasan projects represent special but important cases. Environmental priorities are frequently over-ruled by commercial and strategic considerations. Months after the Three Gorges and Sasan projects, ExIm approved export finance for similar projects, Xiaolangdi dam in China and another "High Carbon" intensity project in South Africa called Kusile. ExIm was also being considered as a source of funding to fill a budget gap in the highly contentious coal project in Kosovo under consideration at the World Bank; ExIm support would make it easier for a U.S. firm to win contracts for the Kosovo project likely resulting in "less opposition from some factions in the USGov [*sic*]" for the Kusile vote in the World Bank[715].

The next elevation of ExIm's carbon policy came through President Obama's June 2013 climate action plan – strengthening the symbolic environmental restrictions on public coal finance[716]. In response, U.S. ExIm chose not to provide financing in July 2013[717] to the 1200 MW Thai Binh 2 subcritical coal power plant, which fell under "Highest" carbon intensity projects[718]. The project was rejected despite Vietnam being a key market for China's export finance and power projects,

[715] Email from Ranjit Lamech to Ellen A. Goldstein and others (7 December 2014). "Kosovo Power – A (not so) brief update", reported by Friedman, L. (30 January 2015). "U.S. team at World Bank pushes for Kosovo coal plant". *ClimateWire*, Available: http://www.eenews.net/climatewire/stories/1060012585/search?keyword=Kosovo

[716] Public coal finance was limited to least developed countries where alternatives are not available.

[717] Friedman, L. (19 July 2013). "Finance: Ex-Im Bank Rejects Coal-Fired Power Plant for Vietnam". *ClimateWire*. Available: http://www.eenews.net/stories/1059984677.

[718] Palmer, D. (18 July 2013). "UPDATE 1-Ex-Im Bank won't finance Vietnam coal-fired power plant". *Reuters*. Available: http://www.reuters.com/article/usa-vietnam-coal-idUSL1N0FO1HZ20130718.

as well as the presence of substantial competition from Japan and Korea. All three exporters were laggards in U.S. efforts to multilateralize coal restrictions at the OECD (discussed in Chapter 5). Thai Binh 1 was built with Japan's Marubeni Corporation, and Thai Binh 2 with Korean and Japanese support[719]. In this case, ExIm's carbon policy had been strengthened and clarified into the second Obama term, allowing a principled position to prevail despite the commercial and strategic importance of the competitive environment in Vietnam.

The administrative priority on climate remains highly contested within the U.S. Congress. The 2015 Appropriations bill required that ExIm *not* implement its Carbon Policy, which prompted ExIm to temporarily consider the Reliance Tilaiya project in Jharkhand[720], another of the Ultra Mega power projects to which Sasan belongs. Tensions between commercial, geopolitical and symbolic pressures are ongoing.

[719] Goldberg, K. (10 December 2013). "PetroVietnam Gets $795M In Loans For $1.6B Coal Plant". *Law360*. Available: http://www.law360.com/articles/494540/petrovietnam-gets-795m-in-loans-for-1-6b-coal-plant.

[720] Reuters (4 July 2014). "US Export-Import Bank weighs loan to major India coal project". *The Economic Times of India.* Available: http://economictimes.indiatimes.com/industry/energy/power/us-export-import-bank-weighs-loan-to-major-india-coal-project/articleshow/37759138.cms.

Chapter 7 – *High Delegation*

Follow the leader? World Bank re-engagement with hydropower

After decades of politicization over environmental and human impacts, the developing world has claimed license to develop its hydropower resources. Economically feasible hydropower potential in developing countries is 1900 GW, of which 1330 GW remains unexploited[721]. Africa alone has the potential for 300 GW of continuous power[722] on a currently installed continental base of 185 GW, of which only 15% is hydropower[723]. Although new hydropower has been in the interests of emerging economy leaders for decades, the political forces within international institutions have led to waves of development and periods of pause in the global forecast for hydropower.

Hydropower in Africa is poised to play a renewed role after years of hiatus, in substantial part due to Chinese finance and renewed commitment from established international donors. Figure 7.1 below shows that hydropower as a share of new capacity has varied widely during the past several decades. In the 1950s, 60s and 70s, hydropower capacity was consistently around 70% of new capacity additions. This share of new capacity declined to 46% in the 1980s, before plummeting to 15% in the 1990s, and 17% between 2000 and 2005. Following this "hiatus", hydropower is making a resurgence. Between 2005 and 2010, hydropower was back up to 33%

[721] World Bank Group (June 2009). "Directions in Hydropower: Scaling up for Development". *Water Working Notes*, No. 21, ref. 49017.
[722] Modi, V., McDade, S., Lallemont, D. & Saghir, J. (2005). "Energy Services for the Millennium Development Goals". Millennium Project, UNDP, World Bank, ESMAP. Available: http://www.unmillenniumproject.org/documents/MP_Energy_Low_Res.pdf.
[723] Author analysis from WEPP 2015, See Chapter 2 Supplement.

of capacity addition. From 2010 to 2015 the share was 16%, and is expected to be nearly 60% of the pipeline capacity added before 2020[724].

Figure 2.2 showed that the current pipeline of African hydropower is three times as hydro-intensive as capacity commissioned since 2005, 3.4 times as hydro-intensive as capacity since 1990, and 1.8 times more hydro-intensive than all operating capacity. The total hydropower pipeline of 64 GW across Africa (including South Africa and small islands) would be a 230% increase on the current operating capacity of 28 GW[725].

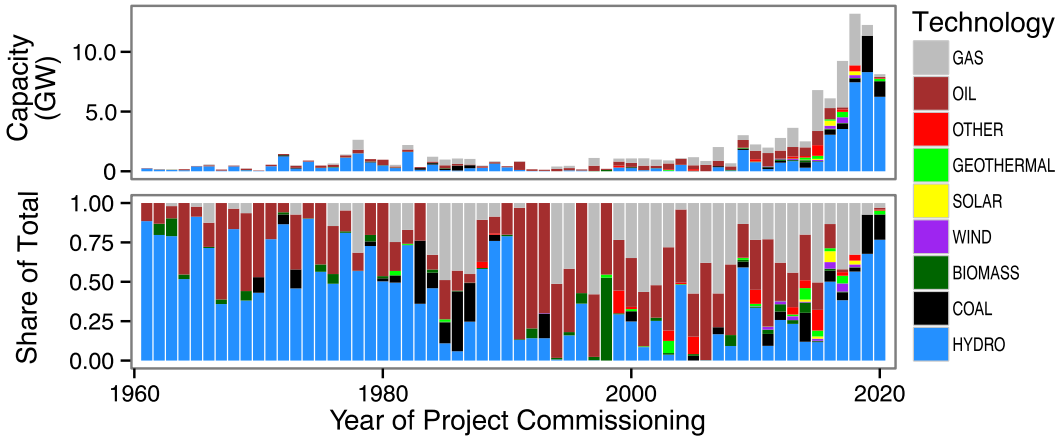

Figure 7.1: Share of hydropower over time. Operating and pipeline capacity of power plants by technology across sub-Saharan Africa (excluding South Africa). Hydropower constituted the majority of new installed capacity until around 1990. The World Bank's departure from hydropower in the 1990s and early 2000s was a strong market signal influencing the development of the power sector. In the past decade, the rate of hydropower capacity addition has increased. *[Author analysis with data from Platts World Electric Power Plants, December 2015]*.

This chapter argues that the reclaimed future for hydropower in Africa is a result of several factors, including a World Bank's policy shift regarding hydropower, the entry of Chinese firms and finance, and fracturing opposition to hydropower as it presents a baseload alternative to

[724] Author analysis based on WEPP 2015.
[725] Author analysis from WEPP 2015, See Chapter 2 Supplement.

fossil power. Moreover, the chapter argues that these dynamics are inter-related, particularly the activities of the World Bank and China. China became a powerful player in African hydropower to fill a void in investment left by the World Bank during the hiatus discussed above; and then the World Bank re-positioned itself as a leader in global hydropower by contesting China's hydropower involvement in markets across Africa.

Section 7.1 of this chapter tells the story of how governance reform, particularly new assertiveness of recipient governments, prompted a renaissance of hydropower at the World Bank. China was one important actor *within* the World Bank that caused the institution to adopt a new risk analysis framework that favored managing the risk and rewards of pro-active engagement in large infrastructure, rather than facing "crimes of omission"[726] resulting from disengagement with risky but potentially transformational development projects. The pivot had a discernible impact on the Bank's hydropower investment portfolio after 2004. The World Bank after 2004 chose to prioritize hydropower in part because of the scale of China's engagement in the sector. Other factors simultaneously benefited the global coalition in favor of hydropower growth – including fractured interests at civil society groups and the relevance of hydropower toward addressing climate change.

Section 7.2 inductively generates hypotheses for the World Bank would choose to counter China's growing influence in global hydropower development. Evidence from three brief case studies and diplomatic cables implies the following: 1) Clients have more leverage to solicit Bank involvement when China is, or may become, involved in a project; 2) Markets with greater Chinese involvement threaten the interests of Bank stakeholders, who align behind the Bank's

[726] World Bank (27 August 2002). "External views on the World Bank Group's Draft Water Sector Strategy". p.18

involvement in hydropower projects; and 3) The Bank perceives that projects involving China are poorly managing environment, social and governance issues, thus increasing the impetus for the Bank's involvement under its post-2004 risk framework.

Section 7.3 examines a key test of the thesis hypothesis; if the World Bank responds competitively to China's involvement in African hydropower, the Bank will be more likely to engage in hydropower projects in markets where China is increasing its influence. Statistical analysis of an original dataset of World Bank and Chinese projects reveals general agreement among models that the World Bank was more likely to be involved in hydropower projects, and to build larger projects, in markets where China was also involved and in years following China's involvement.

There are substantial data challenges that limit the causal claim between World Bank and China's activities. Although, taken collectively, the chapter presents preliminary qualitative and quantitative evidence that China has a discernible impact on World Bank energy investment decisions.

7.1 Evolving norms in global hydropower development

Large hydropower projects comprised a significant share of the World Bank's energy portfolio from the 1950s through the 1990s, but the fortunes of hydropower advocates declined as environmental concerns gained prominence at the Bank. In 1970, the World Bank President Robert McNamara established the position "Environmental Advisor" to review environmental

consequences of projects, shortly before the landmark UN Stockholm Conference on the Human Environment in 1972, which promoted the recognition of poverty's link to the environment. The Bank's Executive Directors instituted a principle of environmental lending in 1974. Following an in-depth study of environment at the multilateral development banks by the UN Environment Program and Canada's International Development Agency, in 1980 the World Bank signed the New York Declaration of Environmental Policies and Procedures Relating to Economic Development, pledging to strengthen environmental safeguards. In 1987, the World Commission on Environment and Development (known popularly as the Brundtland Commission) called for protection of indigenous and tribal rights. Pressure from environmental civil society groups in the U.S. Congress resulted in the passage of the International Development and Finance Act of 1989 (also known as the Pelosi Amendment), which prohibited the U.S. Executive Director at the Bank from supporting any project that had not performed a publicly accessible Environmental Impact Assessment. Shortly after, the Bank adopted an environmental impact assessment policy in 1989, strengthening it in 1991. In 1992, the Earth Summit in Rio de Janeiro brought climate change prominently to the environmental agenda, and administration of the Global Environment Facility was delegated to the World Bank – a bode of trust in the Bank's environmental credentials.

The Bank's social and environmental guidelines for analyzing large dam proposals improved in tune with these environmental precautions. The most impactful rules were adopted at the height of the Bank's involvement in dams in the 1970s and 80s. Dam safety guidelines were adopted in 1977, involuntary resettlement and rehabilitation guidelines in 1980 and 1990, additional

protections for indigenous peoples in 1982 and 1991, protections on natural habitats in 1986 and 1995, and requirements for environmental assessments of dams and their reservoirs in 1991[727].

A series of reports, internal to the Bank, commissioned for the Bank, and by outside groups, severely damaged the Bank's appetite for large dam projects. The Sardar Sarovar project in India (a large system of dams and canals in the Narmada Valley affecting 245 villages and 100,000 people in the area to be submerged) was an early turning point. The Bank entered into a credit and loan agreement with the Government of India for the project in 1985. Already deep into the implementation phase, President Barber Conable commissioned an independent report in March 1991 by former UNDP head Bradford Morse[728]. The report was critical of the role played by both the Bank and Indian government at state and federal levels. The parties had so poorly addressed environmental and resettlement issues that the Morse Commission recommended the Bank "step back from the Projects and consider them afresh"[729]. This led to the unprecedented step of the Bank withdrawing from a funded project – after an internal battle within the Bank's Board[730]. India's Executive Director to the World Bank board ultimately asked the Bank to

[727] World Bank (1 September 1996). "World Bank Lending for Large Dams: A Preliminary Review of Impacts". Report 125. Available: http://lnweb90.worldbank.org/oed/oeddoclib.nsf/DocUNIDViewForJavaSearch/BB68E3AEED5D12A4852567F5005D8D95?opendocument.

[728] Berger, T.R. (1993). "The World Bank's Independent Review of India's Sardar Sarovar Projects". *American University International Law Review* 9:33.

[729] It is worth quoting the report at length, to indicate the power of this recommendation, at such an advanced stage in project planning. "Every decision as to the Sardar Sarovar Projects has always been, and will continue to be, a decision for India and the states involved. Together, they have spent a great deal of money. The foundations of the dam are in, the dam wall is going up, the turbines have been ordered and the canal is completed to the Mahi River. No one wants to see this money wasted. But we caution that it may be more wasteful to proceed without full knowledge of the human and environmental costs. We have, decided that it would be irresponsible for us to try to patch together a series of recommendations on implementation when the flaws in the Projects are as obvious as they appear to us. As a result, we think that the wisest course would be for the Bank to step back from the Projects and consider them afresh. The failure of the Bank's incremental strategy should be acknowledged." In Morse, B. & Berger, T.R. (1992). "Sardar Sarovar - Report of the Independent Review". *Resources Futures International*, p.xi-xxv and 349-58. Available: http://ielrc.org/Content/c9202.pdf.

[730] Wirth, D.A. (1998). "Partnership Advocacy in World Bank Environmental Reform". *In* Fox & Brown (Eds.) *Supra* p.64.

cancel the remainder of the project, vowing instead that the Indian government would complete the project with domestic resources[731].

As a public relations disaster, the Bank sought ways of ensuring the Sardar Sarovar outcome would be prevented in the future. The Bank created the "Inspection Panel" in 1993, serving as the equivalent of an ombudsman reporting directly to the Board of Directors following independent reviews of project complaints. The Panel is a go-between for project-affected communities, and a thorn-in-the-side of project managers weary of cumbersome oversight and inevitable bad publicity accompanying an inspection panel inquiry.

The Sardar Sarovar incident was not an isolated Bank failure. The Morse Commission report had not released its first draft when President Conable's successor, Lewis Preston, created an internal study – not directly related to Sardar Sarovar – on the Bank's overall portfolio management. The Wapenhans Report, as it became known after it was leaked in early 1992, took a bird's eye view of the Bank's operations and showed that some Morse Commission findings were pervasive. Project cancellations had increased by 50% in the previous three years[732]. Projects with unsatisfactory performance were becoming more common, impacting over a third of the Bank's project portfolio by 1991[733]. Co-financed projects were least likely to be successful. The Wapenhans Report blamed some of the deteriorating project quality on the "Bank's pervasive preoccupation with new lending", and adverse incentives generated by the

[731] Cullet, P. (2007). "The Sardar Sarovar Dam Project: Selected Documents". *Ashgate Publishing, Ltd.*
[732] Wapenhans, W. (22 September 1992). "Effective Implementation: Key to Development Impact". *World Bank Portfolio Management Task Force*.
[733] Wapenhans 1992, *Supra*.

"promotional – rather than objective – approach to appraisal" by the Bank's planners[734]. Although complex projects performed more poorly, there was a "bias for complexity" potentially caused by the "urge to include as many novel features as possible" to solicit a favorable management and Board appraisal of the project[735].

External pressure for the Bank to reform mounted in response to increasingly mobilized NGO opposition to the Bank's activities**.** In 1994 the U.S. Congress – yielding to pressure from civil society organizations – withheld US$1 billion in financing from the Bank's International Development Association because of disregard to Congressional demands for environmental safeguards[736]. Also in 1994, two thousand civil society organizations signed the Manibeli Declaration[737] calling for another independent Bank review – this one specific to the Bank's large dam projects and in response to the Sardar Sarovar debacle.

The pathologies in need of treatment were multi-faceted. Organizational interests drove staff to take on large and complex projects that were highly visible to management and client governments. Before the 1990s, the Bank had a project philosophy – according to scholar David A. Wirth – that the institution could "do bad projects better than anyone else"[738]. Staff thought that complexity was part of the Bank's comparative advantage. As a lender of last resort, the

[734] Wapenhans 1992, *Supra* p.iii.
[735] Wapenhans 1992, *Supra* p.iii.
[736] The U.S. Congress, as one of the Bank's Principals, can threaten to withhold money from the International Development Association (IDA), which unlike the Bank's profitable International Bank for Reconstruction and Development (IBRD) activities, relies on donor contributions. IDA funding cycles, which occurred every three years, have become a standard tool for some NGOs to pursue reform, particularly on environmental issues. See Wade, R.H. (2002). "US hegemony and the World Bank: the fight over people and ideas". *Review of International Political Economy* 9(2): 215-243; Also Princen, T. & Finger, M. (1994). "Environmental NGOs in World Politics: Linking the local and the Global". *Routledge*.
[737] Manibeli was a village in the Indian state of Gujarat submerged by the Sardar Sarovar Dam in 1993 following the World Bank's withdrawal from the controversial project.
[738] Wirth, D.A. (1998). "Partnership Advocacy in World Bank Environmental Reform". In Fox & Brown (Eds.). *Supra* p.65.

Bank naturally assumed a high-risk posture, though chastened by the Morse and Wapenhans evaluations, the Bank stepped back from the highest-risk elements of its portfolio.

7.1.1 Moving away from Infrastructure

As soon as James Wolfensohn entered as the Bank's President in June 1995, he was caught in the caustic environment of the Bank's large dam politics. Wolfensohn rejected the Bank's US$170 million loan for the US$1 billion Arun III run-of-river hydroelectric project in Nepal in August 1995[739]. According to the senior water advisor at the time, Wolfensohn hoped to "buy peace" from dam critics on the Bank's Board[740]. A similarly sized project in Laos, Nam Theun II, was also stranded in environmental review and appeared to be going nowhere. Wolfensohn began to focus the Bank on the human aspects of development – including governance, health and education. Major infrastructure initiatives in flood control, navigation, agriculture and energy that had consumed much of the Bank's portfolio in previous decades, were left behind to the frustration of client governments. Wolfensohn, who had made his career as an investment banker, sensed that private capital was becoming more capable in emerging markets, and would be able to pick up slack left by the Bank in infrastructure[741].

[739] Udall, L. (1998). "The World Bank and public accountability: has anything changed?" *In* Fox, J.A. & Brown, L.D. (Eds.). "The struggle for accountability: the World Bank, NGOs, and grassroots movements". *The MIT Press*, p.391-436.

[740] Briscoe, J. (2008) "Afterward: How Theory, Practice, Politics and Time Affects Views on the Indirect Economic Impact of Water Infrastructure". *In* Bhatia, R., Cestti, R., Scatasta, M. & Malik, R.P.S. (Eds.). "Indirect Economic Impacts of Dams: Case Studies from India, Egypt, and Brazil". *The World Bank and the Academic Foundation*.

[741] Mallaby 2004, *Supra* p.339-340.

Discussion of new dams and those stuck in the pipeline remained squarely in the crosshairs of transnational advocacy networks. Responding to external pressure, the Bank's Operations Evaluation Department (OED) initiated a report reviewing dam investments that was completed in 1996. The findings were never fully released publicly, though NGO groups criticized a leaked version for underplaying serious dam impacts[742]. The OED review defended its overall dam portfolio, stating that the "large majority of the dams reviewed are yielding benefits that far outweigh their costs"[743]. The results go on to say that the:

> "tentative finding that 74 percent of the dams [reviewed] are acceptable or potentially acceptable under the Bank's current guidelines suggests that large dams can be designed, built, and operated so as to make a positive contribution to development"[744].

Despite the relative positivity of the OED review, by the late 1990s the Bank was financing dams at about half the rate it had during the 1970s and 80s, around four per year[745]. The Bank still invested in greenfield hydropower in Ethiopia (Gilgel Gibe II in 1997) and Uganda (a failed attempt to build the Bujagali dam in 2000, taken up again later). But according to NGO estimates, the percentage of the budget allocation in the pipeline for hydropower fell from about 24% in the 1980s to 7% in 1996[746]. Bank officials estimate that investments in hydropower fell

[742] Bosshard, P. (2008). "China's Environmental Footprint in Africa". *Johns Hopkins SAIS Working Papers in African Studies*. Available: https://www.sais-jhu.edu/sites/default/files/China's-Environmental-Footprint-in-Africa.pdf, p.5

[743] World Bank (1 September 1996). "World Bank Lending for Large Dams: A Preliminary Review of Impacts". Available: http://lnweb90.worldbank.org/oed/oeddoclib.nsf/DocUNIDViewForJavaSearch/BB68E3AEED5D12A4852567F5005D8D95?opendocument.

[744] World Bank 1996, *Supra.*

[745] World Bank 1996, *Supra*.

[746] Moore, D. & Sklar, L. (1998). "Reforming the World Bank's lending for water: the process and outcome of developing a water resources management policy". *In* Fox & Brown, L.D. (Eds.). "The struggle for accountability: the World Bank, NGOs, and grassroots movements" . *The MIT Press*, p.345-390.

by 90% during the 1990s[747,748]. World Bank staff learned to "steer clear" of controversial infrastructure because of the proliferation of internal guidelines that made for uncertain costs, schedules and controversies[749]. For instance, the likelihood of a dam project being subject to a request for an Inspection Panel review was 64 times that of a project without a dam[750]. While the politics of financing dams grew harsh at the World Bank and among donor governments, developing country clients were no less interested in building dams, with project plans accumulating in the pipeline in need of investment[751].

The hiatus from new lending did not appease civil society groups that had made dams and the World Bank major targets[752]. In March 1997, civil society groups gathering at an international meeting on dam-affected people in Curitiba, Brazil called for a moratorium on dam construction until a truly independent review was established. In 1998, the IUCN and World Bank convened a high level body of civil society, governments, academia and industry to form the World Commission on Dams to resolve the tension over large dam construction, with the mandate to assess the development effectiveness of large dams and to develop international best practices on

[747] van Ginneken, M. (29 October 2014). "Keynote: A Decade of Sustainable Hydropower Development – What Have We Learned?" *HydroVision International 2014*, Available: http://www.hydroworld.com/articles/print/volume-23/issue-1/articles/a-decade-of-sustainable-hydropower-development-what-have-we-learned.html. [Minute 1:07:00].
[748] Briscoe, J. (June 2010). "Overreach and Response: The Politics of the WCD and Its Aftermath". *Water Alternatives* 3(2): 399.
[749] Briscoe 2011, *Supra*.
[750] Briscoe 2010, *Supra*.
[751] Zeller, T. (19 November 2000). "Ebb and Flow of Opinion: Big Dam Projects: Envisioning the Costs: Nam Theun 2 The Rate of Building New Dams Has Slowed...but Large-Scale Projects Still Linger". *New York Times*.
[752] Rich, B. (1994) "Mortgaging the earth: The World Bank, environmental impoverishment, and the crisis of development". *Island Press*.

dams[753]. As soon as the Commission was launched, developing countries and dam advocates criticized it as being captured by the anti-dam civil society groups[754].

Patrick McCully, the head of a leading anti-dam NGO, International Rivers Network, published accounts of how civil society engineered a powerful role in the WCD. By doing so, civil society marginalized relatively uncoordinated pro-dam voices in governments, the private sector, and the World Bank itself. The WCD intended to ensure transparency and legitimacy by creating a degree of separation from the Bank[755,756]. The plan backfired, however, because many of the Bank's country clients failed to view the Commission credibly owing to the perception that coordinated anti-dam interests were framing the outcomes.

Major developing country governments preemptively dismissed the report. India and China had been the Bank's largest recipients of funding for hydropower, with US$3.8 and US$3.5 billion of finance, respectively, from IBRD before 2000. China withdrew from the World Commission on Dams in 1998. Shen Guoyi from the Chinese Ministry of Water Resources was permitted to remain as a Commissioner for the report in her personal capacity, though she too resigned in early 2000. China put forward no replacement[757]. The Chinese government saw the process as "very much biased to the developed countries and anti-dam activists and extreme

[753] Bosshard 2008, *Supra.*
[754] Briscoe, J. (June 2010). "Overreach and Response: The Politics of the WCD and Its Aftermath". *Water Alternatives* 3(2): 399.
[755] Dubash, N.K., Dupar, M., Kothari, S. & Lissu, T. (2001). "A Watershed in Global Governance? An independent Assessment of the World Commission on Dams". Executive Summary. *World Resources Institute.* Available: http://www.wri.org/sites/default/files/pdf/wcd_executive_summary.pdf.
[756] McCully, P. (2000). "The use of a Trilateral Network: An Activist's Perspective on the Formation of the World Commission on Dams". *American University International Law Review* 16: 1453-75.
[757] Dubash et al 2001, *Supra*.

environmentalists"[758]. China, the largest domestic developer of dams at the time, refused to allow the Commission to study its dams (though Three Gorges Dam and others were still featured in the report). The Indian Government reacted similarly[759]. According to anti-dam advocate McCully of International Rivers Network:

> "Several pro-dam governments and agencies attacked the process at one time or another, but their efforts were never coordinated or effective. The Chinese and Indian governments both withdrew from the process after initially welcoming it, and, in doing so, only ensured that they could do little to influence its outcome"[760].

The report failed to develop a global consensus, though by nature of the Commission's initial conception and composition many touted it as such. In November 2000, anti-dam campaigners advocated the report as an indictment of the environmental and humanitarian impacts of World Bank and global hydropower projects. The language within the report framed recommendations as "guidelines" that the Bank interpreted as binding rules rather than as guiding principles. This forced the Bank to refuse their adoption. The Bank argued that strict implementation of the WCD's guidelines would render any hydropower project infeasible[761]. Only the Japanese and German governments accepted the guidelines. The report was the crescendo of a highly polarizing period of discord within the Bank, with donors under pressure by strong anti-dam lobbies and recipient governments eager for Bank resources to build out their hydropower. By the time of WCD, the Bank had largely curtailed hydropower financing.

[758] Government of China (15 January 2001). "Talking points on WCD report". Quoted in Briscoe 2010, *Supra*.
[759] Imhof, A., Wong, S. & Bosshard, P. (2002). "Citizens' Guide to the World Commission on Dams". *International Rivers Network*. Available: https://www.internationalrivers.org/files/attached-files/wcdguide.pdf, p.14.
[760] McCully 2000, *Supra*.
[761] See official response in appendix to Water Sector strategy 2004.

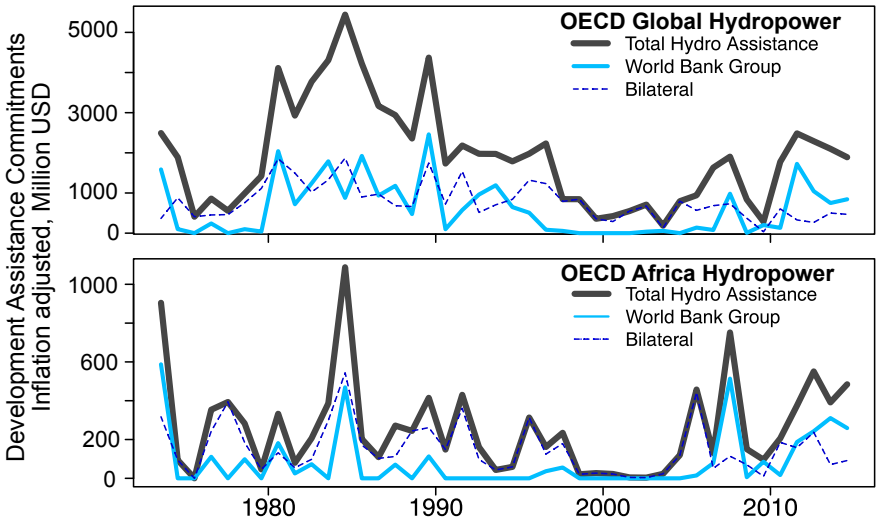

Figure 7.2: Development assistance for hydropower globally (upper panel) and in Africa (lower panel), presented as a total, contribution from the World Bank Group, and Bilateral assistance. *[Author analysis using data from the OECD Creditor Reporting System, June 2016].*

As the Bank backed away from a direct role in hydropower projects, export credit agencies and bilateral aid partially filled the void. These alternate modes of finance were similarly politicized within OECD countries (see chapter 5)[762]. Bilateral finance for hydropower remained relatively constant between 1995 and 2005 globally but declined in Africa (Figure 7.2). Overall lending from OECD countries and multilateral institutions in Africa and around the world declined substantially from the late 1990s through the early 2000s. New apprehension on the politics of infrastructure and the perception that the Bank could achieve its mission by prioritizing non-infrastructure social sectors had profound impacts for the Bank's operations and eventually governance at the Bank.

[762] World Commission on Dams 2000, *Supra* Figure 6.1, p.171.

7.1.2 The renaissance of hydropower, 2003-present

The hiatus from hydropower and infrastructure lending caused myriad problems for the Bank after 2000. Market-based lending by the Bank was declining as resources were diverted from large infrastructure loans and diversified into smaller projects. Bank operations became increasingly beholden to IDA funds – and accordingly the U.S. government and other donors gained political power to influence the Bank's operations through the IDA replenishment.

John Briscoe, who served as the Bank's Senior Water Adviser from 1998 to around 2005, was an instrumental and powerful advocate for hydropower lending within the Bank. Briscoe argued that large dams were part of the Bank's comparative advantage because the institution could bring credible leadership to high-risk investments. In late 2000, he sought to revise the Bank's approach to water resources to be more responsive to client-demand[763]. Briscoe frequently amplified the view, expressed by an Indian policymaker during a stakeholder consultation, that: "Repositioning the World Bank vis a vis controversial infrastructure is vital for the credibility of the World Bank in the eyes of the developing countries"[764]. Briscoe himself said that failing to finance large and high risk projects "is an abrogation of the Bank's sacred mission", because as a development institution the Bank "should be far more concerned with its reputation in developing countries" than with donors and donor country civil society[765].

Briscoe bullishly defended a high-risk and high payoff approach, dismissing the view that the Bank

[763] Mallaby 2004, p.357.
[764] World Bank (27 August 2002). "External views on the World Bank Group's Draft Water Sector Strategy". p.18
[765] Briscoe, J. (March 2011). "Invited Opinion Interview: Two Decades at the Center of World Water Policy". *Water Policy* 13(2): 147–60.

should back away from projects where it could not prove that harm to human health and the environment is possible. Such a precautionary principle applied to the Bank's portfolio would "reduce errors of commission [damages resulting from bank interventions] but greatly increase errors of omission [damages to poor people because the Bank failed to act]"[766].

By January 2002, Briscoe had organized a first draft of the water strategy, which was popular with developing country governments and local NGOs, but expectedly criticized by the major international donors and NGOs who thought they have put the debate to rest with the World Commission on Dams[767]. The International Rivers Network remarked that the Bank was "obsessed with protecting its reputation" and that the strategy of would backfire[768]. Achim Steiner, who at the time was the Director General of International Union for the Conservation of Nature (IUCN) and later the Executive Director of UNEP, called the Bank's proposed strategy "unnecessarily divisive" and disruptive at a time of "global convergence on water management issues"[769]. The strong advocacy for the draft from major emerging economies demonstrated that the international community, and its keystone development institution, was nowhere near a global convergence on the future of hydropower.

Recipient governments were so desirous of Bank support for hydropower that they saw the draft strategy as an insufficient corrective for the Bank's previous politicization and obstructionism on dams. Despite recipient endorsement, nearly all of the Bank's senior managers and the President continued to view infrastructure tepidly – not because they disagreed with the substantive role

[766] World Bank 2002, *Supra* p.19.
[767] Mallaby 2004, *Supra* p.358.
[768] World Bank 2002, *Supra* p.24.
[769] World Bank 2002, *Supra* p.23.

the Bank should and could play in infrastructure development, but because of "political realities"[770]. Dams would again be the lightning rod for development finance politics.

In December 2002, the Bank's Board had a meeting on the Draft Water Sector Strategy. At the time, major emerging economies were becoming more assertive in a range of multilateral forums[771], including the WTO and World Bank. Briscoe encouraged the Chinese, Brazilian, Indian and African members of the Bank's Board of Directors to rally together to prevent anti-dam NGOs from building a coalition in opposition of the policy. India's hydropower sector could easily use the influx of Bank capital for future development. China however relied little on Bank financing for its massive domestic hydropower development, but was nonetheless interested in being more instrumental in governance of the Bank, and was also wishing to maintain its global reputation as an advocate for the development sovereignty of developing economies.

When the management pushed back in February 2003, the Chinese and Indian executive directors on the Board sent an "unprecedented" joint statement that "Infrastructure is essential for development and the Bank must reengage"[772]. Briscoe, after retiring from the Bank, described the policy coordination between developing countries on the Water Resources Strategy

[770] Briscoe, J. (2009). "Water, Agriculture, and Development: The Quality of Advice". *Water and Agriculture: Implications for Development and Growth : Essays from the CSIS and SAIS Year of Water Conference*. CSIS, p.4.

[771] China in 2003 was assuming a stronger global role in bridging the void between developed and developing countries. The chair of the WTO, Supachai Panitchpakdi, leveraged China's position to broker a deal at the Doha trade negotiations.

[772] Statement by Chander Mohan Vasudev (India Executive Director) and Guangyao Zhu (China Executive Director) "Infrstructure business: Key Trends and Issues". World Bank, 2003. *In* Briscoe CSIS 2009, *Supra* p.5.

as a "governance revolution" at the Bank[773]. Others have characterized it as a significant shift in the attention paid to recipient government concerns relative to that of NGOs[774].

The final Water Resources Sector Strategy was endorsed in 2004, stating that "the changed global recognition of the role of hydropower and the strong demand from clients require a major reengagement by the Bank in the hydropower sector"[775]. The Bank rationalized that the hiatus from large dams and hydropower had "lessened the Bank's ability to influence critical legal, institutional and regulatory reforms"[776]. Furthermore, conveying Briscoe's view on errors of omission, the strategy indicated that the future choice of non-engagement by the Bank in hydropower would have to consider "the possibility that [a] project will be done anyway, but with lower net benefits without World Bank involvement"[777]. The Bank argued that it had improved "how Bank-financed projects directly address poverty and social concerns"[778,779].

The change had broader implications. Backed by a newly assertive developing country bloc, staff moved on toward re-engaging with infrastructure broadly. As it became clear the Water Resources Strategy would move forward in Summer 2003, staff presented the board with an Infrastructure Action Plan[780].

---

[773] Briscoe, J. (June 2010) "Overreach and Response: The Politics of the WCD and Its Aftermath". *Water Alternatives* 3(2), p.401.
[774] Hartje, V. (2008). "The World Bank's water sector policy reforms". *In* Scheumann, W., Neubert, S. & Kipping, M. (Eds.). *Water Politics and Development Cooperation*, *Springer* Berlin, p.301-32.
[775] World Bank (2004). "Water Resources Sector Strategy: Strategic Directions for World Bank Engagement". Report No. 28114. Available: http://documents.worldbank.org/curated/en/941051468765560268/pdf/281140PAPER0Water0Resources.pdf.
[776] World Bank 2004, *Supra.*
[777] World Bank 2004, *Supra.*
[778] World Bank 2004, *Supra.*
[779] The Bank also referenced international, consensus statements from the 2002 World Summit on Sustainable Development (WSSD) promoting energy access to eradicate poverty and achieve the Millennium Development Goals through the use of renewable energy including hydropower.
[780] Mallaby 2004, *Supra* p.367.

The Bank also advocated for renewed engagement with hydropower at an April 2005 OECD export credit group meeting, calling for inclusion of hydropower in an agreement on extended repayment terms for renewable energy[781]. Other donors followed suit. Bilateral development assistance data (Figure 7.2) indicates that support for hydropower increased substantially after 2004 in Africa and generally rebounded globally.

Some of this new investment is likely a result of the G8 summit at Gleneagles, which created several entities, including the International Consortium for Africa, the Infrastructure Project Preparation Facility, and the E.U.-Africa Infrastructure Trust Fund, each intended to facilitate hydropower development[782]. Developing country governments invited to participate showcased their growing economic and political power at Gleneagles. China's President Hu Jintao flew to the G8 summit immediately after a meeting of the Shanghai Cooperation Organization in Kazakhstan and a state visit to Russia[783] – both of which were sure to be on U.S. radar. President Hu issued a joint statement with Brazil, India, Mexico and South Africa calling for closer coordination between developing countries and a greater voice within the Bretton Woods system[784].

Accounting for "errors of omission", rather than just "errors of commission" was a transformational Bank philosophy. The Bank's aversion to risk would be different; rather than considering reputation and stakeholder relations in the isolated context of project impacts, the

[781] Morella (16 May 2005). "Oecd: April Export Credits Meetings Further Usg Antibribery And Aircraft Finance Goals". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/05PARIS3296_a.html.
[782] McDonald, D.A. (2012). "Electric Capitalism: Recolonising Africa on the Power Grid". *Routledge*.
[783] Xinhua News Agency (7 July 2005). "Hu arrives in Scotland for G8 summit". Available: http://www.chinadaily.com.cn/english/doc/2005-07/07/content_457884.htm [Accessed 4 August 2016].
[784] G8 Summit Gleneagles (7 July 2005). "Joint Declaration Of The Heads Of State And/Or Government Of Brazil, China, India, Mexico And South Africa Participating In The G8 Gleneagles Summit Introduction". Available: http://www.g8.utoronto.ca/summit/2005gleneagles/.

organization would also consider potential impacts relative to a counter-factual of non-involvement. The Bank would still need to find ways of rectifying potential projects with social and environmental safeguard policies. But as a strategic posture, projects that before 2004 would have been avoided for carrying reputational risks could now be justified because of the value the Bank would add over a baseline of non-involvement.

7.1.3 Factors stabilizing the return to hydropower

By the time the World Bank had recommitted itself to engage in infrastructure and hydropower in 2004, the development landscape had shifted in important ways. The remainder of the chapter argues that the post-2004 period was shaped by two dynamics that exerted powerful influence on the Bank's prioritization of hydropower. The first dynamic was climate change, which created an opening for the World Bank to advocate for hydropower development against a fractured environmental coalition. The second dynamic was China's growing investments around the world, which challenged the Bank's authority to uphold established development ideologies and to retain its position as a premier global development institution.

Climate change provided a new political receptivity to hydropower because it has no emissions associated with operation. NGOs diverted their attention from large dams in order to focus on climate change and coal power. Some of the biggest opponents to large dams active during the WCD remain highly active, including International Rivers Network, International Union for Conservation of Nature, and Environmental Defense Fund. Within the U.S., the 2014

Appropriations process tried to block large dams entirely, indicating a continued legitimate threat to the World Bank through finance levers available to key stakeholders.

The Bank meanwhile increased its messaging that hydropower would have an important contribution in a low-carbon future. Climate change was a central theme of the same 2005 G8 Summit that had linked hydropower back to the global agenda, particularly in Africa[785]. While African energy development has little bearing on global emissions, the construction of coal plants has been a symbolic battle for environmental groups, including opposition to projects supported by the World Bank Group in South Africa and Botswana (See Chapter 6). Hydropower thrived in a niche between energy development advocates and those interested in keeping Africa on a low-carbon trajectory.

Climate change can account for some of the political power that stabilized the Bank's support for hydropower. However, there is evidence that the Bank's engagement in hydropower consequently helped to stabilize the institution's position as a global development authority vis-à-vis China. The following section looks at the timing of Bank projects and determines that the Bank is more likely to be involved in hydropower projects in markets where China has previously been involved in a hydropower project. Climate change and the 2004 Water Resources Sector Strategy alone cannot provide a plausible rationale for the increased likelihood of Chinese involvement in a market following a Chinese project (discussed in Section III).

[785] G8 Summit Gleneagles (8 July 2005). "Climate Change, Clean Energy and Sustainable Development". Available: http://www.g8.utoronto.ca/summit/2005gleneagles/climatechange.html.

7.1.4 China as global dam developer

As political alignment supported World Bank re-engagement with hydropower, China's own development assistance in all sectors and hydropower specifically was growing rapidly (see Chapter 4, particularly Figure 4.3 showing China's loan finance growth to Africa in the post-2004 period). China became a powerful player in financing and building dams globally. Figure 2.9 in Chapter 2 showed that Chinese firms have supplied hydropower equipment and technical assistance for small-scale dams around the world since the 1960s. Through 1982, hydropower stations were promoted as part of China's first aid packages in Albania, Burma, Burundi, Cambodia, Republic of Congo, Equatorial Guinea, Guinea, Madagascar, Mongolia, Nepal, Philippines, Sierra Leone, Somalia and Sri Lanka[786], though it is not clear if those projects were actually implemented[787].

In 1997, China showed interest in helping Sudan develop its Kajbar 360 MW dam, though the project took over a decade to reach the contract stage when Sinohydro was brought on board. In 2000, the Chinese state banks gave the government of Ghana a loan for grid connection of villages associated with the Akosombo and Kpong dams[788]. China National Water Resources and Hydropower Engineering Corporation (CWHEC) and Gezhouba construction company were

[786] Law, Y.F. (1984). "Chinese foreign aid: a study of its nature and goals with particular reference to the foreign policy and world view of the People's Republic of China, 1950-1982". *Verlag Britenback Publishers,* p.339.

[787] Some projects experience long delays. For example, China conducted feasibility studies for Republic of Congo's Imboulou project in 1982, though a finance agreement wasn't reached until 2003 and the project wasn't commissioned until 2012. See Bräutigam, D., Hwang, J. & Wang, L. (2015). "Policy Brief: Chinese-financed hydropower projects in sub-Saharan Africa". *Johns Hopkins University SAIS-CARI* Policy Brief, No.08. *Supra*.

[788] "Ghana acquires loan for electrification project from China" *AidData* ID 1243. Available: http://china.aiddata.org/projects/1243?iframe=y [Accessed August 2016].

awarded the contract for Ethiopia's 300 MW Tekeze-I project in June 2002, along with Chinese turbines and generators[789,790].

In some cases, China picked up markets where the World Bank ran into difficulty. The Bank dropped the Bujagali hydropower project in Uganda after the U.S. developer AES was pulled into a corruption probe. AES also retreated from a consortium bid for the Kariba North in Zambia, Kafue Gorge and Itezhi-Tezhi projects – which did not involve the World Bank, though other international support for the projects collapsed. The projects appeared stranded until Zambia opted for a non-competitive tender with Chinese firms. China got involved in the Kafue Gorge Lower and Kariba North Bank Extension following a 2003 state visit by President Mwanawasa to China[791]. The World Bank made a second attempt to build the Bujagali project in April 2007 and engaged the IFC as "transitional advisers" in the Kafue Gorge project in early 2009[792].

[789] BBC News (12 August 2002). "Work Starts on Giant Ethiopian Dam". Available: http://news.bbc.co.uk/2/hi/business/2188785.stm.
[790] WEPP December 2015, *Supra*.
[791] Contracts with Sinohydro and China ExIm Bank were not completed until late 2007. Koplovsky (14 January 2008). "Zambia Power Generation Update-Light At The End Of The Tunnel?" *Wikileaks*, Available: https://wikileaks.org/plusd/cables/08LUSAKA44_a.html.
[792] National Assembly of Zambia (18 February 2009) "Daily Parliamentary Debates For The Third Session Of The Tenth Assembly". Available: http://www.parliament.gov.zm/node/1646.

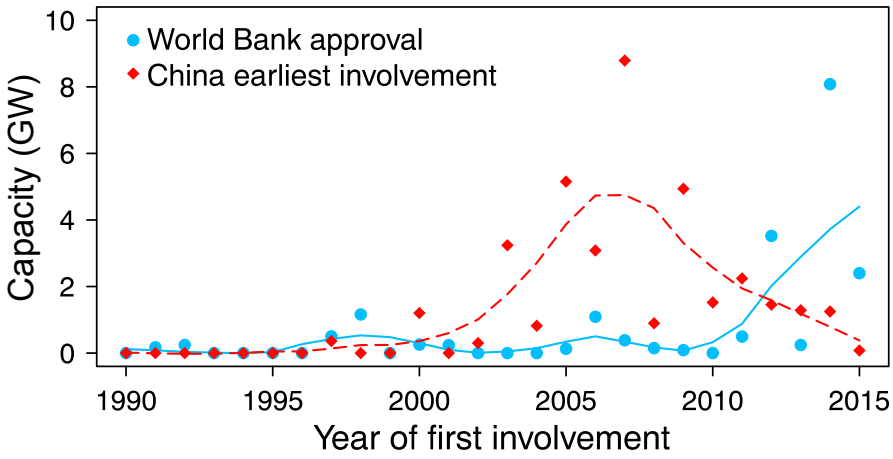

Figure 7.3: African hydropower capacity, by earliest available dates of involvement for China, and World Bank involvement board approval dates. World Bank approvals following the Water Resources Sector Strategy did not begin in earnest until it appeared that China was involved in a substantial share of African hydropower capacity. Data are discussed further in the Methodology section. Lines represent running "loess" averages.

Compared to these modest early commitments, 2003 was a landmark year for Chinese hydropower involvement in Africa. China agreed to provide most of the financing, EPC services and equipment for Sudan's 1250 MW Merowe hydropower scheme in June 2003[793]. Sudan had been appealing for finance from Canada, Malaysia, and European nations, and France's export import bank COFACE denied the project on environmental grounds[794]. Later that year, China agreed to finance Zambia's 720 MW Kariba North hydropower project[795], after the Zambian government failed to secure hydropower funding from private Western banks, the World Bank and the European Investment Bank[796,797]. China also expressed its support for the 120 MW

[793] Bosshard 2008, *Supra*.
[794] Bosshard, P. (2008). "China's Environmental Footprint in Africa". Johns Hopkins SAIS Working Papers in African Studies. Available: https://www.sais-jhu.edu/sites/default/files/China's-Environmental-Footprint-in-Africa.pdf.
[795] A loan agreement was signed in 2007. Bräutigam et al. 2015, *Supra* Table 3, p.7.
[796] Bosshard 2008, *Supra*.
[797] Assistance from China followed a 2001 competitive tender process, which was discussed by U.S. diplomats. Koplovsky 2008, *Supra*.

Itezhi Tezhi hydropower project and the 800 MW Kafue Gorge Lower project[798,799]. China agreed to provide financing for the Republic of Congo's 120 MW Imboulou hydropower project in return for oil exports[800]. China and Cameroon began preliminary discussions on financing 30 billion CFA francs (roughly US$50 million) for three hydropower projects during a 2003 state visit by President Biya[801]. The commitment ultimately included the 200 MW Memve'ele hydropower project on the Ntem River[802,803], and the involvement of China International Water & Electric Corporation in the 30 MW Lom Pangar hydropower project, considered to be a lynchpin of a much larger cascade of hydropower development. China's interest in large African hydropower schemes continued to increase, as shown in Figure 7.3 above. In many cases there was a several year delay between when projects were discussed diplomatically, and loan agreements or firm contracts formalized[804].

[798] The projects were referenced publicly during a 2003 visit to China by Zambian President Mwanawasa. Xinhua News Agency – CEIS (9 September 2005). "Zambia in massive rehabilitation of power systems". ProQuest.
[799] "Chinese firms to build Kafue Gorge Lower Power Plant". *AidData* ID 977. Available: http://china.aiddata.org/projects/977.
[800] Bräutigam et al. 2015, *Supra* p.4.
[801] Agence France Presse (8 October 2003). "China to fund hydro-electric dam projects in Cameroon". *Lexis-Nexis*.
[802] A preliminary agreement on the Memve'ele project was not reached until 2009. "Cameroon infrastructure report - Q2 2011". *Business Monitor International*, London.
[803] A loan agreement was signed in 2012. Bräutigam et al. 2015, *Supra* Table 3, p.7.
[804] Bräutigam et al. 2015, *Supra*.

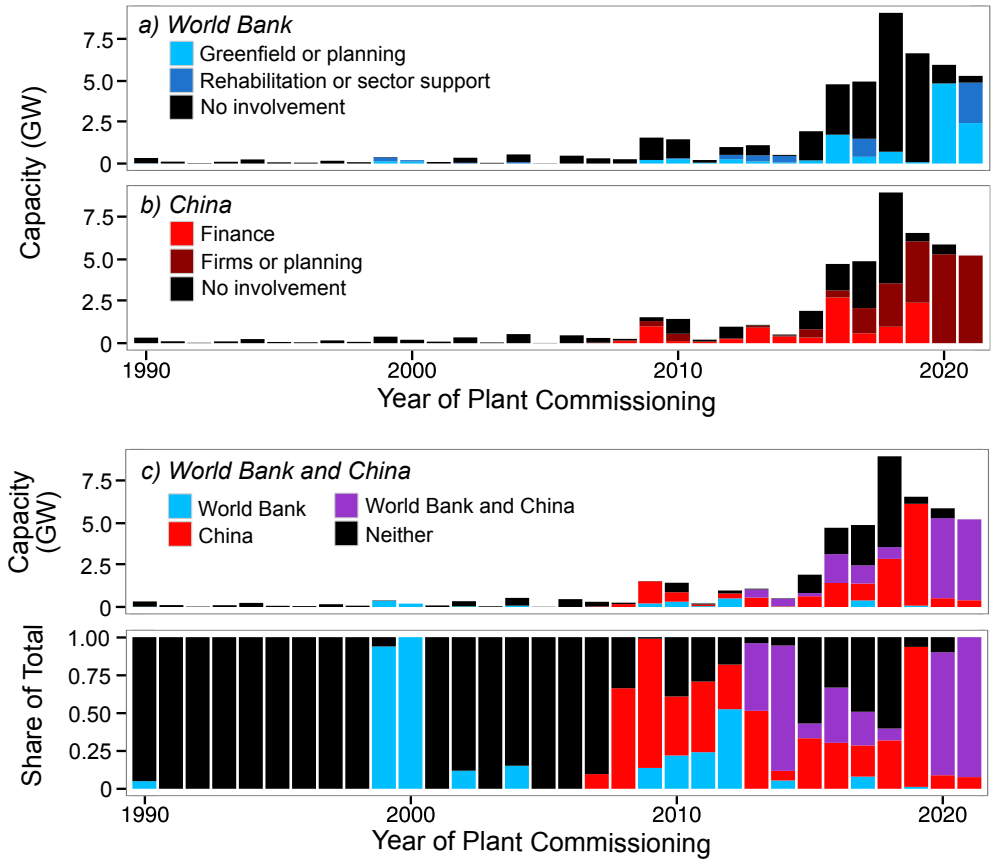

Figure 7.4: Sub-Saharan African hydropower capacity by commissioning dates for projects involving China, the World Bank or both since 1990. The extent of involvement is shown for World Bank in panel *(a)* and for China in panel *(b)*. Although commissioning dates fall several years after involvement decisions are made, these data indicate the end of the Bank's hiatus occurring around the same time as China's emergence in hydropower projects.

Figure 7.4(a) presents the capacity of hydropower projects commissioned, under construction or planned since 1990 across sub-Saharan Africa involving the World Bank, and the nature of the Bank's involvement. Figure 7.4(b) shows hydropower capacity that involves – *or was reported to involve at the time* – Chinese firms or finance. Figures 7.4(c) and 7.4(d, bottom panel) show that some projects, particularly those commissioned after 2010, involve both the World Bank and China. Planned hydropower development indicates substantial continued involvement of both the World Bank and China. Section 7.2 analyzes how China's global hydropower support

affected the World Bank strategy in the post-2004 period.

7.2 Responding to China contested authority

Within Africa, it is observable that World Bank hydropower involvement slightly lagged Chinese involvement (Figures 7.3 and 7.4). This section examines the hypothesis that China's involvement in the hydropower market galvanizes the World Bank to engage in hydropower projects in those markets. The following observable implications around the Bank's engagement in African hydropower projects would support the hypothesis:

- **Observable A:** Clients have more leverage to solicit Bank involvement when China is, or may become, involved in a project.

- **Observable B:** Bank stakeholders align behind the Bank's project involvement in markets with greater Chinese involvement because their interests are threatened by Chinese ideologies.

- **Observable C:** The Bank perceives projects that involve China as being higher risk, but such risk could justify Bank involvement.

Several large dam projects involving the Bank – Nam Theun II, Gibe III or Grand Inga projects – are seen as a lynchpin projects for development in their respective regions. If the Bank were to refuse involvement, it would relinquish leadership in the hydropower sector to China.

7.2.1 Case #1: Laos Nam Theun II

Following the Water Resources Sector Strategy the Bank was able to approve the Nam Theun II hydroelectric project in Laos, which had been in limbo over environmental issues for a decade[805,806]. The project was first considered at the Bank during the same period as the Arun III project in Nepal. Nepal has similar resource and economic constraints as Laos but the World Bank rejected Arun III outright in 1995. The Lao project was cast in the context of the rapid hydropower development along the Mekong River, which originates in China before passing through Myanmar, Thailand, Laos, Cambodia and Vietnam. As of 2005, China had already completed two dams on its stretch of the Mekong and had six others planned[807]. China was alone among riparian nations to refuse participation in the Mekong River Commission, intended to govern use of the river. Despite tension between Laos and China over China's own Mekong dams, as the World Bank moved toward a decision, it was being reported that the Lao government would have been "very likely" to involve China in construction of Nam Theun II if the World Bank dropped out or was too bullish on conditions[808,809]. China's Vice Premier Wu Yi had concluded a trade and investment agreement on hydropower exploration and other areas in March 2004, a year before the Bank's appraisal of the project[810]. China and Laos were already

[805] Singh, S. (1 May 2009). "World Bank-Directed Development? Negotiating Participation in the Nam Theun 2 Hydropower Project in Laos". *Development and Change* 40(3): 487–507.
[806] Sherer, P.M. (4 March 1996). "Damming the Mekong: Plans for Mekong Dams Hit Patch of Rough Water". *Asian Wall Street Journal*.
[807] Perlez, J. (19 March 2005). "In Life on the Mekong, China's Dams Dominate". *The New York Times*, Available: http://www.nytimes.com/2005/03/19/world/asia/in-life-on-the-mekong-chinas-dams-dominate.html.
[808] Stuart-Fox, M. (1 March 2006). "The Political Culture of Corruption in the Lao PDR". *Asian Studies Review* 30(1): 59–75.
[809] Balls, A. & Kazmin, A. (17 February 2005). "Dam Project in Laos Acts as Test Case for World Bank: Development Institution's Backing Would Mark Return to Funding Large Infrastructure". *Financial Times*.
[810] St.John, R.B. (1 July 2006). "The Political Economy of Laos: Poor State or Poor Policy?" *Asian Affairs* 37(2): 175–91, p.185.

closely aligned in political ideology, which weakened the Bank's leverage to demand stronger conditions on the project[811,812].

There is circumstantial evidence that support for the Nam Theun II project was a particular geopolitical priority for some Bank stakeholders. In 2006, U.S. diplomats described poor U.S. relations with Laos vis-à-vis other regional powers: "The Lao drift toward China is unabated"[813]. According to diplomats, the Bank's Nam Theun II was one bright spot in the otherwise waning U.S.-Lao relationship. U.S. diplomats presented China as the "real engine" of Lao development, observing that "China is playing the role of socialist big brother that the Soviet Union had played in the 1980's and 1990's"[814]. These remarks, within a year of the World Bank decision to invest in Laos, paint other Lao allies – particularly Vietnam but also Thailand, Japan and India – as increasingly marginal players next to China, though Vietnam remained the "preeminent relationship"[815]. India and Japan, according to U.S. analysis, were trying to "use their assistance to steer Laos away from over-reliance on China"[816].

Though no available evidence suggests that the U.S. had a particular interest in seeing the Nam Theun II decision, it is clear that the U.S. was concerned with China's influence in Laos, consistent with the level of concerns raised by the U.S. in Africa in Chapter 4. It is plausible that the World Bank shared a similar level of concern. Furthermore, under its post-2004 strategic

[811] Stuart-Fox, M. (November 2005). "Politics and Reform in Lao People's Democratic Republic". *Asia Research Center* Working Paper No.126, Available: http://www.murdoch.edu.au/Research-capabilities/Asia-Research-Centre/_document/working-papers/wp126.pdf, p.47.
[812] Stuart-Fox, M. (2009). "Laos: The Chinese Connection". *Southeast Asian Affairs* 2009(1): 141–69.
[813] Haslach (10 April 2006). "Scenesetter For Das Eric John's Visit To Laos". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/06VIENTIANE335_a.html.
[814] Haslach 2006, *Supra*.
[815] Haslach 2006, *Supra*.
[816] Haslach 2006, *Supra*.

posture, the Bank may have perceived that Nam Theun II's environmental risks under Chinese management would have been much greater had the World Bank not been involved. There is also relevant contrast between Nam Theun II and Nepal's Arun III project, which the Bank rejected outright in the 1990s. China's growing regional role and emerging power as global dam financier may have been one variable in the World Bank's decision to approve Nam Theun II, and to prioritize it as its first project coming out of the hiatus.

7.2.2 Case #2: Democratic Republic of the Congo – Grand Inga Dam

The Grand Inga project in the Democratic Republic of the Congo (DRC) has a fascinating historic and colonial past, with American and Belgian planners finding the potential 40 GW project so astonishingly large that they had difficulty conceiving industries that could use all the power[817]. The U.S. was involved in post-colonial Zaire for construction of Inga I and II as it sought to stabilize the country and secure a Cold War ally[818]. USAID and the World Bank both considered funding the Grand Inga project in the 1960s, prompting the Department of State to monitor the discussions[819,820].

[817] Showers, K.B. "Congo River's Grand Inga Hydroelectricity Scheme: Linking Environmental History, Policy and Impact". *Water History* 1, no. 1 (July 1, 2009): 31–58.
[818] Showers 2009, *Supra*.
[819] American Embassy, Kinshasa (17 December 1970) "Summation of the Inga Hydroelectric Project," Airgram to State Department, RG 59, Subject-Numeric Files (1970-1973), box 984, NARA (College Park), in Sneddon, Christopher. *Concrete Revolution: Large Dams, Cold War Geopolitics, and the US Bureau of Reclamation*. Chicago: University Of Chicago Press, 2015, p.160.
[820] China had a controversial history in the Congo, having supported revolutionary forces there during the struggle for independence.

The U.S. followed renewed consideration of the Inga scheme since at least 2004[821,822], and a cable from the U.S. embassy in Kinshasa in 2005 tracked China's development assistance for DRC's infrastructure, as well as China's political and military interests and "influence" in the DRC[823]. A U.S. diplomat observed that the World Bank was funding some of the projects with which China was also involved. China entered into negotiations with South Africa's Eskom for jointly developing the Inga project as early as August 2005[824]. In September 2005, U.S. diplomats noted the involvement of a Chinese firm in construction of a US$60 million new transmission line from the Inga site[825].

The World Bank's engagement with the new Inga project appears to have followed after China's commitment to the project. In May 2007, the World Bank and African Development Bank were negotiating a US$500 million package for rehabilitation of Inga I and II. DRC energy sector officials complained to U.S. diplomats about the Bank's sluggish pace relative to the urgent power needs of the country[826]. At that time there was no clear plan for financing Grand Inga, much less its first-phase Inga III, though President Kabila prioritized the project[827]. In September 2007, China negotiated a US$5 billion financial package with the DRC government for "large, high visibility infrastructure projects" and mining[828], though there was no public

[821] Meece (9 November 2004). "Widespread Interest In Inga Dam Development" *Wikileaks*. Available: https://wikileaks.org/plusd/cables/04KINSHASA2062_a.html.
[822] Garvelink (9 May 2008). "Inga". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/08KINSHASA406_a.html.
[823] Meece (29 September 2005). "China's Influence In Africa: Expanding In The DRC". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/05KINSHASA1614_a.html
[824] Sunday Times of South Africa (28 August 2005). "China taps Eskom for Congo project". *LexisNexis Academic*. Accessed: 20 March 2016.
[825] Meece 2005, *Supra*.
[826] Meece (31 May 2007). "Inga Dam: Moving At SNEL's Pace". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/07KINSHASA592_a.html
[827] Meece 2007, *Supra*.
[828] Brock (21 September 2007). "DRC, China Announce Five Billion Dollar Loan For Infrastructure And Mining". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/07KINSHASA1133_a.html.

reference to the Inga project. The perception was that the timing was to counter the Western efforts "immediately prior" to an IMF mission to Kinshasa in October[829]. This prompted a comment from a U.S. diplomat in Kinshasa:

> "The agreement also raises the specter of increased Chinese influence, both economic and political, in the region. China's presence in Sudan, Zambia and Angola, all of which share borders with the DRC, assumes greater importance with this Beijing-Kinshasa deal"[830].

In August 2009, World Bank President Robert Zoellick said that the Bank would get involved in the controversial Inga hydropower project[831,832], a position that in 2011 John Briscoe – at this point retired from the World Bank and teaching at Harvard University – called "unthinkable ten years ago", during his tenure at the Bank[833]. There is no public indication that China is involved in the Inga project, though a Chinese consortium has been monitoring the project's development to bid for contracts. Speculatively, the World Bank involvement in Inga may have pre-empted Chinese finance for Inga – thus requiring a competitive bidding process – following the warming ties between DRC and China in 2007.

The U.S. had a difficult time untangling the sources and channels of Chinese finance in DRC while simultaneously seeking areas where cooperation with China would be possible. Initially they targeted clean energy, fuel wood development and cookstoves[834]. However, in 2013 Rajiv Shah, the head of USAID, indicated that the U.S. would also consider helping to finance the Inga

[829] Brock 2007, *Supra*.
[830] Brock 2007, *Supra*.
[831] World Bank (2010). "World Bank Pledges Support for African Post-Conflict Recovery". Press Release No 2010/043/AFR.
[832] Mathiason, N. (22 August 2009). "Fury at Plan to Power EU Homes from Congo Dam". *The Guardian*, Available: http://www.theguardian.com/world/2009/aug/23/power-eu-congo-dam.
[833] Briscoe 2011, *Supra*.
[834] Garvelink (16 February 2010). "Chinese Engagement In The DRC And Potential Areas For Cooperation". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/10KINSHASA194_a.html

project if DRC made reforms to the organization of its utility company and governance[835,836], though the project would not be a part of the Power Africa Initiative, at least initially[837]. Around this time, China is reported to have approached the U.S. to cooperate on financing and building the Inga project together[838].

The U.S. policy shift toward power sector infrastructure in Africa is detailed in Chapter 4, but the Inga project stands out for its exceptional scale. The U.S. and World Bank willingness to engage with the project is a clear contrast with the Three Gorges Dam in the 1990s (which both the U.S. and World Bank had opposed, see Chapter 6). It is clear from diplomatic cables that there is clear geopolitical salience to the U.S. of China's relationship with DRC, and U.S. officials understood that the Inga project was a priority of the DRC government. To be uninvolved in this project – seen as a lynchpin for the region's development – would be to relinquish leadership in the hydropower sector to China.

7.2.3 Case #3: Ethiopia – Gibe III Dam

The World Bank led with a pre-study for the 1870 MW Gibe III Dam in Ethiopia but ultimately withdrew because of concerns over the environment, protection of vulnerable groups and

[835] Kavanagh, M.J. (16 December 2013). "U.S. Considers Funding Part of Congo's $12 billion Inga Dam". *Bloomberg*, Available: http://www.bloomberg.com/news/articles/2013-12-16/u-s-will-consider-financing-part-of-congo-s-12-billion-inga-3.

[836] This announcement was also made in spite of heated congressional opposition that spilled into an effort to strip all hydropower support through the 2014 Appropriations process, which the U.S. Treasury chose to interpret only as "guidance".

[837] Igoe, M. (30 January 2015). "Power Africa Tiptoes around Inga 3 Dam". *Devex*, Available: https://www.devex.com/news/power-africa-tiptoes-around-inga-3-dam-85391.

[838] Dyer, G. (5 August 2014). "Beijing Invites US to Link up over Africa". *Financial Times*, Available: http://www.ft.com/cms/s/0/0eb59686-1cb8-11e4-b4c7-00144feabdc0.html.

governance in 2007. China then committed to financing it in 2009. By 2012, the World Bank had committed to construct a major transmission corridor connected to the project, causing speculation that the Bank used the transmission project as a means to be peripherally supportive of the Gibe III project.

As recently as 2006, World Bank President Paul Wolfowitz indicated that Bank relations in Ethiopia had been "normalized on a new basis" and that Prime Minister Meles Zenawi shared a vision of pro-market reform and greater transparency[839]. The outlook for the Bank's involvement in hydropower was positive. But the tone shifted quickly around the Gibe III dam, and the Ethiopian Government seemed unwilling to bend to the Bank's concerns over displacement of an indigenous community by the dam's reservoir. Prime Minister Meles accused the Bank of changing its assistance approach because of Ethiopia's backsliding on democratization[840].

Following a pre-Board assessment of the Gibe III project that lasted through July 2007, the World Bank chose not to take the project forward because of corruption issues with the tendering process and lack of protections for the environment and indigenous groups[841]. The European Investment Bank also had an independent assessment and chose against funding the project[842]. The UN World Heritage Committee objected to the dam, but Ethiopian officials continued

[839] Huddleston (19 July 2006). "World Bank President's Visit Highlights Positive Developments, Need For Political Harmony". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/06ADDISABABA1970_a.html.
[840] Huddleston (19 May 2006). "Ethiopia: Prime Minister And Bilateral Donors Mostly Agree On Governance Agenda". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/06ADDISABABA1400_a.html.
[841] BBC (26 March 2009). "The Dam That Divides Ethiopians". Available: http://news.bbc.co.uk/2/hi/africa/7959444.stm.
[842] Sogreah Consultants (10 May 2010). "Ethiopia Gibe III Hydropower Project: Independent review and studies regarding the Environmental and Social Impact Assessments". *European Investment Bank*, Available: http://www.eib.europa.eu/attachments/complaints/2011-05-04-letter-from-eib-sg-to-c-amicucci-final-reply-annex-iii-independent-review-of-esia.pdf

development plans[843]. The substantial political opposition to the project from the West has substantial similarities to that of the Three Gorges Dam in China in the 1990s.

The Ethiopian Prime Minister maintained pressure on the West to offer financing for the project, dismissing environmental and human impacts by claiming that Ethiopia "cannot afford not to have Gilgel Gibe III", given chronic power shortages[844]. The Ethiopian Government had been explicit with U.S. officials regarding how much they preferred China's aid packages that had "no strings attached" while telling the U.S. that Ethiopia may increasingly view China as its "development and ideological model", given China's domestic success with a consistent and strong state role in the economy[845]. Ultimately, China picked up the tab for the controversial Gibe III project in 2009[846].

Ethiopia continued to express hope for direct U.S. involvement in Ethiopia's power sector in late 2009. Ethiopia communicated to the U.S. that its first priority for foreign investment was hydropower[847]. U.S. officials privately saw "grave risks" for indigenous communities and environmental changes associated with the new Gibe project, cautioning the AfDB while it continued to consider the project in 2009[848]. The project was also embroiled in regional water politics between Ethiopia, Sudan, South Sudan and Egypt over Egypt's 1929 legal claim to the

[843] AllAfrica (12 August 2011). "Ethiopian Officials Reject UN Calls to Suspend Controversial Dam Project". ProQuest.
[844] BBC 2009, *Supra*.
[845] Yamamoto (6 March 2007). "Ethiopia: Background For U.S./China Dialogue On Africa". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/07ADDISABABA697_a.html.
[846] Kibret, G. (Gov of Ethiopia). "EEPCo signs accord with Chinese Company for Gibe III Project". Available: http://www.gibe3.com.et/Publication5.pdf.
[847] Meece (28 September 2009). "Ethiopia Seeks Energy Sector Investment". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/09ADDISABABA2318_a.html
[848] Ranneberger (15 June 2009). "Government Of Kenya Supports Ethiopia's Gibe Iii Hydroelectric Project On The Omo River; Ngos Do Not". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/09NAIROBI1200_a.html.

majority of water in the Nile[849], which may have heightened U.S. concerns during the Arab Spring[850].

In a separate cable in 2009, U.S. officials reflected on how the Government of Ethiopia exploits its "strong position when negotiating for additional donor assistance". Because the country is "a populous nation dealing with extreme poverty", both the World Bank and the U.S. have the

> "same weak position…when negotiating assistance packages. The [Government of Ethiopia] knows donors will not pull out of Ethiopia and leave millions of people to starve to death"[851].

These frustrations were primarily reflective of Ethiopia's unwillingness to share data on economic activity, or to admit serious macroeconomic stability issues despite pressure from the World Bank and IMF. However, the memo also states that the long-term growth outlook is "difficult to predict when the country continues to receive significant levels of one-off donor assistance"[852], as the Ethiopian government aggressively pushed back on reform conditions on development finance loans[853]. Around this time the U.S. observed that "with the growing international scrutiny over [the Ethiopian Government's] books, the [Government of Ethiopia and state owned enterprises] are increasingly turning to China for soft loans and awarding Chinese firms with lucrative contracts"[854].

---

[849] Whitehead (1 December 2009). "World Bank Economist: Water Security An Issue For Sudan Peace Talks". *Wikileaks.* Available: https://wikileaks.org/plusd/cables/09KHARTOUM1343_a.html.

[850] AllAfrica (3 September 2012). "Wikileaks - Sudanese Launchpad for Egyptian Attack On Ethiopian Dam". Available: http://search.proquest.com/docview/1037829072/citation/F77A4EC2075F4633PQ/19.

[851] Meece (29 October 2009). "Ethiopia's Hold Over The IMF And World Bank". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/09ADDISABABA2556_a.html.

[852] Meece 2009, *Supra*.

[853] Yamamoto (22 December 2008). "Prime Minister Meles Criticizes U.S. Statement On World Bank Fertilizer Loan". *Wikileak*s. Available: https://wikileaks.org/plusd/cables/08ADDISABABA3422_a.html

[854] Gonzales (3 August 2009). "Scenesetter For Ustr Amb. Kirk's Visit To Ethiopia". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/09ADDISABABA1842_a.html

The strategic importance of Ethiopia, its desperate development needs and the government's willingness to use uncoordinated assistance offers from China to leverage Western donors gave the World Bank little bargaining power on the Gibe III project. Dam opponents claimed that the World Bank's involvement in a 1000-mile transmission line to connect Ethiopia and Kenya was intended as "backdoor" support needed to get the Gibe III project off the ground[855]. This prompted the Bank to release a statement that it "is not financing the Gibe III dam", that the transmission line will become operational "well after Gibe III has started producing electricity"[856], and that the transmission line is economical even without Gibe III[857]. It is impossible to determine from the available evidence whether the World Bank's involvement in the transmission line intended to preserve its reputation in the power sector vis-à-vis China in Ethiopia. However, the diplomatic importance of the Gibe III project to Ethiopia, the U.S. and World Bank sensitivity to China's growing authority in Ethiopia, and the Bank's inability to be directly involved in Gibe III because of safeguards each supports the circumstantial case that the Bank's decision on the transmission line is associated with the Gibe III project and the Bank's pursuit of relevance in Ethiopia.

[855] Pottinger, L. (12 July 2012). "World Bank Approves Power Line to Gibe III Dam". *International Rivers*, Available: https://www.internationalrivers.org/blogs/229/world-bank-approves-power-line-to-gibe-iii-dam.
[856] The World Bank (July 2012). "Ethiopia-Kenya Eastern Electricity Highway Project". Available: http://siteresources.worldbank.org/INTAFRICA/Resources/AFR-EEHP-Fact-Sheet-7-July-2012.pdf
[857] Biron, C.L. (July 2012). "World Bank Approves Contentious Ethiopia-Kenya Electric Line" Global Policy Forum, Inter-Press Service. Available: https://www.globalpolicy.org/social-and-economic-policy/the-three-sisters-and-other-institutions/the-world-bank/51764-world-bank-approves-contentious-ethiopia-kenya-electric-line.html.

7.2.4 Discussion:

Observable A: *Increasing client bargaining power*

China's involvement in a project enables a recipient to request a concession from the Bank and credibly claim it will pursue an alternate lender. This may not fully represent a new phenomenon, as the conception of the World Bank as a "unified Northern Bloc" to impose its preferences on recipients disregards the ability of recipients to leverage heterogeneous views within the institution to its advantage[858]. International development institutions disagree with the conception that their stakeholders and staff are in the "drivers seat" in relations with client governments[859], given recipient country representation on their boards of directors as well as mutual supply-demand dependency between the institution and its recipients. Recipients certainly benefit from having available a tacit or explicit offer of uncoordinated aid to increase its bargaining power with the Bank in converging on project expectations.

President Robert Zoellick was chosen to succeed Wolfowitz as World Bank President in July 2007. Zoellick, who as U.S. Deputy Secretary of State has been one of the Bush Administration's key diplomats in engaging China on its international engagements, was a deliberate choice given the importance of the Bank's relationship with China at the time. Zoellick was widely supported by developing countries as well as China[860], and had been one of

[858] Nielson, D.L. & Tierney, M.J. (March 2003). "Delegation to International Organizations: Agency Theory and World Bank Environmental Reform". *International Organization* 57(02): 241–76.
[859] Gutner, T. (July 2005). "World Bank Environmental Reform: Revisiting Lessons from Agency Theory". *International Organization* 59(03): 773–83.
[860] Xinhua News (22 June 2007). "China Says Zoellick Could Help WB Performance As President". Available: http://www1.china.org.cn/english/government/214837.htm.

the U.S. chief diplomats in resolving the Sudan Darfur crisis, including engaging China in the Security Council and dealing with Chinese investments in the oil sector.

Rather than criticize China's international development activities, Zoellick sought to coordinate an approach to African infrastructure. Within a few months of his confirmation, Zoellick and the President of China's ExIm Bank, Li Ruogu, agreed to identify joint projects in Africa[861]. China reportedly also agreed to coordinate funding for infrastructure projects with other multilateral creditors in Africa[862]. During the 2007 IDA replenishment, China also agreed to provide "modest but significant" funding to the IDA[863], which was part of a diplomatic charge by Robert Zoellick to encourage China to funnel its development assistance through the multilateral system, instead of building such a substantial portfolio outside the Bank[864].

In a glaring public criticism of the West's concern over growing China-Africa relations, the President of Senegal, Abdoulaye Wade, wrote an op-ed in the Financial Times in January 2008 showing the rationale for choosing Chinese development assistance over the World Bank:

> "I have found that a contract that would take five years to discuss, negotiate and sign with the World Bank takes three months when we have dealt with Chinese authorities. I am a firm believer in good governance and the rule of law. But when bureaucracy and senseless red tape impede our ability to act – and when poverty persists while international functionaries drag their feet – African leaders have an obligation to opt for swifter solutions"[865,866].

[861] McGregor, R. & Wallis, W. (19 December 2007). "World Bank to Work with Chinese in Africa". *Financial Times*.
[862] McGregor & Wallis 2007, *Supra*.
[863] Quoting Robert Zoellick, in McGregor & Wallis 2007, *Supra*.
[864] Giles, C., Guha, K. & Williamson, H. (14 December 2007). "China to Donate to World Bank's Loans Fund". *Financial Times*.
[865] Wade, A. (23 January 2008). "Time for the West to practice what it preaches". *Financial Times*. Available: https://next.ft.com/content/5d347f88-c897-11dc-94a6-0000779fd2ac.
[866] The op-ed was picked up by the U.S. Congressional Research Service in March 2008, p.8.

Despite efforts to coordinate, there is evidence that client governments used offers of assistance from China to push back on the World Bank, to some effect. When the Government of Mauritius requested involvement of the World Bank, African Development Bank and European Commission in the Bagatelle Dam in 2006, officials claimed there was little interest despite "sustained effort"[867]. During a state visit from China in November 2006, the Chinese P.M. offered RMB 800 million on concessional terms for various projects in Mauritius, and it was agreed in September 2009 through the Sino-Mauritius Joint Commission that RMB 580 million would go to Bagatelle[868]. According to Mauritian Deputy Prime Minister R. Beebeejaun "it is only when the Chinese authorities came forward with the funding of Bagatelle that suddenly there is a sort of mushrooming of interests again" in hydropower[869].

Observable B: *Threatened influence and ideology*

Stakeholders and Bank officials pay attention to Chinese hydropower development in potential World Bank markets, observing the geopolitical, economic and development implications. In the eyes of the Bank and its key shareholders, the Washington Consensus was threatened by an emerging "Beijing Consensus". In the Gibe and Inga cases, U.S. shareholders were concerned about the security implications of China's activities. A March 2007 secret cable communicated the U.S. perception of China's growing political influence in Ethiopia, including infrastructure, and concerns over China becoming a political model for Ethiopia[870]. China and Ethiopia were

[867] Mauritius Fifth National Assembly (12 April 2011). "Oral Answers to Questions: Bagatelle Dam Project". First Session, Debate No.4. Available: http://mauritiusassembly.govmu.org/English/questions/Documents/ans2011/pnqans12apr11.pdf
[868] Mauritius 2011, *Supra*.
[869] Mauritius 2011, *Supra*.
[870] Yamamoto 2007, *Supra*.

considering a military relationship in 2010[871, 872]. Meanwhile, the Ethiopian government explicitly balked that the neo-liberal reforms promoted by the World Bank were unpopular and frequently out of step with the needs of Ethiopia[873]. Similar concerns over China's political model for Laos perfused discussions of Western aid packages vis-à-vis China. U.S. officials observed Chinese deepening engagement in DRC, and were similarly concerned with economic assistance as they were with political and military involvement, because of the differing ideological perspective on how development should proceed.

Observable C: *Engaging markets to manage risk of projects done poorly*

Chinese projects were suspected – within the World Bank and among the U.S. and European shareholders – of having weak safeguards and for enabling poor governance and non-market based development planning. In 2006, the President of the European Investment Bank complained that Chinese banks operating in Africa "do not bother with social and human rights conditions", concluding that his own Bank will uphold conditions but would "need to think about it"[874]. World Bank President Wolfowitz was more circumspect, and held "very direct" talks with

[871] Yamamoto (8 May 2007). "Ethiopia: Scenesetter For Visit Of Uscentcom Cdr Admiral William J. Fallon". *Wikileaks.* Available: https://wikileaks.org/plusd/cables/07ADDISABABA1406_a.html

[872] Email-ID 844859 (29 June 2010). "Eth/Ethiopia/Africa". *The Global Intelligence Files Wikileaks*. Available: https://wikileaks.org/gifiles/docs/84/844859_eth-ethiopia-africa-.html.

[873] Zenawi, M. (6 February 2007). "FT interview: Meles Zenawi, Ethiopian prime minister". *Financial Times*. Available: https://www.ft.com/content/4db917b4-b5bd-11db-9eea-0000779e2340.

[874] AFP (29 November 2006). "Chinese loans to Africa Dangerous-EU Bank". *In* Alden, C., Large, D. & de Oliveira, R.S. (2008). "China returns to Africa: A rising power and a continent embrace". *Columbia University Press*, p.17.

the Chinese in 2006 concerning China's attention to human rights and environmental issues. It was reported that he met only resistance[875].

Hydropower was one area of U.S. concern regarding China's engagement in Laos. Diplomats in 2008 watched warily as China (and to a lesser extent Thailand and Vietnam) proposed five new hydropower schemes in Laos, four of which surpassed the Nam Theun II project in scale and environmental impact. The diplomats cited a "prescient" source that China was unlikely to be concerned with those environmental impacts, and that meanwhile the Lao government would like to see more trade and investment from the U.S.[876] In 2007, there were indications that the World Bank and other financial institutions remained interested in additional hydropower projects in Laos despite the pushback from environmental groups over Nam Theun II[877].

Each of these cases lends circumstantial evidence to the hypothesis, though with a reliance on cautious speculation absent public sources on which to analyze project decision making. Without a large number of cases, it is difficult to untangle the panoply of factors influencing any one World Bank project decision. A final observable implication of the theory would be for the World Bank – on average – to make hydropower investments in markets where China is already involved. Such a trend – controlling for factors that would make those markets otherwise attractive for Bank involvement – would indicate that the Bank adjusts its behavior in response to – rather than to preempt or coordinate with – Chinese involvement in hydropower.

---

[875] Crouigneau, F. & Hiault, R. (24 October 2006). "Wolfowitz Slams China Banks on Africa Lending". *Financial Times*. Available: http://www.ft.com/intl/cms/s/0/45e594e0-62fc-11db-8faa-0000779e2340.html#axzz49n49Na4f.

[876] Huso (15 February 2008). "Laos: Plans For Five Large Dams On The Mekong Mainstream Advance". *Wikileaks*. Available https://search.wikileaks.org/plusd/cables/08VIENTIANE111_a.html

[877] Haslach (30 April 2007). "Pressing The AES Hydropower Bid With Senior Lao Official". *Wikileaks.* Available: https://wikileaks.org/plusd/cables/07VIENTIANE351_a.html.

7.3 Test of the hypotheses

The author assembled a comprehensive dataset of global hydropower projects in Africa commissioned since 1990 and marked those involving the World Bank and/or Chinese firms and finance. The author database uses as its base the World Electric Power Plants data from Platts-McGraw Hill (version March 2015). WEPP data are generally globally comprehensive, but there are significant gaps. Where necessary, the database was supplemented using information from the International Commission on Large Dams Register of Dams database (updated in September 2014), AidData, a 2015 whitepaper by Bräutigam et al.[878], as well as verification and updating from media, corporate reports, and government sources. Where there was disagreement between sources, WEPP data were used, or if WEPP did not list the project, the most recent source was used. Hydropower projects that are smaller than 1 MW are excluded, both because data are less comprehensive in WEPP and because small and micro scale dams tend to be less publicized (and thus missed from the analysis) and less politicized[879]. Dam projects that did not involve a hydropower component, including those involving China and/or the World Bank, were excluded. For instance, the Metolong project in Lesotho is not included even though it involves both the World Bank (greenfield development under P108143 in May 2009) and involves China's Sinohydro under a competitive bidding scheme in 2010-11[880].

[878] Bräutigam et al 2015 *Supra*. Where Bräutigam reports that a project is inactive, the project was included because it may still influence decision making at the time that it was originally announced.
[879] Data was available for projects larger, though the analysis includes a sensitivity (appendix) that excludes all projects below 10 MW because these can also qualify as "small".
[880] HydroWorld (14 Septembr 2011). "Lesotho awards Metolong Dam construction contract to Sinohydro". Available: http://www.hydroworld.com/articles/2011/09/lesotho-awards-metolong-dam-construction-contract-to-sinohydro.html

The data consider continental sub-Saharan Africa plus Madagascar, which is the 38 countries listed in Figure 7.5. Several eligible countries are inconsequential to the analysis because they are not known to have any hydropower plants (Botswana, Djibouti, Eritrea, The Gambia, and Chad).

Each project in the dataset is assigned a date during which China and/or the World Bank first became "involved" in project. For projects involving China, the dates reflect the first known public interactions between Chinese and host-country officials with some reference to the project. Agreement that a Chinese firm will provide equipment/services, or a Chinese Bank will provide finance, may be announced earlier than it is formalized. A formal announcement may take months or years, even after there is a general public acknowledgement of Chinese involvement. In general this information is sourced from media sources or press releases during official state visits with Chinese leaders or listing of contracts tendered to Chinese firms in industry reports.

There is no equivalent procedure for determining the World Bank's initial involvement in a project; many programs in a particular country or region are the result of years, if not decades, of sector-level interaction and planning. The date of a meeting of the Board of Directors at the Bank, which formally approves disbursement of Bank resources for the project, is the only proxy for a decision point to take a project forward consistent across projects and countries.

Projects typically only go to the Board if there is a high expectation that they will be allowed to pass, indicating that project preparation has been satisfactory and stakeholders are aligned in

wishing to see the project move forward. In some cases, multiple considerations of the same project are coded in the data. For instance, the Bujagali Falls hydropower project in Uganda resulted from an agreement between the World Bank and Government of Uganda to examine major sites for a potential large hydropower project in the late 1990s. A World Bank Project Information Document in January 2000 was amended to include the Bujagali plant, though other World Bank data attributes the project to another intervention in April 2007. These types of multi-stage projects abound in the data; hydropower projects may be a later part of a multi-stage intervention.

For Chinese first interest dates, where only a year is available for first agreement or expression of interest (as opposed to a month/year), July of that year is used (As the 7th month, July is just later than the year's mid-point). Exact dates were available for all World Bank projects. The data are analyzed through March 2015, though any pre-Board decision World Bank project with status marked by the Bank as "pipeline" in December 2015 was excluded. The data do not include transmission projects unless that infrastructure is directly connected with an existing or planned hydropower project.

Four categories of involvement are coded for projects involving China. Levels include "Firms" (Chinese firms provide equipment including boilers, turbines or generators, or services including construction and architecture/engineering; projects listed as firms do not involve Chinese finance), "Finance" (Chinese banks provided loan financing or export credits toward the project; it is assumed that based on available data all projects[881] involving Chinese Finance also involve

[881] Hydropower projects with commissioning dates before 2019 and with available WEPP firm data involving Chinese finance also all involve Chinese firms. The Chemoga-Yeda I, Chemoga Yeda II, Halele and Werabessa

Chinese firms but are not coded twice), "Sector support" (includes rehabilitation as well as infrastructure directly related to a hydropower project), and "Preliminary" (projects for which discussion is known to be under-way but where no agreements on finance or firms are publicly known). Tables S7.1-S7.3 in the supplement list projects involving China, sorted in these categories.

projects in Ethiopia (all planned with no commissioning dates) have no firm-level data available in WEPP; the Souapiti project in Guinea (planned with no commissioning dates) has no firm-level data is available in WEPP; the Mphanda Nkuwa project in Mozambique (planned with a commissioning date in 2019) is missing all firm level data except for a Brazilian construction contractor; the Belinga dam in Gabon is not included in WEP and no commissioning date is available.

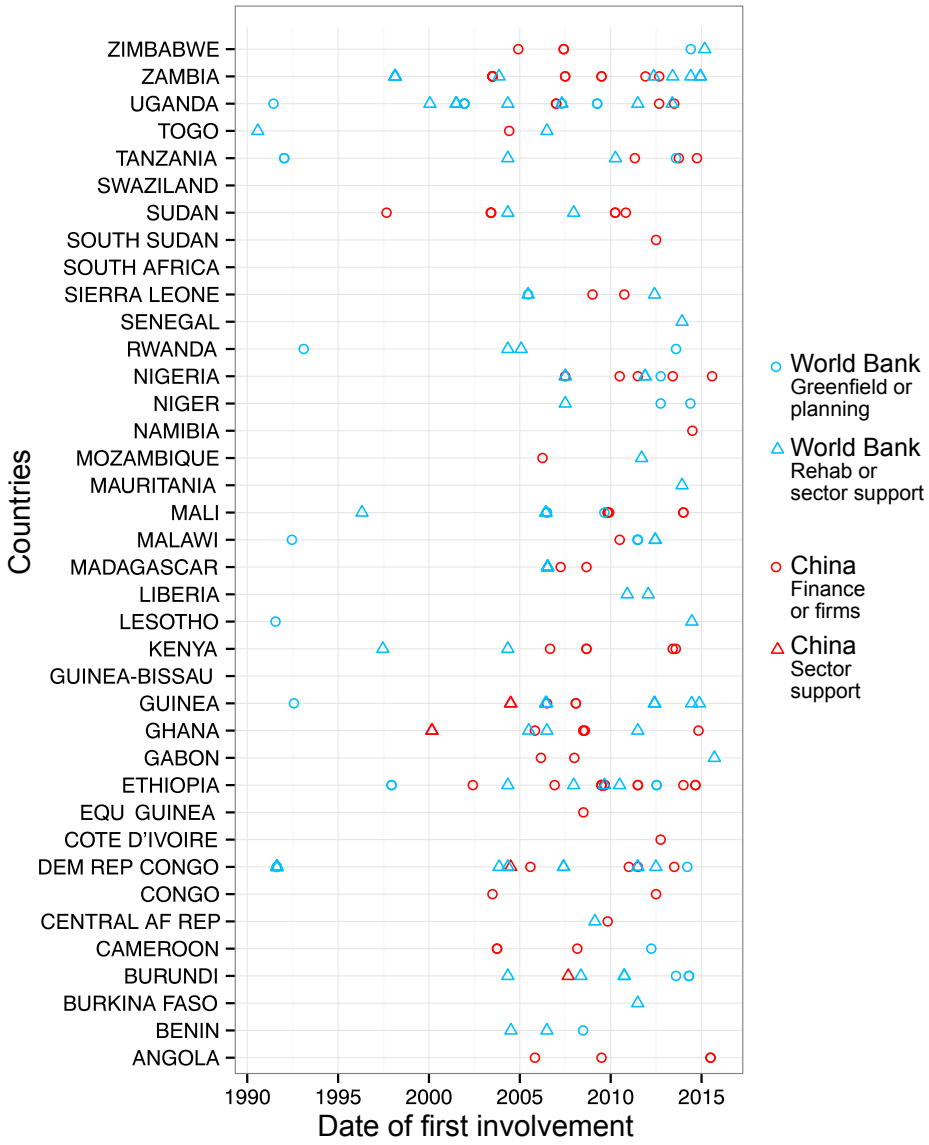

Figure 7.5: Country-level sequencing of World Bank and Chinese projects since 1990. Shown are the dates of the World Bank or China's first involvement by project type (blue circles are World Bank projects involving assessment or construction of new hydropower capacity; blue triangles are World Bank rehabilitation or sector-level assistance in hydropower; red circles are projects that involve Chinese financing or firms; red triangles are Chinese sector support).

Project-level involvement of the World Bank is altered to reflect the different roles that the Bank plays in hydropower projects. Levels include "Greenfield" (Bank involved in finance and/or services related to bringing new capacity online or expanding capacity of existing hydropower plants), "Study" (Bank involved in formal consideration of new hydropower capacity),

"Rehabilitation" (repairs, services on existing capacity or restoration of capacity that was previously generating), and "Sector support" (policies related directly to hydropower expansion and infrastructure directly associated with a hydropower project intervention such as transmission). Tables S7.4-S7.6 in the supplement list projects involving the World Bank, sorted in these categories. Table S7.7 provides a list of known small hydropower projects interventions excluded from the analysis. For the analysis below, greenfield and planning are considered "direct" Bank involvement, while rehabilitation and sector support are considered "indirect".

The first half of the time series in Figure 7.5 above shows the World Bank's hiatus from hydropower, with several greenfield or planned investments in the early 1990s, though these mostly taper off by the late 1990s. Bank involvement in rehabilitation and sectoral support for hydropower continues through this period, though with less frequency than after 2004 Water Resources Sector Strategy, which has a pronounced effect.

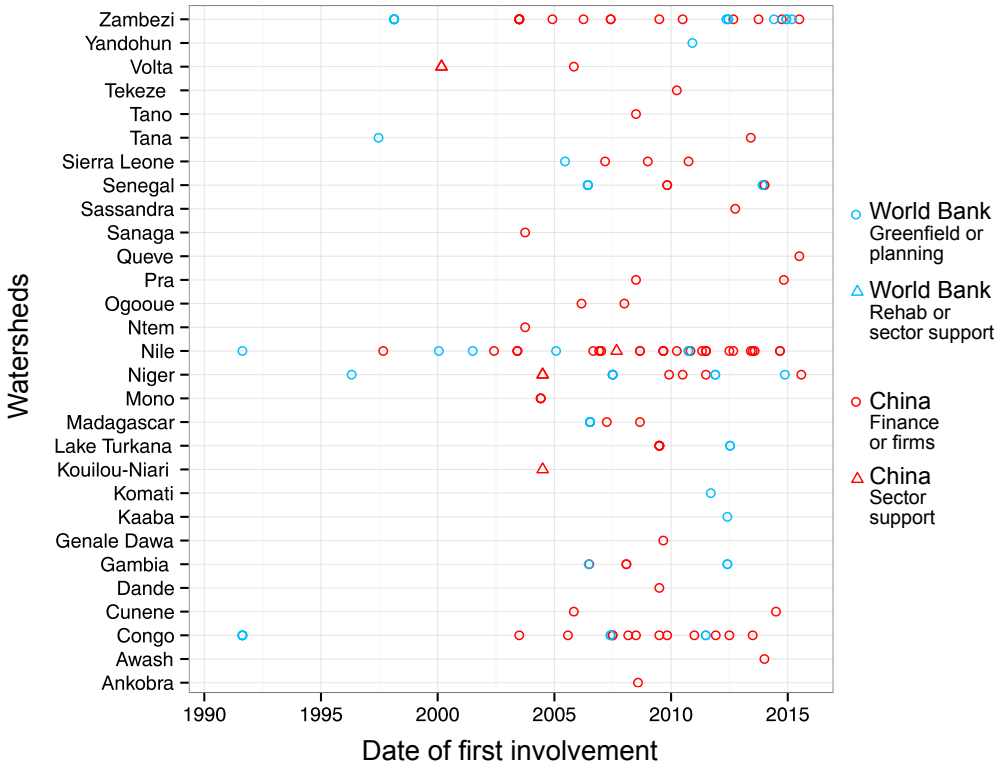

Figure 7.6: River Basin-level sequencing of World Bank and Chinese projects since 1990[882].

In addition to country-level planning, the World Bank also considers regional and river basin level analysis[883]. The Bank frequently coordinates projects with regional cooperative bodies that manage international waters. This perspective is important because many projects are on rivers that form national borders. River basins form an important layer of governance over transboundary water resources, power generation, and transportation. Figure 7.6 includes projects assigned to each basin[884].

[882] Sierra Leone is drained by several rivers that originate and end in Sierra Leone. Projects on these rivers are listed only as "Sierra Leone", conceptualized as a political basin.

[883] World Bank Water Resources Management Africa Region. "The Zambezi River Basin: A Multi-Secor Investment Opportunities Analysis". Volume 3 State of the Basin. Available: http://siteresources.worldbank.org/INTAFRICA/Resources/Zambezi_MSIOA_-_Vol_3_-_State_of_the_Basin.pdf.

[884] River data is from the ICOLD Registry of Dams database, when available, or otherwise from publicly available data on the internet.

As one prominent regional example, the Niger Basin Authority, which formed in 1980, represents ten riparian countries: Algeria, Benin, Burkina Faso, Cameroon, Chad, Ivory Coast, Guinea, Mali, Niger and Nigeria[885]. The World Bank and other multilateral development banks and donors have supported the Niger Basin Authority since 2002 through a "Shared Vision Process"[886,887]. The Bank plays an important role in supporting the planning and development of several hydropower projects in Niger (Kandadji, financed by the Bank), Guinea (Fomi, under consideration by the Bank[888]) and Mali (Taoussa, considered but not funded[889]), as well as several rehabilitation projects in Nigeria (Kainji and Jebba) and Cameroon (Lagdo). The NBA works closely with the existing regime of development institutions, which in June 2008 jointly committed US$1.4 billion for the first priorities within a 20-year investment plan.

Figure 7.7 provides a synopsis of the data in Figures 7.5 and 7.6, showing the number of markets which World Bank direct and indirect involvement lags or leads Chinese involvement in those markets. After the Water Resources Sector Strategy in 2004, the World Bank is more likely to follow China into country and basin markets than it is to lead in those markets. The World Bank became directly involved in hydropower projects following China's involvement in six countries and five basins. The same was not true for indirect World Bank involvement; the Bank is more likely to lead into its own country and basin markets than it is to follow China.

[885] World Bank. Project Information Document PIDC264.
[886] Allen (7 May 2008). "Government Of Niger (GON) President Tandja Hosts The Niger Basin Authority Heads Of State/Government Summit". *Wikileaks.* Available: https://wikileaks.org/plusd/cables/08NIAMEY481_a.html.
[887] The Niger Basin Authority, which formed in 1980, represents the ten riparian countries: Algeria, Benin, Burkina Faso, Cameroon, Chad, Ivory Coast, Guinea, Mali, Niger and Nigeria[887].
[888] World Bank (28 January 2015). "Fact Sheet: The World Bank's Engagement on the Fomi Dam". Available: http://www.worldbank.org/content/dam/Worldbank/document/Africa/Guinea/fomi-fact-sheet-2015.01.pdf
[889] World Bank. Project Information Document PIDC264. Available: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/AFR/2012/03/23/B38A1C51D3730F49852579CA005E1A2C/1_0/Rendered/PDF/P1301740PID0Print00323201201332522470820.pdf

Six out of twelve of the country markets where the World Bank was directly involved had previous engagement by China, while only seven out of twenty-eight of the markets where the World Bank was indirectly involved in hydropower projects had China leading. This could be consistent with the view that, when the World Bank is considering a direct engagement, there is a premium for the Bank in terms of engaging a market where China has a presence. Indirect involvements are less controversial for the Bank and would not benefit from the risk premium introduced by China.

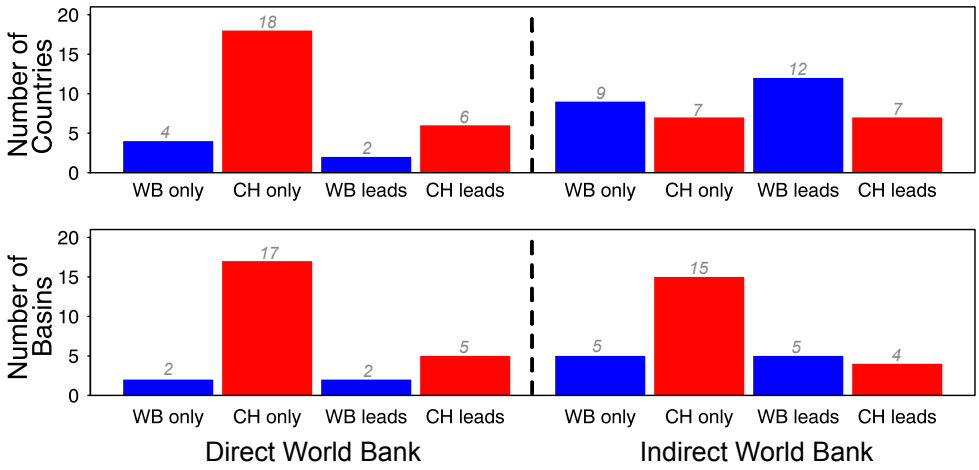

Figure 7.7: Type and timing of World Bank involvement in sub-Saharan Africa hydropower markets since 2004. The sequencing of World Bank announced involvement relative to China's announcements, shown by the number of countries (upper panel) and number of basins (lower panel). World Bank "direct" support for hydropower lags China's involvement (all types included) in more markets (left frames) than for indirect support (right frames). The large number of basins where only China is operating may indicate a delegation strategy. Direct support for the World Bank includes greenfield and planning projects, while indirect support includes capacity building, rehabilitation and infrastructure. The supplement includes the lag post-1990, 2000, 2003, and pre-2004. The magnitude of "China leads" is largest for post-2003, and smallest for post-1990, indicating the importance of the policy shift, the importance of China's emergence, or potentially both.

However, the number of projects involving China since 2004 is large (seventy-nine) relative to the number of projects directly involving the World Bank since 2004 (twenty). The number of

projects where the Bank is indirectly involved (seventy-two) is roughly the same as for China. This may in part – or in full – account for the trend that China leads in country and basin markets for markets with direct World Bank involvement in Figure 7.7. Testing the assumption that the World Bank is more likely to engage in markets where China has previously made investments requires simultaneous consideration of a multitude of other temporal and cross-market effects driving World Bank investment decisions, and an examination of how China influences the *likelihood* that the World Bank engage in a project. An econometric analysis attempts this.

7.3.1 Econometric analysis

The assessment that follows uses multiple regression to determine whether the World Bank was more likely to be involved in hydropower markets where China had previously been involved.

The dependent variable was measured in two ways. The first measure is continuous; the size of any hydropower project that the World Bank supports in market j in year i, indicated as $MW_{j,i}$. If the perceived benefits of Bank involvement are higher when China is involved in a market, the World Bank would be willing to approve larger hydropower projects in markets and years where China is already involved. Measuring the size of projects excludes projects that are not directly connected to capacity addition, such as many of the projects included in capacity building and sectoral support in Table S7.5. The second measure of the dependent variable is the likelihood, measured as occurrence of a binary variable, that the World Bank engages in any hydropower project in any given market in any year ($P_{j,i}$). The binary indicator is an important complement to the continuous capacity measure of the DV because several large projects greater

than 1 GW each have the potential to skew the results (these projects include the 2012 infrastructure associated with Gibe III in Ethiopia, 2014 study for Inga in the Dem. Rep Congo, and 2014/15 study and capacity building for Batoka in Zimbabwe). This latter type of "event count" analysis, predicting the probability of an event's occurrence, is commonplace in the study of international politics[890]. OLS and logged OLS applications to international politics have yielded statistically unreliable and potentially erroneous findings[891], with a binary Poisson model a common specification[892,893].

The key causal variable is China's previous engagement in any market in any year, measured in several different ways: 1) Difference in time between China's first involvement (tc) in market j and the World Bank's first involvement (tw) in market j, i.e., $(tc_j - tw_j)$; 2) Cumulative capacity (MW) of Chinese hydropower projects for market j up until year i ($\sum_{t=tc}^{i} MW_j$); 3) Cumulative number (N) of Chinese hydropower projects for market j up until year i ($\sum_{t=tc}^{i} N_j$); and 4) binary indicator of whether China has built a project in market j at year i.

[890] For a discussion of event count analysis in International Politics, see King, G. (1989). "Event count models for international relations: Generalizations and applications". *International Studies Quarterly*: 123-47.
[891] King, G. (1988). "Statistical models for political science event counts: Bias in conventional procedures and evidence for the exponential Poisson regression model". *American Journal of Political Science*: 838-63.
[892] Poisson regression can also be called log-linear. The model method assumes that the log transformed Dependent Variable is linearly related with incremental change in the Explanatory Variable. A more difficult assumption to satisfy is that for each set of covariates, the variance equals to the mean.
[893] Cameron, A.C. & Trivedi, P.K. (2013). "Regression analysis of count data". *Cambridge University Press*.

7.3.2 Other explanatory variables:

The analysis examines the effect of the Water Resources Sector Strategy as a binary variable, before and after 2004 (denoted by h). Similarly, the effect of the World Commission on Dams is considered as a binary variable, before and after 2000 (denoted by d).

Covariates are included in the analysis which could affect the likelihood of World Bank involvement in any market-year and also co-determine markets where China gets involved.

- *Hydropower potential (H_j):* Country-level analysis includes controls for the country's economical hydropower potential, which is a strong indicator of the likelihood that China, the World Bank and other developers will pursue projects. Data are primarily from Norwegian Renewable Energy Partners and the World Bank [See supplemental Table S7.10].

- *Pre-existing country relationships (R_j):* The value of the World Bank's portfolio in a given country market between 1990 and 2000 is included as it is likely to be a proxy for the size of the market and strength of the pre-existing World Bank relationship.

- *Non-Bank and non-China hydropower investments ($nMW_{j,i}$):* Because the analysis strives to determine if the World Bank responds to China's involvement specifically, it is important to refute the hypothesis that the World Bank is more likely to engage where there is more hydropower development built by any other actor as well. Where projects are low risk and can be managed successfully by the private sector or other non-Chinese

donors, we would anticipate that there is less demand for Bank services and the Bank would be dis-inclined to participate. A signal of hydropower development in previous years would decrease the size and occurrence of Bank involvement[894]. Estimates of planning dates for non-Bank and non-Chinese hydropower projects are not readily available, so an average time lag approach is taken. The time lag between a World Bank board approval and commissioning (or planned commissioning) of the hydropower projects analyzed is 5.64 years (with a standard deviation of 7.07 years), while for a project involving China, this difference is 4.36 years (with a standard deviation of 10.22 years). The difference between Chinese and World Bank projects is surprising because the Chinese dates of first involvement are likely to be at an earlier stage of planning than the World Bank approval dates. However, such projects may have been planned for years but in need of a financier or EPC firm (engineering, procurement, construction) – a void that China filled and was able to move on quickly. The inclusion of non-World Bank and non-China projects in the regression since 1990 uses the commissioning (or planned commissioning) date minus 5 years, which is assumed to be average of the dataset for Africa. Ansar et al. (2014) find that globally large dams take 8.6 years on average from initiation of construction to commissioning, with 1.5 years as the average cost overrun. This estimate does not include the substantial additional time needed for pre-construction planning, analyses, and approvals. Higher dam walls increase schedule

[894] Alexander, N. (2014). "The Emerging Multi-Polar World Order: Its Unprecedented *Consensus on a New Modl for Financing Infrastructure Investment and Development". Heinrich Böll Foundation North America*. Available: http://us.boell.org/sites/default/files/alexander_multi-polar_world_order_1.pdf.

overruns, though higher capacity dams actually decrease the overruns, so there is substantial variation[895].

The principle unit of analysis is the market-year (j, i), which for most model specifications is country-years, though the model is also tested – with fewer covariates – for Basin-years as well. Equation 7.1 below is a representative regression specification, examining the effect of cumulative capacity of Chinese hydropower projects up to that country-year on the occurrence of World Bank hydropower projects in that country-year. This model, which corresponds to model (4) in Table S7.9, controls for capacity built by other actors, country hydropower potential, World Bank previous investment, and a dummy for the World Commission on Dams.

Equation 7.1

$$\log(P_{j,i}) = \beta_o + \beta_1\left(\sum_{t=tc}^{i} MW_j\right) + \beta_2(H_j) + \beta_3(R_j) + \beta_4(nMW_{j,i}) + \beta_5(d) + \epsilon_{j,i}$$

7.3.3 Results:

With varying levels of significance, the World Bank was *more likely* to be involved in hydropower in markets (countries and basins) where China had begun investing in hydropower in those markets in a previous year.

Table 7.1 presents seven models chosen to represent the range of outcomes from different measurements of the main explanatory and dependent variables, and important controls, in both

[895] See Ansar, A., Flyvbjerg, B., Budzier, A. & Lunn, D. (2014). "Should we build more large dams? The actual costs of hydropower megaproject development". *Energy Policy* 69: 43-56. The resolution of the data analyzed in this chapter does not allow for a careful predictive model of schedule lag, given the multitude of parameters available for estimation in the Ansar et al (2014) sample.

country and basin markets. The complete suite of 23 models is available in Tables S7.8 through S7.12 in the supplement.

The effect of an additional MW of Chinese hydropower cumulative capacity from previous years is examined in Models (1) and (3) for the country markets, model (15) for basins. The effect of a marginal MW of Chinese capacity has a significant effect on World Bank project size. Model (1) shows that an additional 100 MW (the size of a typical hydropower generator) would statistically result in 6.5 MW of additional World Bank capacity in a country-year – or the equivalent of 65 MW in a statistical decade, or roughly two-thirds of the Chinese cumulative added capacity. Model (15) for basins includes dummy controls for 2000 and 2004, and fixed effects to account for lack of controls in geophysical and political variability between the basins, and shows a result of similar significance and magnitude. An additional 100 MW of Chinese capacity leads to 5.7 MW of World Bank capacity in a basin-year. A single 1 GW project involving China, of which there are only a few, would have a substantial effect on size of Bank engagements; of course, as discussed above, these few projects also weigh heavily in the OLS analysis. These two models capture slightly less than 10% of variation, which is a poor fit. Model (3), which uses a binary logged indicator of World Bank project occurrence so that large hydropower projects do not skew the results, indicates that a 100 MW Chinese cumulative capacity would result in a 1.8% increase in the likelihood of a World Bank project in any country-year. This result is significant at the 95% level.

Models (10) and (14) examine the effect of an additional year after the first project involving China on World Bank project size and occurrence, respectively. This Explanatory Variable

counts forward (positive lag) as well as backward (negative lag) from Chinese projects, which would allow for the model to capture an effect on World Bank projects leading up to – rather than resulting from – a Chinese project. Both models include the full set of controls. Model (10) shows that an additional year following China's involvement in a market increases the size of Bank projects by 4 MW and the effect is highly significant. Model (14) shows that an additional year after the first China project results in a 1.4% increase in occurrence, but the result is insignificant. However, if the control for the year 2004 is removed (as in Model (13) in the supplement), the effect of a lagged year is significant with a 5% increase in occurrence of Bank projects. Regardless of significance, Models 13 and 14 both show small effects. Using a lagged variable has challenges for inference; while the likelihood of World Bank project occurrence might increase in the years immediately after a China project, the variable does not allow for the possibility that the effect atrophies after a long lag.

To compensate for this potential weakness of the lag variable, Models (6) through (9) in the supplement examine the effect of a binary variable indicating whether a country has had a project involving China in any previous year. Models (6) and (8) show a significant effect of China involvement, on both World Bank project size and occurrence, respectively, though they only control for the 2004 Water Resources Sector Strategy. Model (7) includes the full suite of controls and shows a significant, though attenuated effect on project size and with a poor model fit overall. Model (9) [shown also in Table 7.1] also includes the full controls and indicates no significant effect of the binary China variable on project occurrence.

Another measure of Chinese involvement that avoids over-exaggerating the effect of project size is to measure the cumulative number of Chinese projects in a country-year. Model (20) in Table 7.1 shows that one additional Chinese project results in a 28% increase in the occurrence of a World Bank project in any basin-year. Inclusion of basin-fixed effects in Model (21) leads to a weaker model fit, but also attenuates the effect of a marginal China project and makes the result insignificant.

Table 7.1: Summary of models in the supplement, examining the effect of Chinese hydropower projects on World Bank project size and occurrence in a given market and year. Model reference numbers correspond with complete model set in supplementary materials.

	Summary: World Bank hydro in a market-year						
Dependent Variable	***Project size***			***Binary***			
	Linear			Poisson			
	Country	Country	Basin FE	Country	Country	Country	Basin
Model Reference	(1)	(10)	(15)	(3)	(9)	(14)	(20)
Cumulative capacity of Chinese projects	**0.065*** (0.007)**		**0.057*** (7.4e-3)**	**1.8e-4** (8.0e-5)**			
Lag since first China project		**4.0*** (1.4)**				**0.014 (0.024)**	
Cumulative number of Chinese projects							**0.28*** (0.055)**
China in any previous year (binary)					**0.056 (0.26)**		
New capacity of non-China, non-WB projects	-0.038* (0.02)	-6.7e-3 (0.021)		-5.3e-4 (3.6e-4)	-6.5e-4 (4.2e-4)	-6.9e-4 (4.3e-4)	
Country hydro potential	8.3e-5 (8.1e-5)	3.0-4*** (8.0-5)		2.3-6** (1.0e-6)	4.2e-6*** (9.9e-7)	4.3e-6*** (9.6e-7)	
WB investment 1990-2000	-0.012 (0.0084)	7.3e-3 (8.7e-3)			6.3e-4*** (1.3e-4)	6.4e-4*** (1.3e-4)	
Post World Commission on Dams (binary)	-2.4 (19)	-15.6 (20.3)	-4.5 (23)	2.3e-2 (5.3e-1)		-0.025 (0.55)	-16 (1368)
Post Water Resources Sector Strategy (binary)	-3.3 (19)	11.8 (20.1)	-5.5 (23)	1.5*** (0.47)	1.6*** (0.315)	1.6*** (0.48)	17 (1368)
Constant	8.5 (13)	11.6 (15.4	5.2 (45)	-3.7*** (0.31)	-4.3*** (0.32)	-4.2*** (0.40)	-4.1*** (0.45)
Observations	975	975	800	1,075	975	975	800
Adj R-squared / AIC	**0.093**	**0.025**	**0.084**	**575**	**532**	**534**	**199**
Residual Std. Error	196	203	219				
Log Likelihood				-281	-260	-260	-96
F-Statistic	17.6***	5.1***	3.2***				
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.01							

The covariates operate generally as anticipated. An increase in a country's hydropower potential has a consistently positive and mostly significant effect on both project size and occurrence of

World Bank projects. The proxy for the Bank's relationship in a country market, likely to be influenced by governance, economic and diplomatic variables, is measured in terms of the dollar value of the Bank's 1990-2000 portfolio and has a consistently positive effect across specifications except Model (1). These variables are not available at the Basin level (Models (15) and (20)).

The dummy for the 2000 World Commission on Dams had a negative effect for nearly all specifications (except Model (3)), whereas the 2004 Water Resources Sector Strategy had a consistently positive effect for World Bank project occurrence, though a mixed effect on project size.

Hydropower capacity that is installed in a country-year and involves neither the World Bank nor China has a negative effect, across specifications, on the World Bank's project size and occurrence. *By its mission,* the World Bank seeks to support high risk projects where domestic institutions, the private market, and other financiers alone cannot take projects forward without the Bank's involvement, thus acting as a catalyst for development. The evidence indicates that the Bank is *less likely* to be involved in a market with more existing hydropower capacity being installed by other actors. The Bank is risk seeking, and not just pursuing projects to create work for bureaucrats as some literature suggests.

These previous models do not give an indication of whether under particular conditions the Bank may choose to "forfeit" a hydropower market to China, rather than attempt to engage there. Under contested conditions the Bank may choose to re-allocate its resources away from a

recipient government unwilling to satisfy Bank conditions for a loan after China increases its involvement. Thus in markets with a weak prior Bank relationship, more Chinese investment would decrease additional Bank investments. Models (22) and (23) in Table S7.13 test for this interaction between the China dummy variable and a country's 1990-2000 Bank portfolio. Both variables individually have been shown to have a consistently positive effect on the size and occurrence of Bank projects. The results of these models do not agree. The interaction (China projects in countries with stronger historical relationships) decreases the size of World Bank projects (Model 22), which refutes the forfeiture hypothesis. However, the interaction increases the occurrence of Bank projects (Model 23), though this result is not significant. Inclusion of the interaction strengthens the model fit relative to comparable models, but overall cannot support or refute the potential for the Bank and China to delegate markets.

Sixteen out of the twenty-one base models examined show a positive and significant effect of China's involvement on the size and occurrence of World Bank projects in those markets in subsequent years. The two measures of the dependent variable complement each other; tests on project size proxy for magnitude of involvement, while tests on occurrence reduce the skew resulting from several large projects. All model specifications and all measurements of the explanatory and dependent variables yielded the same direction of effect; World Bank is more likely to engage in markets in years after China has built hydropower projects there, even after controlling for other factors likely to influence World Bank involvement in those markets, including historical relationships, hydropower capacity, and other hydropower development occurring within the market. There is no consistent evidence that the Bank tacitly delegates, or forfeits, markets where the Bank already has poor relationships and China has strong ones.

Examination of key assumptions, particularly comparability of dates of early involvement by the World Bank and China, would strengthen confidence in the data and subsequent analysis.

7.4 Conclusions:

China's growing international involvement in the power sector has substantially increased its power to influence global development outcomes. Within established institutions, China's economic weight and trusted position among developing economies gave it substantial power to influence policy. The World Bank accommodated this rising power by adopting policies to weigh the costs of non-engagement relative to the consequences of the project itself; an adjustment that significantly altered how the Bank pre-empted project risk to the environment and society, and allowing a re-engagement with large infrastructure projects.

Outside of established institutions, China's scale of activity and pragmatic rather than ideational approach to development has resulted in established institutions adjusting their own behavior to preserve their authority over development ideology. Change at the World Bank is oftentimes "triggered" by internal friction over organizational culture, which Weaver and Leiteritz (2005) defined as embedded ideologies and norms that drive staff behavior[896]. This chapter claims that the World Bank staff and stakeholders respond to competitive interests, oftentimes to preserve deeply held ideologies but also to retain institutional relevance. When its authority is challenged, the Bank considers how to direct investments to stabilize its ideology and influence within client governments.

[896] Weaver, C. & Leiteritz, R.J. (July 2005). "Our Poverty Is a World Full of Dreams: Reforming the World Bank". *Global Governance: A Review of Multilateralism and International Organizations* 11(3): 369-388.

A key feature of contested authority emerges regarding Bank behavior. *Contested authority raises opportunity costs of non-engagement.* As a monopolist development institution, the Bank's choice of non-engagement might lead to a project being abandoned or to be reconsidered after reform by the recipient government. In a contested environment, non-engagement by the Bank could mean political and ideological displacement by the contesting authority and failure to functionally change the project outcome.

In the past decade, Western stakeholders perceived that China's development model is not based on market principles and does not emphasize governance and transparency which are central to prevailing development ideologies; furthermore Chinese projects had weak environmental and social safeguards. Stakeholders emphasized engagement in markets where non-engagement would only serve to empower China without accomplishing purposive ends-means goals. The evidence suggests that China contesting World Bank authority has a demonstrable effect on World Bank policy adjustment.

Part III

Interpreting Contestation in Power Sector Governance

Chapter 8

The competitive political economy of development finance institutions

8.1 Introduction

Should students of international politics be surprised by the competitive strategic responses to China's contested authority observed in Chapters 4 through 7? The preceding chapters showed that China has caused a tectonic shift in the landscape of power sector governance. Reactions to China's contested authority in the power sector are observed in bilateral aid, in export finance negotiations and project decisions, and in strategic positioning of the World Bank. Chapter 3 demonstrated that before this contemporary policy response to China, the post-Second World War development finance regime had been able to purposefully and successfully pre-empt contested multilateralism in the development finance regime. These were competitive responses that prevented potential rivals from challenging the authority of established regimes through creation of new institutions or shifting activities from one regime to another. The present chapter develops a framework for understanding the conditions under which discord at development finance institutions leads to competitive policy adjustment. The analysis draws inductively on the preceding cases, and then examines its applicability across a range of historical precedents in the regime for development assistance.

The suite of historical cases to follow shows that cooperation between established and emerging development actors is rare at the earliest stages, emanating from distrust at the level of state

shareholders and organizational interests in maintaining influence and legitimacy over their development niche. Characterizing the competitive political economy of actors in the regime for development assistance can help shine light on a series of important additional questions. What does the new landscape imply for long-term reform of safeguards policies at the World Bank, or for the historically common practice of conditioning aid on good governance, or for long-term cooperative action on low-carbon power sector transitions? As China institutionalizes its authority in international politics through the Asian Infrastructure Investment Bank, New Development Bank, and Silk Road Fund, what are the implications for addressing global climate change? What about for energy poverty?

How should one begin to think about the architecture of actors within the regime for development assistance? Central players in the regime include international organizations, which have proliferated in recent decades and oftentimes have complex linkages to governments, parastatal organizations and civil society groups (epistemic communities and non-governmental advocacy groups). In a simplistic conception, a crowded institutional space of intergovernmental organizations may organize into a hierarchy, akin to a pyramid, with institutions possessing the most experience, resources and staff – or buffered by the most powerful state interests – on top. Newer and under-resourced institutions form layers below[897]. Units at a lower level remain purposeful, stabilizing the architecture of the pyramid and providing services that maintain the position of higher-level organizations. This conception imagines a stable structure with clearly delineated levels, though the position of intergovernmental organizations within the pyramid is not static; state interests and capabilities change, new organizations integrate into the structure,

[897] The pyramid concept is introduced for intergovernmental organizations in Mingst, K.A. (1987). "Inter-organizational politics: The World Bank and the African Development Bank". *Review of International Studies* 13(04): 281-93.

and existing organizations jockey for greater influence or challenge the legitimacy and authority of adjacent layers. What the simple model does capture is the potential for change in the position of any building block to cause adjustment throughout the structure.

Borrowing from the realist ontology in international politics, if two actors have conflicting interests or authority, one actor will perceive its success (or the success of institutions where it is a stakeholder) as relative to the other. Uncoordinated institutions operating in a bounded environment with limited or uncertain resources employed to attain or sustain interests and authority, engage in a zero-sum game. In rare instances where resources are known to be abundant, and the institutional interests in exploiting them are not in conflict, neither institution benefits from adjusting its behavior, resulting in harmony.

But two states seeking to increase geopolitical and commercial market advantages through development assistance are rarely harmonious; even the most massive markets have finite and time-bounded opportunities for engagement. Following the Tiananmen Square state violence in Beijing in 1989, bilateral, multilateral and export finance destined for China was suspended by the U.S., E.U., Japan, and the World Bank and Asian Development Bank[898]. However, Russia refused to impose sanctions, and within months Japan was eager to re-engage in the Chinese economy, a critical growth market for Japanese firms. In spite of strong diplomatic interests in sustaining sanctions, cooperation within the sanctioning coalition pulled apart under the lure of

[898] Harding, H., Whiting, A.S. & Ross, R.S. (December 1990). "China's foreign relations after Tiananmen: Challenges for the U.S." *The National Bureau of Asian and Soviet Research*. Available: http://www.nbr.org/publications/nbranalysis/pdf/vol1no3.pdf.

the Chinese economy. One-by-one, states re-initiated export finance and official development assistance to China[899].

Adding to the difficulty of establishing expectations of hierarchy among development actors, states have commercial and political interests in being the "primary" or "lead" donor in a recipient country[900]. Pursuit of the lead position can trigger competitive responses where coordination fails to allocate effort and influence between donors. Competition can result in redundancies and fragmentation that is costly for donors but may benefit capable recipient governments. Recipients may use uncoordinated donors to bargain for better terms[901] or even control the aid relationship[902]. Lead donors emerge through collusion or coordination – either implicit or explicit – to define a donor's spheres of influence[903]. Such coordination benefits donors because it prevents clashes in attainment of political goals in recipient countries, reduces the bargaining power of recipients, and minimizes the ability of other donors to claim credit for development successes. Incentives for being a lead donor center around the development actor's organizational and stakeholder interests in influencing recipient country outcomes for diplomatic, geopolitical, and commercial gain.

[899] The Financial Times (14 December 1990). "A More Cautious West is Knocking on China's Door", 6.
[900] Lebovic, J.H. (March 2005). "Donor Positioning: Development Assistance from the U.S., Japan, France, Germany, and Britain". *Political Research Quarterly* 58(1).
[901] Whitfield, L. (2008). "The Politics of Aid : African Strategies for Dealing with Donors: African Strategies for Dealing with Donors". *OUP Oxford*.
[902] Sato, J., Shiga, H., Kobayashi, H. & Kondoh, H. (December 2011). "'Emerging Donors' from a Recipient Perspective: An Institutional Analysis of Foreign Aid in Cambodia". *World Development* 39(12): 2091–2104.
[903] Steinwand, M.C. (March 2015). "Compete or Coordinate? Aid Fragmentation and Lead Donorship". *International Organization* 69(02): 443–72.

Donor coordination efforts have been a key priority of the international regime for development finance[904]. Forums are initiated and maintained to cement positions of authority with recipients by preventing counter-productive zero-sum behavior among donors. The OECD Development Assistance Committee, OECD Export Credit Group, and multilateral development banks all exist for the purposes of coordinating and collectivizing rules and norms for development finance. The states that formed these rules maintain power over their implementation. When Japan and Korea became economically powerful they sought to conform with these rules. As discussed in Chapter 3, China integrated with existing international rule structures in the 1980s but has recently begun to challenge them.

The potential for discord within the regime for international development assistance has generally been ignored in contemporary literature on the political economy of development aid – particularly in the post-Cold War period where the U.S.-Soviet-Third World dynamic dissolved. Discord today arises from the patriarchal North-to-South power asymmetry discussed in Chapter 3. As China has grown in international authority over development, we lack a framework to contextualize how the emergence of contested authority induces strategic policy changes by established actors within the regime. This is similarly important for contextualizing historical institutional behavior.

[904] Fuchs, A., Nunnenkamp, P. & Öhler, H. (February 1, 2015). "Why Donors of Foreign Aid Do Not Coordinate: The Role of Competition for Export Markets and Political Support". *The World Economy* 38(2): 255–85.

8.2 Interpretive Framework

Under what conditions do actors respond competitively in response to discord resulting from contestation within the regime for development finance? Under what conditions is such competition likely, and how may it be mitigated? What follows is an effort to formalize a framework for interpreting the interaction between established and emerging actors in the regime for development assistance, when the conditions for discord are present.

Competitive and uncooperative behavior between an established development actor (be it a state or international financial institution) and an emerging actor should increase with two variables: 1) *difference in interests*; and 2) *contested authority*.

8.2.1 Difference of interests

Difference of interests is defined as conflicting ideological, commercial and diplomatic goals between stakeholders of the emergent and established institutions, or between the organizations themselves. "Interests" is a large basket, varying between institutions and within them. Institutions and their stakeholders may seek to preserve identity and reputation by consistently applying ideologies, such as norms regarding governance, environment, human rights, sovereignty, or private sector participation[905]. Politically powerful coalitions may also seek to preserve or create commercial advantages. Finally, the pursuit of those interests may be

[905] To use Peter Katzenstein's definition, norms represent "collective expectations for the proper behavior of actors with a given identity". Norms may either "define (or constitute) identifies or prescribe (or regulate) behavior, or they do both". From Katzenstein P.J. (1996). "Introduction: Alternative Perspectives on National Security" *In* Katzenstein, P.J. (Ed.). "The Culture of National Security: Norms and Identity in World Politics" *Columbia University Press*, p.5.

preserved through military relationships and diplomatic rapport, which can translate to influence which one government may seek to have on another. Interests will be a function of the institution's stakeholders, and degree to which those stakeholders have delegated agency to the organization. Internal organizational norms, culture and procedures will also dictate how the organization perceives changes in its stakeholder and client legitimacy and its ability to pursue the organization's goals.

8.2.2 Contested authority

"Contested authority" is the degree to which an emerging actor challenges rules and norms upheld by an actor in the established regime. Authority itself has been defined as political power exercised with legitimacy[906]. An organization that wishes to establish and enforce rules that are perceived by another actor to be legitimate is said to have authority, otherwise exercise of power is coercive[907]. A key mitigating factor for whether emerging and established actors interact competitively is how they are able to reconcile their conflicting interests. Within an organization with clearly delimited rules, procedures and hierarchies of accountability, mediation of conflict is straightforward. In international politics, regimes are created to structure expectations for state behavior and to agree on shared rules and norms – a process of establishing where authority lies in influencing outcomes. When such regimes exist and actors view authority within the regime with the same degree of legitimacy, cooperation is easier. By contrast, where significant

[906] Ruggie, J.G. (Spring 1982). "International Regimes, Transactions, and Change: Embeded Liberalism in the Postwar Economic Order". *International Organization* 36(2): 379-415; See also Milner, H. (January 1991). "The Assumption of Anarchy in International Relations Theory: A Critique". *Review of International Studies* 17(1): 67-85.

[907] Hurd, I. (Spring 1999). "Legitimacy and Authority in International Politics". *International Organization* 53(2): 379-408.

disparities in power exist in international political interactions, rules imposed by powerful states may be accepted by weaker states without challenge (sometimes for lack of better alternatives[908]). However, rising powers may not yet "fit" into the existing regime, causing tension over expectations of legitimate exercise of their capabilities. The inability of the more established actor to continue using its resources to induce desired regime outcomes represents a contestation of authority. A decline in mutual respect for institutions and regimes by a rising power through which to establish shared expectations with the established actor also represents contestation of authority.

8.2.3 Potential for discord

When two actors have conflicting interests or different expectations of authority, the potential for discord exists. They may be able to mutually adjust their behavior to attain pareto-improving outcomes, i.e., they are both made better off through cooperation[909]. If one or both refuse to credibly adjust their behavior or fail to attain a better arrangement through mutual adjustment, their relationship is defined by discord. Under the conditions of potential discord, a competitive response becomes more dominant – and cooperation increasingly unlikely – as the actors' interests and expectations of authority diverge.

In the lower-left of Figure 8.1, below, where there is no difference in interests and authority is not contested between two actors in a domain, any adjustment is unnecessary as these are

[908] Gruber, L. (2000). "Ruling the World: Power Politics and the Rise of Supranational Institutions". *Princeton University Press*.
[909] Chapter 8 builds on the theory of discord developed in Keohane, R.O. (1984). "After Hegemony". *Princeton University Press*, p.51-7.

conditions for harmony. At low levels of each variable, pareto-improving adjustment is attainable through cooperation under the rule-making authority of the established institutional regime. Situations where an emerging actor does not contest the authority of the established regime but has divergent interests are still likely to be resolvable without substantial competition because the dominant authority simply imposes established rules on the emerging actor. In contrast, an emerging actor who disagrees with the authority of the established regime but is having its interests served under the existing arrangement is likely to tolerate the status quo without substantial adjustment.

At the upper-right extreme of Figure 8.1, where the established regime's authority is not viewed legitimately by the emerging actor, and the established structure of the rules do not reflect the emerging actor's interests, the two actors are likely to be locked in a competitive status. The intermediate cases will see a mixture of cooperative behavior and competition in the interactions of the established and emerging players.

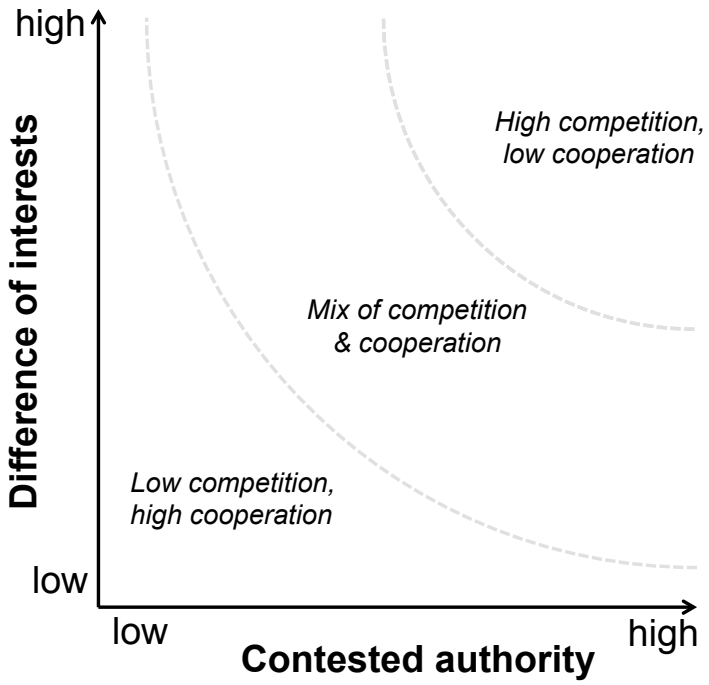

Figure 8.1: Expectation of how actors in the regime for development assistance will interact in a contested environment. The potential for discord is approximately the same along any isoquant (dotted contour line). Difference of interests and contested authority are partial substitutes, meaning that the potential for discord will remain constant under conditions of increasing difference of interests *only if* contested authority is simultaneously declining, and *vice versa*. The shape of the curves is approximate.

At the extreme, competition can be defined as policy adjustment or actions by one actor that seek to exclude the other, or seek to undermine or diminish the other's successful pursuit of its objectives. Because any adjustment is costly the actors prefer to adjust minimally. Initially established actors would attempt to protect the established regime by pressuring the emerging actor to converge with established expectations. Next, established actors may exclude or marginalize the competitor. If this fails the established actor adjusts its policies strategically to compete more effectively.

As the costs of competition rise, so do the benefits of cooperation. While cooperation may be a superior outcome, mutual policy adjustment requires concessions from both actors and venues

for identifying opportunities. Mirroring this reality, the rules surrounding development finance have lagged behind changes in the structure of power in the international system. The lag has been sufficiently long, and adjustment sufficiently unsatisfactory, that China chose to contest the established regime's authority to create, implement and maintain the rules governing international development assistance. The conditions that lead to the emergence of a new institution tend to be endogenous to the competitive response of the established institution. Creation of the New Development Bank by China and the other BRICS was partially a response to years of unfulfilled promises of reforming the vote share of the IMF. It was only after the New Development Bank was created – explicitly as an alternate, parallel institution that contested the authority and served different interests than the IMF and World Bank – did the U.S. Congress vote in support of even minor vote share reform at the IMF[910].

8.2.4 Application of the framework to historical cases of contested authority

Cases are selected where a development finance institution with internationally recognized authority faces an "emergent" institution – a new and independent actor outside or peripheral to the existing institutional configuration but which operates in a similar region or sector. However, the same failures to accommodate interests and authority that lead to the rise of new institutions may have also prompted established actors to resist the emerging actor, leading to discord. Recognizing this endogeneity, the selection ensures variation in interests and authority so to permit variation in the outcome variable, competitive behavior.

[910] Mayeda, A. (15 December 2015). "Emerging Nations Set to Gain IMF Sway as U.S. Impasse Eases". *Bloomberg.com*. Available: http://www.bloomberg.com/news/articles/2015-12-16/emerging-nations-poised-to-gain-imf-sway-as-u-s-impasse-eases.

Discord will not vary with levels of delegation, though the mechanism through which cooperation fails will be different. In cases where delegation is low, state interests dictate the institutional response. When delegation is high, organizational self-preservation dominates the strategic calculus. For instance, stakeholders of established institutions seek to rebuff a challenger with divergent interests, resulting in the pursuit of adjustment that will safeguard the stakeholder's ideological, commercial or diplomatic goals. Bureaucracies of established institutions will also pursue adjustments that exclude or limit the challenger if the challenger would otherwise reduce the established institution's ability to serve its mandate – such as making investments or influencing development outcomes. Regardless how empowered the organization is relative to its stakeholders, both sets of interests tend to be aligned in preempting and controlling the rise of a challenger.

Many cases draw on the Cold War period, which saw a politicization of development resources, oftentimes for the explicit purpose of stabilizing political ideologies. Importantly, discord is also observed in cases chosen to involve geopolitical allies (such as U.S.-Japan and U.S.-France). The framework generalizes by looking at U.S. "concrete diplomacy" before the Cold War, at China's strategic use of development aid in response to the U.S.-Soviet Cold War divide, and varying levels of discord between U.S.-Japan, U.S.-China, and Japan-China long after Cold War tension had diffused. Observed dyads during and after the Cold War set up a comparative that generalizes the conditions that lead to competition within the development finance regime.

8.3 Bilateral

8.3.1 U.S. – Japan 1945-80

The early emergence of Japan's aid portfolio represents a low level of interest asymmetry and difference of authority with that of the U.S, positioning this case in the lower-left corner of Figure 8.1. The U.S. embraced Japan as a key ally in the provision of development assistance during the Marshall Plan and Cold War, essentially institutionalizing Japanese aid in concert with U.S. strategic objectives. However, while Japan initially had little autonomy to challenge U.S. interests or authority, this grew over time, which led to increasing levels of discord.

Following Japan's defeat at the end of the Second World War, the United States led the Allied forces in occupying Japan for the purposes of overseeing the Tokyo War Crimes Trials as well as reestablishment of the Japanese government and rehabilitation of the economy. Orr (1990) characterizes the occupation years 1945-1952 as crucial to the growth of Japanese feelings of loyalty toward the U.S., or *amae,* as well as the sense of mutual responsibility between the nations[911,912]. This early relationship established the foundation for long-term coordination between U.S. and Japan on aid policies[913].

Japan's post-war constitution, developed alongside U.S. occupiers and entering into force in 1947, permitted Japan only to have self-defensive military capability. A series of security

[911] Orr, R.M. (1990). "The Emergence of Japan's Foreign Aid Power". *Columbia University Press*, New York.
[912] Doi, T. (1973). "The Anatomy of Independence". *Kodansha International*.
[913] Arase, D. (1995). "Buying Power: The Political Economy of Japan's Foreign Aid*"*. *Lynne Rienner Publishers*, Boulder, Colorado.

compacts between the United States and Japan beginning in 1952 promised U.S. military support for Japan as a peaceful ally and permitted the U.S. to maintain a military base in Japan[914].

In addition to support for Western security aims, the U.S. pressured Japan (along with West Germany) to share the burden of the post-war reconstruction effort[915]. Article 11 of the 1945 Potsdam Declaration and 1951 San Francisco Peace Treaty required Japan and other former Axis powers to provide war reparations through provision of bilateral assistance. Furthermore, constitutional constraints and a lack of domestic interest in military engagement made Japan incapable of contributing militarily to growing regional anticommunist efforts; instead, Japan expanded development assistance to weak economies considered geopolitically important to the West's security aims[916]. The U.S. began to rely on Japan's aid resources to assist in buffering many key U.S. foreign policy objectives, including through participation in Western aid consortia in India (1958), Pakistan (1960), Nigeria (1962), Colombia (1963), Sudan (1963), and later South Korea, Taiwan, and Indonesia[917]. Japan's domestic conceptions of national security drew on the idea that global contributions to military and development objectives were interchangeable[918]. Japanese officials touted their development contributions to the U.S. as a demonstration of shared economic and security goals[919].

[914] U.S. Government Printing Office (1957). "Security Treaty Between the United States and Japan: September 8, 1951". *Department of State Publication 6446*. Accessed from Yale Law School Lillian Goldman Law Library. *The Avalon Project*. Available: http://avalon.law.yale.edu/20th_century/japan001.asp.
[915] Cunningham, G. (1974). "The management of aid agencies: Donor structures and procedures for the Administration of aid to developing countries*". Croom Helm. In* Orr 1990 *Supra*.
[916] Orr 1990, *Supra.*
[917] Arase 1995, *Supra*.
[918] Pharr, S.J. (1994). "Japanese aid in the new world order". *In* Gaarby, C. & Bullock, M.B. (Eds.). "Japan: A new kind of superpower". *The Woodrow Wilson Center Press*, Washington DC, p.161.
[919] Orr 1990, *Supra*.

Pressure on Japan to assist in U.S. geopolitical goals was at times explicit. The Clay Commission on the Future of Foreign Aid in 1963 recommended to President Kennedy that Japan be encouraged to provide concessional loans to developing countries to allow a reduction in U.S. provision of assistance[920]. In 1967, Japan pledged to President Johnson that its development assistance contribution would be used to "contribute to regional peace and stability"[921]. The U.S. urged Japan to condition its aid to North Vietnam on maintaining the Paris ceasefire agreement with South Vietnam in 1973[922]. In coordination with the U.S., Japan continued to provide economic assistance in geopolitically important countries throughout the early 1980s. The U.S. National Security Council frequently recommended that Japan be employed in containing the influence of the Soviet Union in the developing world, strengthening Western relations with newly independent countries in Asia and Africa, and stabilizing floundering economies of strategic political partners[923].

Japan used the U.S. relationship to shape outcomes within its aid bureaucracy. Japanese aid bureaucrats within Japan's Ministry of Foreign Affairs used U.S. diplomatic pressure to push back on efforts by the conservative Ministry of Finance to reign in aid disbursements[924]. Furthermore, Japan's coordination with the West was a key part of the Japanese government's effort to re-cultivate a global image as an advanced economy. Japan joined the OECD

[920] Papers of John F. Kennedy. Presidential Papers (20 March-20 April 1963). "Foreign aid: Clay Committee". *National Security Files*.
[921] Arase 1995, *Supra* p.55.
[922] Ingersoll (15 October 1973). "Issues In Us-Japan Relations". *Wikileaks*, Available: https://search.wikileaks.org/plusd/cables/1973TOKYO13288_b.html.
[923] Orr 1990, *Supra* p.104.
[924] Orr 1990, *Supra*.

Development Assistance Committee at its founding in 1961[925], three years before acceding to the OECD itself[926].

8.3.2 U.S. – Japan 1980-2000

As long as Japan's aid was serving U.S. interests, tensions remained low. In 1970, Japan was the largest donor in six countries, though by 1980, Japan was the lead donor in sixteen countries, and twenty-nine countries by 1987. Japan's large trade surplus through the 1990s enabled Japan to court relationships that were "political in support of economic"[927] across Asia[928]. Meanwhile Japan's aid flows directed to support Western security and geopolitical interests were relatively marginal and did not hinder pursuit of its own growing economic and regional leadership goals[929].

In contrast, however, growth in Japan's development aid and differences in its practices began to threaten U.S. reputational and economic interests. The U.S. domestic political appetite for aid declined throughout the 1980s, while in Japan aid was seen as bolstering exports and its flourishing economy. The U.S. grew weary of the reputational repercussions when it looked imminent that Japan would usurp the U.S. as the largest donor globally. Japan claimed this distinction for the first time in 1989, boosted by yen appreciation on the US dollar. In the OECD's official accounts, the U.S. retook the top spot in 1990. But in 1991, both countries

[925] OECD (2010). "The DAC: 50 Years, 50 Highlights". Available: http://www.oecd.org/dac/46717535.pdf.
[926] Gurria, A. (2014). "Japan and the OECD". *OECD Observer*. Available: http://oecdobserver.org/news/fullstory.php/aid/4313/Japan_and_the_OECD.html.
[927] Orr 1990, *Supra*.
[928] van Bilzen, G. (2015). "The Development of Aid". *Cambridge Scholars Publishing*.
[929] Arase 1995, *Supra* p.223.

provided record volumes of aid and the U.S. edged out Japan only by artificially inflating U.S. official development assistance numbers with non-qualifying military debt write-offs to Egypt[930]. This prompted criticism from other Development Assistance Committee donors. The U.S. claimed the largest donor distinction again in 1992 by including military debt forgiveness, but Japan made a rival claim of being top donor[931].

Also to the consternation of the U.S., Japan's growing aid did not track with U.S. ideological evolution on aid practices. The U.S. believed that investments in social rather than infrastructure sectors would create a more stable foundation for development (discussed in Chapter 4). But in 1990, Japan provided 32 percent of its ODA contribution for economic infrastructure, compared to only 2.8 percent for the United States[932].

Japan frequently tied its aid disbursements with awarding of contracts to Japanese firms and suppliers, which caused consternation from U.S. officials. OECD criticism of the export-driven focus of Japan's aid program mounted in the late 1960s[933], particularly from the U.S., which was concerned that Japan's concessional support for commercial projects would crowd out ODA (finance with a concessional component of at least 80%). In response to international criticism of aid tying in the Pearson Commission[934], a council of Japanese officials charged with assessing Japan's economic cooperation policy recommended that Japan untie its aid "in order not to lose international trust" – but the intention was for reform to be only in principle; there would remain

[930] Pharr 1994, *Supra* p.162 and p.179 fn.3.
[931] Pharr 1994, *Supra* p.162 and p.179 fn.4.
[932] Pharr 1994, *Supra* p.170.
[933] Arase 1995, *Supra* p.59.
[934] Pearson, L.B. (February 1970). "A New Strategy for Global Development" Transcript of speech summarizing the Pearson Commission. *The UNESCO Courier* 23. Available: http://unesdoc.unesco.org/images/0005/000567/056743eo.pdf.

an informal expectation that Japanese firms could still be favored in Japanese funded programs[935].

At the OECD in 1984, the U.S. refused to attend meetings until countries seriously engaged with reform[936], even threatening to leave the OECD Export Finance Arrangement entirely if Japan (and France) did not yield on mixed credits. The Reagan Administration's Economic Policy Council recommended the use of a US$300 million "War Chest" aimed at taking an offensive position against nations – primarily Japan and France – to re-stimulate negotiations to untie aid[937].

Japan yielded partially to U.S. pressure in these negotiations[938]. As a mutually harmful deterrent, the War Chest eliminated the advantage of tying commercial contracts to aid. Its resources were limited[939], but within a few years of the Helsinki Package, tied aid was cut roughly in half. This agreement was particularly effective for sectors of significant U.S. interest, including manufacturing, transportation, communications, and power. The success of these negotiations was credited with generating approximately US$1 billion annually in new U.S. exports[940].

---

[935] Arase 1995, *Supra* p.62.
[936] Tyler, C. (20 September 1984). "U.S. Pulls out of OECD Meeting on Export Credits". *Financial Times: 4*.
[937] Moravcsik 1989, *Supra* p.187
[938] Montagnon, P. (14 March 1987). "Japan Falls into Line on Export Credit Rules". *Financial Times*: 3.
[939] The War Chest was limited, and would be unsustainable against the proliferation of tied contracts. After "intensive negotiations", in February 1992, the "Helsinki Package" limited Tied Aid to projects that can neither attract private market participation nor official export credits, and those in least developed countries, as defined by the World Bank as earning less than US$2465 annually per capita income in 1990.The new rules were applied to credits with concessionality level below 80 percent and projects valued at over 2 million Special Drawing Rights (SDRs, the unit of account used by the IMF). There are requirements for disclosing the terms of prospective contracts to OECD partners, to allow for a challenge based on the Arrangement.
[940] Chairman Hearing, official statement (p.59-60). Subcommittee on International Finance of the Committee on Banking, Housing, and Urban Affairs (17 July 1997) "Reauthorization of the Export-Import Bank of the United States". *United States Senate*, 105th Congress, First Session.

Into the 2000s, the U.S. continued to challenge Japan on aid issues. Japan was actually increasing tied aid, despite the global trend away from it; tied aid had declined from US$9 billion in 1991 to US$1.8 billion in 2000, excluding Japan[941]. "Untied" aid persisted within the OECD, which the U.S. called "tied aid in disguise" because it inexplicitly rewarded donor country firms, but the focus had shifted mostly away from Japan[942]. In 2001, the Director General of the International Finance Policy Department at the Japanese Bank for International Cooperation declared that "a 'level playing field' is now almost established"[943].

The U.S. tolerates Japan's continuing infraction of some OECD rules because its impacts are contained. While Japan endures U.S. criticism for tying aid packages to infrastructure exports, Japan coalesced with the U.S. on other aid issues. In the early 1990s, Japan made a break from its long-proclaimed policy of political neutrality in planning its aid disbursement, beginning to consider political issues in recipient countries like arms spending, democratization, human rights, and market orientation when negotiating aid allocations. These conditionalities had long been advocated by the U.S.[944] and ensured that U.S. and European protests to Japan's mercantilist policies were economic and did not become geopolitical.

In the early post-war period, there was little discord in the relationship between the U.S. and Japan because of minimal commercial threat and close coordination on geopolitical goals. As Japan's firms became more capable as international competitors, and Japan adopted subsidy

[941] Testimony by John B. Taylor. Subcommittee on International Trade and Finance of the Committee on Banking, Housing, and Urban Affairs (19 June 2001). "Reauthorization of the Export-Import Bank of the United States". *United States Senate*, 107th Congress, First Session.
[942] Senate reauthorization of U.S. ExIm Bank 2001, *Supra*.
[943] Hoshi, F. "A Japanese Perspective", p.237, *In* Hufbauer, G. & Rodriguez, R. (Eds.). "Ex-Im Bank in the 21st Century: A New Approach?" *Peterson Institute for International Economics*.
[944] Pharr 1994, *Supra* p.159-60.

regimes for export promotion, the U.S. engaged Japan through a shared institution – the OECD, where Japan was conscientious of its reputation – to incrementally create tied-aid and export finance rules. Shared authority and established processes helped to alleviate competitive pressure as Japan gradually decreased its tied aid in key sectors.

With a long history of geopolitical and institutional interest coherence between the U.S. and Japan, U.S. perception of an economic competitive is not sufficient to warrant strict challenge or enforcement through the OECD. Japan and the U.S. have remained closely coordinated diplomatically via investment in the World Bank and Asian Development Bank[945]. The U.S. has primarily been motivated by its commercial interests vis-à-vis Japan. In 2015, it was revealed that the U.S. National Security Administration (NSA) had monitored the natural gas division of Japanese firms Mitsubishi and Hitachi since 2003. As the third largest producers of gas equipment after GE and Siemens, they are top competitors with U.S. firms in international business[946], and frequent recipients of Japanese export finance in the power sector[947]. It is unclear whether such information was communicated to U.S. firms or influenced policy, but the revelation shows how the U.S. sought to keep competitive advantages in check, even in a lightly contested environment and against close U.S. political allies.

[945] Kilby, C. (18 March 2011). "Informal Influence in the Asian Development Bank". *The Review of International Organizations* 6(3–4): 223–57.
[946] Target Tokyo (31 July 2015). "NSA high priority targets for Japan". *Wikileaks*, Available: https://wikileaks.org/nsa-japan/selectors.html#glossary.
[947] Evans, P.C. & Oye, K.A. (2001). "International Competition: Conflict and Cooperation in Government Export Financing". *In* Hufbauer & Rodriguez, *Supra*.

8.3.3 U.S. – European "responsibility" in Africa

Japan is not the only close U.S. ally that has triggered competition through its international development activities. While not discussed in depth here, the U.S., France and Germany experienced flares of tension in Africa after the Cold War. This has been called the "cold peace"[948]. During the Cold War, France and the U.S. had pursued complimentary, if different, interests in francophone West Africa; the U.S. focused on political ideology and France on cultural and economic linkages with the region[949]. Europeans generally recognized Latin America as under U.S. influence while Africa was a "special European responsibility"[950]. Despite this, French leaders privately viewed U.S. unwillingness to follow French sanctions in Guinea but U.S. willingness to intervene politically in Zaire as a potential threat to France's long-term African interests. In the post-Cold War period, the Clinton Administration's aggressive promotion of African liberalism and trade through policies like the African Growth and Opportunity Act were seen by French policymakers as "an intrusion" or "at worst an aggression" against French commercial opportunity on the continent[951].

8.3.4 U.S. – Soviet

In the upper right of Figure 8.1 – where interests diverge and authority is challenged – lies the Cold War politics between the U.S., Soviet Union and China. Balance of power calculus, mistrust and ideological polarization shaped early aid from each country to sub-Saharan Africa,

[948] Garten, J.E. (1992). "A cold peace: America, Japan, Germany, and the struggle for supremacy". *Crown*.
[949] Schraeder, P.J. (1 September 2000). "Cold War to Cold Peace: Explaining U.S.-French Competition in Francophone Africa". *Political Science Quarterly* 115(3): 395–419.
[950] Quote by George Ball, Undersecretary of State under John F. Kennedy, *In* Schraeder 2000, *Supra* p.399.
[951] Schraeder 2000, *Supra* p.405.

Latin America and Asia[952]. The initiation of U.S. economic assistance under the Marshall Plan was intended to end in 1952, but the start of the Korean War – an effort at communist containment – delayed the demise of the Mutual Security Agency that was serving the valuable purpose of unifying the goals of economic and military aid. As fear of communism heightened, the U.S. scaled up its development institutions and aid apparatus to counter the influence of Soviet aid around the world[953]. Aid was perceived as less costly than war in staving off expansion of the Soviet bloc to underdeveloped nations. This perspective continued for decades; President Carter's Secretary of State Cyrus Vance was explicit in characterizing U.S. aid interests to the Congress as helping to "compete effectively with the Soviets in the Third World"[954].

The U.S. and Soviets chose aid recipients to counter the influence of the other. Following India's independence and partition into Pakistan in 1947, the U.S. maintained peaceful relations with each as part of the anti-Soviet bloc, but saw Pakistan's strategic position as more central than India's. Vehemently rejecting Soviet ideologies, Pakistan courted U.S. military and financial assistance as a bulwark against the Soviet Union, though Pakistan's tight relationship with the U.S. forced India to seek closer ties with the Soviets[955]. The National Security Council's first evaluation of India as a potential ally in Asia concluded that India's massive and impoverished population could become a liability rather than an asset in U.S. strategic

[952] Griffin, K. (1991). "Foreign aid after the cold war". *Development and Change* 22: 645-85.
[953] Ruttan, V.W. (1996). "United States Development Assistance Policy: The Domestic Politics of Foreign Economic Aid". *The Johns Hopkins University Press*, Baltimore and London, p.69.
[954] Statement before House Committee on Foreign Affairs (5 February 1980), cited in Lebovic, J.H. (June 1, 1988). "National Interests and US Foreign Aid: The Carter and Reagan Years". *Journal of Peace Research* 25(2): 115–35.
[955] McMahon, R.J. (1988). "United States Cold War Strategy in South Asia: Making a Military Commitment to Pakistan, 1947-1954". *The Journal of American History* 75(3): 812–40, p.813.

calculus[956]. Truman's Point Four program to aid developing countries initially saw India's massive population and poverty not as impetus for U.S. humanitarian assistance but rather as so chronic that it would be a waste of resources. However as U.S. interests in Asia became more acute with the start of the Korean War, establishment of China's communist government, and the U.S. policy of Soviet containment, Truman's perspective on India's strategic importance as a surrogate for ideology in the Asian theatre rose sharply. In 1951, Truman announced a substantial increase in aid for India and Asia, to counter threats that the Soviets would "turn more of the peaceful millions of the East into armies to be used as pawns of the Kremlin"[957,958]. The head of the U.S. foreign aid program strongly defended aid expenditures to India – despite aid's unpopularity with the U.S. public and uneasy U.S. diplomatic relations with India; U.S. aid was the cheapest way to prevent forfeiting the world's largest democracy to communism[959]. The Indian government maintained strong cooperation with the Soviets on infrastructure and simultaneously with the U.S. on agriculture[960] – enjoying its position in the middle of two ideological rivals.

[956] Cullather, N. (14 May 2007). "Hunger and Containment: How India Became 'Important' in US Cold War Strategy" *India Review* 6(2): 59–90.
[957] Kuhn, F. (25 May 1951). "Truman Asks Foreign Grant Of $8.5 Billion: Mutual Security Plan Certain to Encounter Strongest Opposition Truman Asks $8.5 Billion in Grants for Mutual Security Aid". *The Washington Post*.
[958] Cullather 2007, *Supra*.
[959] Harold Stassen testimony, House Foreign Affairs Committee hearing, 27 April 1954 (CQA, 1954, 276). In Ruttan 1996, *Supra* p.72.
[960] Cullather 2007 *Supra*.

8.3.5 U.S. – China

China was the third leg of the U.S.-Soviet "Great Power Triangle"[961], where divergent ideologies and perceptions of authority had dramatic effects for the shape of the global aid landscape. Following the 1949 revolution, China viewed both U.S. and Soviet Union aid policies antagonistically. The U.S. was viewed as an economic imperialist, while the Soviet Union was perceived as trying to control means of production in order to gain the upper hand in war[962]. China rejected what it perceived as U.S. and Soviet efforts to secure hegemony, and instead aligned itself with the Third World and the Non-Aligned Movement at the 1955 Asian-African Conference in Bandung, Indonesia. According to one account from China, U.S. "Foreign 'aid' [was seen as an] important weapon in the U.S. imperialists efforts to further their post-war overseas expansion"[963]. Aid from the European nations and Japan, as middle powers, was viewed less antagonistically by China, as was aid from the UN. Opposition to U.S. aid practices motivated Chinese Premier Zhou Enlai to establish the set of unique foreign policy and aid principles framed around sovereignty, self-determinism, and mutual benefit discussed in Chapter 3. These principles had an enduring influence, at the least in how China promoted and defended its economic cooperation around the world.

Despite China's stated policies of non-interference, the U.S. aired suspicions of China's development assistance intentions in Africa and elsewhere as early as the 1960s. The U.S.

[961] SubCommittee on Future Foreign Policy Research and Development (1 August 1977). "United States-Soviet Union-China: The Great Power Triangle" Committee on International Relations. Summary of Hearings. 95h Congress-1st session.
[962] Law, Y.F. (1984). "Chinese foreign aid: a study of its nature and goals with particular reference to the foreign policy and world view of the People's Republic of China, 1950-1982". Available: http://pub.uni-bielefeld.de/publication/2430904.
[963] Ku I-chi (14 July 1959). "The foreign Aid of U.S. imperialism" *Peking Review*, p.6. *In* Law 1984, *Supra*.

probably viewed the early engagement between Chinese and African leaders through the lens of its communist containment policy[964].

The Soviet Union was not invited to Bandung, but the U.S. was nonetheless concerned about communist reputational gains from China's participation. Coinciding with the conference the U.S. launched a new aid package, including US$1 billion destined for Asia, resulting in some pro-Western clauses in the final Bandung communiqué[965]. During a visit to Africa in 1963/1964, Chinese Premier Zhao Enlai said, "Africa is ripe for revolution". Chairman Mao is quoted as saying that "[Our China] must become the arsenal for world revolution" with particular reference to opposing the worldviews of the U.S. and Soviet Union[966]. Vice Premier Lin Biao's 1965 article titled "Long live the victory of People's War", stated that "the socialist countries should regard it as their internationalist duty to support the people's revolutionary struggles in Asia, Africa and Latin America"[967]. These foreign policy remarks by Chinese leaders – regardless of their propaganda motives – aroused concerns of "subversion in Peking"[968] by leaders in the U.S. Secretary of State Dean Rusk noted Lin's comments in cautioning vigilance against China, as well as in justifying U.S. early presence in Vietnam. Robert McNamara used the same comment to urge heightened NATO unity[969]. Many analysts saw this as over-reaction to a weak state exaggerating its capabilities – a paper tiger[970].

[964] Hutchison, A. (1975). "China's African revolution". *Hutchinson of London*.
[965] Williams, G. (1987). "Third-World Political Organizations". *MacMillan Press*, London. p.53.
[966] "Mao Zedong Sixiang Wansui (Long Live Mao Zedong's Thought)". (1969), p.679-81. *In* Law 1984, *Supra* p.147 ref 107.
[967] Translations and quote in Law 1984 *Supra* p.111.
[968] Law 1984, *Supra* p.111.
[969] Hutchison 1975, *Supra* p.104, also discussed in Law 1984, *Supra* p.111, ref 31.
[970] Hutchison 1975, *Supra* p.104, 130 fn.1.

Nonetheless, both the Soviets and the U.S. government justified domestically requests for more generous appropriations of development aid and military assistance in the 1950s and 1960s based on the basis of China's assistance across the developing world. On the demand side, non-aligned countries trumpeted China's aid allocations to leverage greater commitments from the Soviets and the U.S.[971]

China's allocation of foreign aid was "seen as a barometer of Sino-Soviet relations"[972], and was certainly perceived that way by the U.S. government during the Cold War, which watched China and the Soviets use aid to stabilize their influence in Mozambique, Tanzania, Yemen, Somalia and elsewhere[973].

8.3.6 The Great Power Triangle in practice

Throughout the Cold War, East-West geopolitics drove the U.S. Bureau of Land Reclamation, in concert with the Department of State, to pursue hydropower projects in the Third World[974]. Dams were embraced as a development model within the U.S. and would be regarded by their recipients as visible reminders of U.S. partnerships and development.

Individual projects demonstrate how discord influenced strategy, while also indicating how recipients stoke discord to their benefit. In 1955, the World Bank determined that the Aswan

[971] Copper, J.F. (1976). "China's Foreign Aid: An Instrument of Peking's Foreign Policy". *Lexington Books*, London, p.143-44.
[972] Copper 1976, *Supra* p.119.
[973] Bruce (12 May 1975). "Nato Study On Implications Of Reopening Suez Canal". *Wikileaks*. Available: https://wikileaks.org/plusd/cables/1975NATO02642_b.html.
[974] Sneddon, C. (2015). "Concrete Revolution: Large Dams, Cold War Geopolitics, and the US Bureau of Reclamation". *University Of Chicago Press*.

High Dam in newly independent Egypt was technically and financially feasible. The World Bank's President Eugene Black wrote to U.S. President Dwight D. Eisenhower seeking U.S. involvement in a "package deal"[975], specifically implying that the U.S. provide the additional external debt needed for the project to move forward. But before the U.S. made a decision, the Soviet Union – which was not a World Bank member – made a counter-offer to Nasser for the project's costs. The Egyptian Ambassador to the U.S. told Secretary of State John Foster Dulles that Egypt feared over-reliance on the Soviet Union and would prefer U.S. aid for the project, despite the highly attractive finance terms offered by the Soviets. Britain intervened vigorously to prevent the Soviets edging out the West for the project – which they believed would give the Soviets a 'stranglehold"[976] on Egyptian military relations and a foothold in Africa.

But the U.S. Congress and Department of Treasury were both ideologically conflicted over the merits of long-term aid allocations such as the Aswan High Dam project[977]. Furthermore, geopolitical calculus was not clear-cut for Egypt since it remained a non-aligned state[978]; and thus the case for Egyptian aid was less salient than aid to Europe under the Marshall Plan. The U.S. and UK reluctantly committed support to back up the World Bank loan for the dam in December 1955. However, in May 1956, Egypt gave diplomatic recognition to the People's Republic of China, angering the U.S. and UK and causing both to pull their co-financing of the World Bank's loan. With no remaining financial partners, the World Bank's enthusiastic promotion of the project atrophied and the dam project went to the Soviets[979].

[975] Burns, W.J. (1985). "Economic aid and American policy toward Egypt, 1955-1981". *SUNY Press*. p.42
[976] Burns 1985, *Supra* p.44.
[977] Burns 1985, *Supra* p.46.
[978] Burns 1985, *Supra*.
[979] For a complete discussion of the Aswan case, see Mason & Asher 1973, *Supra* p.642.

In the midst of construction in 1963[980], Zhou Enlai visited the Aswan High Dam site with President Nasser, and realized that the project had become a diplomatic coup for the Soviets, enabling them to gain political traction with the Egyptians. Around this time, China's relations with its ideological ally fissured as the Soviets focused on militarizing former European colonies. China perceived this as merely an alternative form of imperialism. China saw an opening in sub-Saharan Africa to draw contrast with the West and the Soviets[981].

In the years following their independence in the early 1960s, Tanzania and Zambia envisioned a northern rail linkage as critical to their economic development and political independence. A new railway would give port access to landlocked Zambia going north through Dar es Salaam rather than relying on existing connections to the sea[982] through countries still controlled by white regimes[983,984]. The rail project was prioritized as a symbol of post-colonial autonomy[985].

The UK had commissioned the first formal survey of a similar rail project between 1949-1952, during its colonial rule. The study aimed to determine how Britain might consolidate its economic and political interests in its eastern and southern African colonies. The report concluded that the economy would be better served by a network of roads[986]. Newly independent Tanzania approached the World Bank in July 1963 to solicit support for the rail

[980] Associated Press Archive (19 December 1963). "Egypt Visit". Available: http://www.aparchive.com/search?query=zhou%20enlai&allFilters=AP%20Television:Source,Egypt:Locations.
[981] Hall, R.S. & Peyman, H. (1976). "The great Uhuru railway: China's showpiece in Africa". *Gollancz*, p.15.
[982] Yu, G.T. (1971). "Working on the Railroad: China and the Tanzania-Zambia Railway". *Asian Survey* 11(11): 1101–17.
[983] Song, W. (2 January 2015). "Seeking New Allies in Africa: China's Policy towards Africa during the Cold War as Reflected in the Construction of the Tanzania–Zambia Railway". *Journal of Modern Chinese History* 9(1): 46–65.
[984] Mozambique and Angola were colonies of Portugal until 1975, and South Africa under apartheid from 1948-1994.
[985] Yu 1971, *Supra* p.1103.
[986] Hall & Peyman 1976, *Supra* p.32.

project but by 1964, the Bank had judged the project to be uneconomical[987]. The United Nations Economic Mission affirmed this negative view on the railway in a report that same year[988,989]. The World Bank and UN either misunderstood or disregarded the political, rather than purely economic, salience of the project to the Tanzanian and Zambian governments.

Tanzanian President Julius Nyerere followed these denials from the prominent international development institutions with a formal bilateral request to the U.S. for aid. This too was rejected in May 1965 following the findings of the World Bank[990]. At the time, the U.S. and Tanzania were facing a political crisis over Zanzibar's revolution in 1964[991,992]. Meanwhile the British had revisited the railway idea as well in 1963[993], joining the Americans and World Bank in refusing to assist the project at its proposed scale. Tanzania took these rejections as confirmation that it needed to diversify sources of development assistance beyond the West. The Tanzanian government turned to the Soviet Union, which declined involvement because it sought investments with a more rapid promise of repayment[994]. When the Soviets came around to offering infrastructure packages to Tanzania, the terms were highly unfavorable to the Tanzanians[995].

---

[987] The World Bank report was not released publicly but is discussed in Pratt, C. (1976). "The critical phase in Tanzania, 1945-1968: Nyerere and the emergence of a socialist strategy". *Cambridge University Press*, p.164. Citing Hall, R. (1969). "The High Price of Principles: Kaunda and the White South", Ch. 15.

[988] Yu 1971, *Supra* p.1104. Also in Pratt 1976, *Supra* p.164, citing United Nations (1964). "Report of the U.N./ECA/FAO". *Economic Survey Mission on the Economic Development of Zambia*.

[989] To the consternation of the Zambians, the World Bank also informed other potential backers of the project's unbankability. Hall & Peyman 1976, *Supra* p.68.

[990] Song 2015, *Supra* p.48.

[991] The U.S. media wrote that Zanzibar could become the "Cuba of Africa". *In* Conley, R. (19 January 1964). "Nationalism Is Viewed as Camouflage for Reds – Toll 2,000 to 4,000". *New York Times*.

[992] There was also diplomatic tension over a highly public but discredited claim by Nyerere that the U.S. had been plotting to assassinate him. Pratt 1976, *Supra* p.145.

[993] Yu, G.T. (1971). "Working on the Railroad: China and the Tanzania-Zambia Railway". *Asian Survey* 11(11): 1101–17.

[994] Song 2015, *Supra* p.48-49.

[995] Pratt 1976, *Supra* p.160.

China, however, was eager to differentiate itself from Russia's "exploitive and ungenerous" economic aid[996] and to gain new international allies in Africa[997]. While the Russians might send "busybody experts" to boss Tanzanians around[998], China framed itself as a peer that would have empathy for Tanzania's development challenges.

On first hearing about the Soviet and Western rejections of the project and the potential Tanzania might ask China next, in December 1964 Chinese Premier Zhou Enlai pre-emptively considered the project's strategic value[999]. A large single project for China's engagement in Africa would be a visible point of contrast with the West.

In June 1964, the UN's senior representative in east Africa, George Ivan Smith, wrote to the UN Secretary General, U Thant, that he had received a tip that the Chinese government "may possibly give help" for the railway "if the World Bank or other sources do not exist"[1000]. During a state visit by Nyerere to Beijing, Chinese President Liu Shaoqi broached the issue stating "things that imperialists won't do, we will. We will certainly help you build the railway"[1001]. The potential for Chinese involvement was made public in February 1965, and Premier Zhou Enlai visited Tanzania in May 1965 to negotiate on the railway deal[1002].

---

[996] Copper 1976, *Supra* p.119.
[997] Akindele, R.A. (1985). "Africa and the Great Powers, with Particular Reference to the United States, the Soviet Union and China". *Africa Spectrum* 20(2): 125–51.
[998] Hall & Peyman 1976, *Supra* p.73.
[999] Song 2015, *Supra* p.51.
[1000] The source of the tip was the east African leadership delegation on their first visit to China where they discussed the project. The story is told in Hall & Peyman 1976, *Supra* p.15. George Ivan Smith wrote to U Thant that "several hints game me a hunch" about Chinese interest in the railway project, presumably as a result of conversations with the east African delegation on their return travel from China. Happenstance put them on the same flight connection in Nairobi.
[1001] Song 2015, *Supra* p.51.
[1002] At least initially, Zambian President Kenneth Kaunda was less willing to accept Chinese support, holding out for Western support with construction and financing. See Pratt 1976, *Supra* p.71, 164.

However, rumors of China's involvement in the project quickly re-catalyzed Western interest in the project. The U.S. and UK saw China's role in the region as problematic, including offering ideological legitimacy as well as weapons to the Mozambique Liberation Front[1003], arms to Congo and Tanzania[1004,1005], and erroneous reports[1006] of training[1007] and weapons[1008] for communist Zanzibar[1009].

Meanwhile, the U.S. saw the Tanzania-Zambia railway project as a "$400 million boondoggle"[1010] but recognized its strategic significance. In a memo to Lyndon B. Johnson's Special Assistant for National Security Affairs in May 1965, a National Security Council staff member wrote:

> "*[Zambian President]* Kaunda pled for a Western pre-emptive offer, and all our Africanists sent in a fervent plea to keep Chicoms *[Chinese communists]* out of heart of Africa. *[Secretary of State Dean]* Rusk … thought this nonsense... But Averell *[Harriman]* and *[Dept of State's Bureau of African Affairs]* are unwilling to take "no" for an answer, and former is in London trying to get UK excited. So we'll probably have a second round on this one"[1011].

In the summer of 1965, President Johnson himself had "come around to the point of view" that

[1003] Hall & Peyman 1976, *Supra* p.17.
[1004] Pratt 1976, *Supra* p.143.
[1005] President Nyerere responded publicly that the outcry over Chinese military support was hypocritical, given that similar support was provided by Western governments without any concern. See Pratt 1976, *Supra* p.148.
[1006] "2 Zanzibar Officials Deny Other Nations Aided Revolt". *New York Times*. 22 January 1964.
[1007] Conley 1964, *Supra*.
[1008] Conley, R. (15 June 1964). "Peking Reported Arming Zanzibar: Automatic Weapons Said to Have Been Delivered". *New York Times*.
[1009] In December 1965 Tanzania broke off official relations with Britain, prompting Britain to rescind its promised aid, which was ultimately filled in by the Chinese. *In* Pratt 1976, *Supra* p.167.
[1010] "Memorandum From Robert W. Komer of the National Security Council Staff to the President's Special Assistant for National Security Affairs (Bundy)". *In* Howland. *Foreign Relations of the United States (1964–1968)*, Volume XXIV, Africa, Document 463, 799. Available: https://history.state.gov/historicaldocuments/frus1964-68v24/d463.
[1011] Howland 1965 *Supra*.

the U.S. should assist Britain in preparing a survey for the Tan-Zam railway[1012]. Johnson received periodic personal memos discussing the railway specifically, advising that "this whole problem bears close watching, since a major Chicom bridgehead in East Africa could be highly painful"[1013] but also recognizing disagreement within the Administration over "doubt[s] that one Chicom railroad means curtains for us in southern Africa"[1014].

The containment politics surrounding the project captured substantial attention in the U.S. press, with some pundits presenting the project as merely a bluff to re-engage the West in the railway. A diplomat argued against U.S. involvement in the project by claiming that the Chinese would be incapable of building the railway since the Chinese domestic rail system had been built by Japan[1015]. Another diplomat speculated that the project's likely failure would only serve to set back China's reputation in Africa[1016]. Even the British Prime Minister Wilson reassured anxious officials that "the Chinese have not got the money to build the railway"[1017].

Apparently, there was sufficient concern among the traditional donors that they orchestrated a reversal once China began negotiating seriously on the project. A UK-Canadian consortium released a detailed analysis of the project (the third in as many decades from Britain) submitting immediately before China's study[1018] in October 1966. Using more generous assumptions than the previous reports, the Anglo-Canadian "Stamp" report made a reversal in position that the

[1012] "Memorandum From Ulric Haynes of the National Security Council Staff to the President's Special Assistant for National Security Affairs (Bundy)". *In* Howland, *Foreign Relations of the United States (1964–1968)*, Volume XXIV, Africa, Document 198, 199. Available: https://history.state.gov/historicaldocuments/frus1964-68v24/d198.
[1013] Howland 1965 *Supra*.
[1014] Howland 1965 *Supra*.
[1015] Hall & Peyman 1976, *Supra* p.81.
[1016] Hall & Peyman 1976, *Supra* p.82.
[1017] Hall & Peyman 1976, *Supra* p.89.
[1018] China's study of the project amounted to eight pages and glossed over a financial analysis.

Tan-Zam railway was now "a feasible and economic proposition"[1019]. The pivot gave the Tanzanian government hope that Western funding could pull through after all; with President Nyerere prodding once more, "The West must hurry, because the Chinese are going ahead"[1020].

Premier Zhou was explicit in encouraging President Nyerere to use China's commitment to the Tan-Zam project to leverage Western aid, and without conditions[1021,1022]. To show the credibility of the Chinese commitment to build the project, Zhou dispatched its Chinese survey team for the project, timed for Nyerere to make a credible public announcement that "The Tan-Zam railway must be built, no matter whether the aid comes from a Communist country or a Western country"[1023]. China faced its own financial constraints as a poor nation about to descend into the Cultural Revolution. By helping Tanzania and Zambia leverage Western aid, China provides a diplomatic favor even if ultimately China did not pay for the project itself.

The World Bank was still reluctant to engage in a project at the magnitude of Tan-Zam, and also was given pause by the obvious political undertones of the project[1024]. But by October 1966, following China's submission of its survey results, the Tanzanian Finance Minister made a last ditch effort to involve the development banks by asking the newly formed African Development Bank to persuade the World Bank to engage. Into 1967, the World Bank and AfDB mounted an effort to both study and find financing for the project. There seemed to be new interest among

[1019] Hall & Peyman 1976, *Supra* p.88.
[1020] Hall & Peyman 1976, *Supra* p.88.
[1021] This account is based on primary archival research of meetings involving Zhou Enlai recently detailed in Song, W. (January 2015). "Seeking New Allies in Africa: China's Policy towards Africa during the Cold War as Reflected in the Construction of the Tanzania–Zambia Railway". *Journal of Modern Chinese History* 9(1): 46–65.
[1022] Ye Rugen 叶如根 (2008). "Fang Yi zhuan 方毅传[A Biography of Fang Yi]". *Renmin chubanshe*, Beijing. *In* Song 2015, *Supra* p.51.
[1023] Song 2015, *Supra* p.52 fn29.
[1024] Hall & Peyman 1976, *Supra* p.102.

Western finance ministries. The AfDB knew that to be involved the World Bank's insistence on a full appraisal process would need to be relaxed.

But the rush of activity by the banks was too little and too late, and could not align shareholder interests fast enough. President Johnson ignored the advice of the State Department to endorse the railway – despite the new, more favorable, economic results from the "Stamp" report – and instead stuck by a survey for a road link instead. In January 1968, U.S. Vice President Hubert Humphrey promised Tanzania and Zambia U.S. support to pave 300 miles of the 800 mile Great North Road between Dar es Salaam and Zambia's Copper belt[1025].

A formal Chinese offer had been waiting since late 1967 and was eventually accepted. The Chinese commitment to the project, which ultimately cost over US$400 million and faced serious issues with repayment, was ironclad despite being more than twice as expensive as the World Bank's 1963 estimate[1026]. Once completed, the project represented China's prestige project in Africa, staking its claim alongside the Soviets and the U.S. in development and power politics in the region. The railway is known as the Great Uhuru ("Freedom") Railway.

U.S. and World Bank belief that the project was flawed and unnecessary ultimately led to a perceived diplomatic failure and shift of power toward China. The Tanzanian government denied press reports that accepting funding from China was an alignment with communism.

[1025] Fellows, L. (15 January 1968). "China to Build a Zambia-to-Tanzania Railroad". *New York Times*.
[1026] Yu 1971, *Supra* p.1109.

Nyerere stated that the project served as "a slight movement toward redressing the balance" with the West's dominant economic and political influence[1027].

8.3.7 Japan – China competition in Asia

Japan has enjoyed strong political relations with Myanmar since the Second World War, though these frayed when the military government took power in Myanmar (then Burma) in 1988. The U.S. saw Myanmar as an anti-communist force in the region, a view that was shared by China although they chose not to have close relations[1028]. While Japan was in a special position to help broker a diplomatic solution, it was caught between pressures to engage alongside China and the Association of Southeast Asian Nations, or to join the U.S. and E.U. in sanctioning Myanmar[1029].

Japan joined most of the West in cutting off ODA when the military junta in Myanmar captured power in 1988. Because Japan's ODA also leveraged substantial trade, Japan and China traded places as Myanmar's top bilateral trading partner between 1988 and 1990. To encourage reform by the military government, Japan had used ODA as a positive sanction, for instance, in reward for Aung San Suu Kyi's release in 1995 (who had been under house arrest since 1989). The U.S generally opposed this approach[1030]. China became a stronger economic partner in 1997,

[1027] Middleton, D.(17 March 1966). "Tanzanian Denies Peking Influence: Nyerere Asserts West Still Holds Predominant Role". *New York Times*.
[1028] Toshihiro, K. (August 2007). "Myanmar and Japan; How close friends became estranged". *Institute of Developing Economies Discussion Paper No.118*. Available: http://www.ide.go.jp/English/Publish/Download/Dp/pdf/118.pdf, p.5.
[1029] Kudo 2007, *Supra*.
[1030] Oishi, M. & Furuoka, F. (2003). "Can Japanese Aid Be An Effective Tool Of Influence? Case Studies of Cambodia and Burma". *Asian Survey* 43(6): 890–907.

coinciding with U.S. sanctions that prevented U.S. firms from doing business in Myanmar[1031]. In March 1998, Japan extended ODA for expansion of the Yangon airport, causing some speculation this was intended to offset growing Chinese diplomatic ties with Rangoon, rather than reward any particular reform by the military government. China's special relationship with Rangoon became pivotal when the U.S. levied a second round of sanctions in May 2003, embargoing imports from Myanmar[1032].

Table 8.2: Case summary, established bilateral aid institutions responding to an emergent player and evaluation of competitive response.

Theory Cases - Bilateral			Explanatory Variables		Response
	Period	*Scope*	*Perceived interest asymmetry*	*Difference in expectations of authority*	*Level of competition*
U.S. - Japan	1945 - 1980	Global	Low	Low	Low
U.S. - Japan	1980 - 2000	Global	Low-Mod	Low-Mod	Moderate
U.S. - France	1945 - 1989	Africa	Low	Low-Mod	Low
U.S. - France	1989 - 2000	Africa	Moderate	Low	Low-Mod
U.S. - Soviet Union	1945 - 1970	Global	High	High	High
U.S. - China	1949 - 1970	Africa	High	Moderate	Mod-High
Soviet Union - China	1949 - 1970	Africa	Low-Moderate	High	Mod-High
Japan - China	1980 - 2000	Myanmar	Moderate	Moderate	Moderate

U.S. apprehension over China's growing development finance since the early 2000s, discussed directly in Chapter 4 and forming the basis of state interests at international financial institutions explored in Chapters 5 through 7, is unsurprising in historical context. State interests and ideological preferences were at the heart of the Cold War, which is the best known case of international competition at the upper-right corner of Figure 8.2. China's efforts to resist U.S. imperialism and Soviet militarism in developing nations formed the third corner of an ideological triangle during the Cold War. China and the Soviets were ideologically closer to each other than to the U.S., but China was weary that the Soviet Union would use its capabilities

[1031] Kudo 2007, *Supra* p.10.
[1032] Kudo 2007, *Supra* p.5.

coercively. In all cases, the states in the Great Power Triangle competed through development aid to advance their geopolitical and ideological goals, with very limited cooperation through shared international institutions.

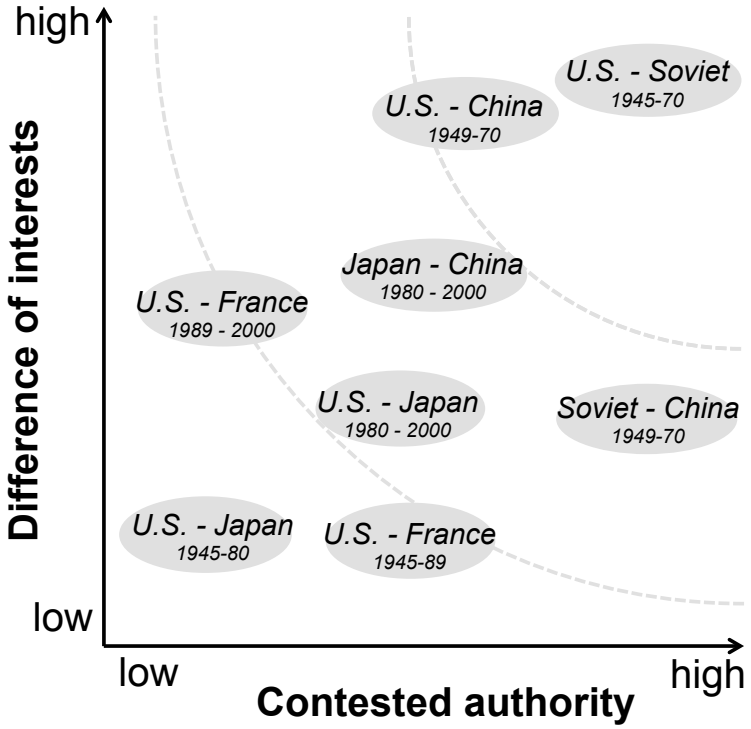

Figure 8.2: Cooperative results for contested rules in bilateral finance

At the other end of Figure 8.2, after the end of the Second World War, Japan had little interest or authority to contest U.S. goals, and effectively became an extension of the burgeoning U.S. development apparatus to counter Soviet influence. Eventually, however, Japan became more assertive in terms of securing its own regional influence and commercial opportunities. This caused tension with the U.S. over Japan's model of state-directed development, and U.S. reputational sensitivity to being usurped by Japan as the top donor globally. Japan had its own concerns over its reputation in the international system, and respected the authority of processes at the OECD that had moderate success over time in limiting Japan's state export promotion.

The contemporary case of China's development activities in Africa, India and elsewhere explored in the thesis are an outgrowth of decades of perceptions in the Chinese government that the western-dominated regime of development finance institutions was paternalistic and non-representative of developing country needs. China's ability to disregard, without recourse, the legitimacy of the OECD as a negotiation forum compounds perceived threats to U.S. ideological interests over China's non-market driven development planning and policy of non-interference in recipient political contexts. As discussed throughout the thesis, this basis for the U.S. competitive perception of China's growing authority pervades the U.S. bilateral response as well as the U.S. approach to China through the U.S. ExIm Bank, and through U.S. representatives at the OECD and multilateral development banks.

8.4 Multilateral

No single institution may be more affected by the AIIB than the World Bank. The World Bank – and particularly the U.S. as its largest shareholder – has a striking history of attempting to safeguard its predominant role in global development. The U.S. initially opposed creation of the International Financial Corporation, now a major part of the World Bank Group, concerned with the prudence of "using public funds to acquire equity in private enterprise"[1033]. The U.S. only relinquished this view in 1956 – according to the Department of the Treasury – "to prevent [the IFC or a similar facility] being established under United Nations' auspices" instead[1034,1035]. Competitive challenges give way to pragmatism when obstinate opposition is self-defeating.

[1033] U.S. Department of the Treasury (February 1982). "United Sates Participation in the Multilateral Development Banks in the 1980s". Washington DC, p.109.
[1034] U.S. Department of the Treasury 1982, *Supra* p.109.

8.4.1 World Bank and U.S. Export-Import Bank

The creation of the Bretton Woods institutions in 1944 immediately set up a territorial battle between the World Bank and the U.S. Export-Import Bank. The ExIm Bank had existed since 1933 and, by the time of Bretton Woods, was already establishing itself as a major player in U.S. post-war reconstruction assistance for Europe and the Soviet Union. On 31 July 1945, President Truman elevated the Export-Import Bank to the level of an independent agency[1036] and significantly increased its lending authority to US$3.5 billion[1037]. In a sign of the intertwined fates of the World Bank and ExIm Bank, Truman approved the Bretton Woods Agreement Act on the same day, authorizing U.S. participation in the International Bank for Reconstruction and Development (IBRD) that became the World Bank Group[1038].

Congress included in the ExIm Act the requirement that the ExIm Chairperson preside over an advisory committee that would coordinate the institution's activities with each of the major executive departments as well as the Chairperson of the Federal Reserve System. This advisory committee had the same membership as the National Advisory Council on International Monetary and Financial Policies (NAC), which was intended to serve the same function for the U.S. Executive Director to the World Bank[1039]. Despite measures to coordinate activities and set clear expectations for each institution's authority – and the fact that Europe needed massive

[1035] Despite the U.S. concession on the IFC, a similar facility was created under the UN anyway.
[1036] P.L.173, 79th Congress.
[1037] Ruttan 1996, *Supra* p.349.
[1038] Becker, W.H. & McClenahan, W.M. Jr. (2003). "The Market, the State, and the Export-Import Bank of the United States, 1934–2000". *Cambridge University Press*, p.63.
[1039] Becker & McClenahan 2003, *Supra* p.64.

capital transfers that neither institution could handle independently – the ExIm Bank and IBRD were at loggerheads.

In 1948, Truman proposed an increase in the ExIm Bank's lending authority to assist economic development in Latin America[1040]. The focus on the Americas for early ExIm lending was in part tacit delegation with the IBRD, which had initially focused in Europe. Furthermore, the U.S. wished to appease demand for increased finance from Latin American states[1041]. The Monroe Doctrine had sought to counter growing German and European influence in Latin America, and Roosevelt used ExIm to expand the purview of his New Deal policies to include export promotion in the infrastructure sector[1042]. Both the IBRD President and the U.S. representative to the IBRD Board expressed concern with the ExIm Bank's lower interest rates for long-term loans and generous terms for export credits[1043]. Eugene Black, then as U.S. Executive Director to the World Bank, wrote in a March 1948 letter to the U.S. Treasury Secretary and NAC chairperson John W. Snyder that if ExIm were allotted funding for doing business in Latin America, it would undermine the authority of the World Bank:

> "[If ExIm is permitted to provide] financial assistance duplicating that available from the [World Bank], but on easier terms, it seems obvious that the [IBRD]'s prestige would be seriously undermined and its future efficacy greatly impaired"[1044].

The predominant issue was not so much competition for any individual project, but rather concern about establishing a longer-term relationship with recipient countries. The World Bank

[1040] Ruttan 1996, *Supra* p.349.
[1041] See also the section on the Inter-American Development Bank in this chapter.
[1042] Gallagher, K.P. (2015). "The China Triangle: Latin America's China Boom and the Fate of the Washington Consensus". *Oxford University Press*, p.22.
[1043] Ruttan 1996, *Supra* p.350.
[1044] Mason, E.S. & Asher, R.E. (1973). "The World Bank Since Bretton Woods*"*. *Brookings Institution Press*, p.496-97.

wanted to be regarded by the U.S. as the primary public source of loans for long-term international investment. Because the World Bank was required to charge a 1 percent commission on long-term loans, its interests rates were higher than the ExIm Bank's. This prompted the World Bank President, John J. McCloy, to warn that ExIm Bank loans could supplant World Bank loans and "in all probability force the [World Bank] largely to curtail, or perhaps even to suspend, its operations"[1045].

As summarized by Mason and Asher (1973):

> "each institution suspected the other of 'stealing' its clients, concealing information on pending negotiations, and engaging in other forms of unfair competition. To some extent both were right. And borrowers were not above playing the two agencies off against each other"[1046].

As one example, by 1949, both the ExIm Bank and World Bank had active portfolios in Mexico. When ExIm Bank opened a US$150 million credit line for Mexico in August 1950, the World Bank perceived this as leaving no scope for additional IBRD lending. Shortly after, Mexico's Federal Electricity Commission requested an IBRD loan to finance power projects, and the Bank responded by requiring as a condition that Mexico forgo an equivalent amount of ExIm Bank credit, and that Mexico view the World Bank as the sole adviser on development programming and long-term loans. Recalling those interactions in 1961, World Bank President Eugene Black publicly denied any competition with the ExIm Bank, but acknowledged concern that different loan conditions and standards undermined the World Bank's strategic reform plan:

[1045] A personal memo prepared by the World Bank President John J. McCloy to Treasury Secretary Snyder, *In* Mason & Asher 1973, *Supra* p.498.
[1046] Mason & Asher 1973, *Supra* p.463, 498. *In* Ruttan 1996, *Supra* p.350.

> "[The World Bank] thought [ExIm Bank] might be willing to lend money to a country that we'd turned down because it wasn't following the proper policies…[thus] pulling the rug out from under us in trying to get the country to put their affairs in shape"[1047].

Projects were hotly contested in markets considered to be of key commercial interest. In August 1952, the World Bank formalized a mission in Japan. At the time, ExIm Bank was already several months into negotiations on a US$40 million loan for two thermal power plants, which were to enable the use of equipment supplied by GE and Westinghouse Electric Company to private Japanese generation companies. The World Bank pressed the Departments of State and Treasury to transfer the projects away from ExIm Bank, obviously raising ExIm's objections. Siding again with the World Bank, to the befuddlement of the Japanese ambassador in Washington, the World Bank assumed responsibility for the loan. However, commitment to international competitive bidding at the World Bank raised a major problem, as the equipment contracts had already been promised to GE and Westinghouse. Had the ExIm loan gone through, this would have led to industrial backlash in Congress against the World Bank's allies. According to Mason and Asher (p.501), "fortunately, the World Bank's commitment to international competitive bidding was not ironclad"[1048]. The Bank expedited investigation of creditworthiness and dispensed with the competitive bidding requirement to develop its first key project in Japan. With this beginning, Japan became one of the World Bank's largest customers[1049]. In this case, President Black's concerns about ExIm Bank undermining the World Bank's efforts to enforce "proper policies" led to the World Bank itself backsliding on its commitment to competitive bidding in order to secure its position in a new market.

[1047] Oral History Project of Columbia University, IBRD interview with Eugene R. Black (Summer 1961), p.30. Cited in Mason & Asher 1973, *Supra* p.499.
[1048] Mason & Asher 1973, *Supra* p.501.
[1049] Mason & Asher 1973, *Supra* p.501.

The early competition between the World Bank and U.S. ExIm was of such concern that Eugene Black went to great lengths to persuade President Eisenhower and the Treasury Secretary, George Humphrey, to reduce the ExIm Bank's autonomy and make it more subservient to the Treasury[1050]. Eisenhower gave in to this suggestion in his plan to Congress in 1953. However, because ExIm Bank existed with the purpose of supporting U.S. industry while the World Bank ostensibly required competitive bidding, in subsequent years the U.S. industrial lobby had the ExIm Bank's autonomy restored and its lending authority increased repeatedly[1051].

It was not until the World Bank realized the substantial credit demands of the less developed countries in the late 1950s that the institution saw its interests as secure from those of the ExIm Bank. Over time the ExIm Bank focusing more closely on balancing the U.S. trade imbalance, and the World Bank's authority increased to focus on poverty alleviation with a more global scope. This differentiation of the two institutions' roles over time further reduced tension[1052] albeit with occasional short-lived incidences of conflict[1053].

Contested authority was high between the U.S. ExIm Bank and World Bank as the post-war regime for reconstruction and U.S. economic diplomacy was taking shape. Despite having nearly identical stakeholders in early years (World Bank would later become more capable and independent from the U.S.), interests in organizational relevance and the perception of a zero-sum game in pursuit of market opportunities led to substantial discord. Both institutions sought

[1050] Office of the Historian. Statement of Principles Governing the United States Position in Respect to Loans by the Export-Import Bank of Washington and the International Bank for Reconstruction and Development. Draft prepared by Edgerton & Black (24 September 1953). *In* Foreign Relations Of The United States, 1952–1954, General: Economic And Political Matters, Volume I, Part 1, p.356.
[1051] Mason & Asher 1973, *Supra* p.503
[1052] Ruttan 1996, *Supra* p.351.
[1053] Read Mason & Asher 1973, *Supra* for more detail. Tension re-ignited in the 1970s.

to be the premier tool for U.S. reconstruction efforts. Competition expressed itself through the World Bank's backsliding and attempting to undermine the U.S. ExIm's authority.

8.4.2 World Bank – Regional Development Banks

Discontent with the scope and focus of the World Bank's assistance led to creation of institutions that sought to revise the Bank's authority. The regional development banks included the Inter-American Development Bank (IADB, 1959), the African Development Bank (AfDB, 1964), and the Asian Development Bank (ADB, 1966). Recipient countries saw the World Bank's lending and project evaluation procedures as burdensome, its development interventions as failing to consider regional context, and influence as skewed heavily to U.S. and European interests[1054]. The U.S. and World Bank initially reacted with hostility toward each of the regional bank concepts. The World Bank was primarily concerned the new banks would be competing for the same projects and same funding sources, while operating with lower standards and less capable staff[1055]. Furthermore the World Bank presumed the new institutions would pursue political interests or country engagement strategies that might have bearing on the World Bank's strategies and influence, which could compromise the Bank's relationship with its largest and most ideological shareholder, the U.S. The U.S. along with other Bank shareholders and the World Bank itself eventually warmed to each of the regional banks, but only in order to achieve other political goals. The discussion to follow examines creation of the regional banks in reverse chronological order.

[1054] Ruttan 1996, *Supra* p.353, citing White, J.A. (1972). "Regional Development Banks: The Asian, African, and Inter-American Development Banks". *Praeger Publishers*. Also Mason & Asher 1973, *Supra*.
[1055] Mason & Asher 1973, *Supra*.

8.4.3 World Bank – Asian Development Bank

As discussed earlier, U.S. interests in seeing Japan extend its aid relationships through the 1960s were aligned with Japan's intentions to strengthening its position as a regional economic power. Since the mid-1950s, the U.S. and Japan recognized the value of an enhanced development effort to "strengthen the non-Communist states of Southeast Asia with development funds"[1056] from Western developed states. Economic development efforts would stabilize Japanese economic and political leadership in the region relative to China and the Soviet Union[1057]. To the U.S., this bolstered U.S. democratic allies on the periphery of the Chinese mainland.

The conception of the Asian Development Bank (ADB) would become the first international institution where Japan was the dominant authority[1058], though this new authority was not without skepticism and opposition from the U.S. and World Bank. In 1962, Japan began internal consideration of an Asian bank, which was discussed at a meeting of European Commission for Asia and the Far East (ECAFE) in Manila in 1963 to accelerate regional economic cooperation[1059] and to attract additional funds to the region[1060]. The World Bank – where Japan was a latecomer and served only a minor role – was not perceived as serving Japan's interests, particularly commercially but also in terms of regional prestige and authority.

[1056] Langdon, F. (1973). "Japan's Foreign Policy". *University of British Columbia Press*, Vancouver. *In* Yasutomo, D.T. (1983). "Japan and the Asian Development Bank". *Praeger Special Studies*, p.10.
[1057] Yasutomo 1983, *Supra* p.10.
[1058] Wan, M. (Winter 1995-96). "Japan and the Asian Development Bank". *Pacific Affairs* 68(4): 509–28.
[1059] White, J.A. (1970). "Regional Development Banks: A study of Institutional Style". *Praeger,* p.42.
[1060] Regional Economic Co-operation in Asia and the Far East: The Asian Development Bank and Trade Liberalization, UN, 1965, E/CN.11/707, in White 1970 p.42.

Japan was not seeking independence from the U.S. through creation of a new bank; to the contrary, Japan was reluctant to take leadership of the formative Asian bank without the expressed support of developed country partners, particularly the U.S., which could help with its capitalization and ensure it had adequate resources to be a powerful force in the region. Or at the least, Japan was reluctant to jeopardize its alliance with the U.S. by being overly assertive on development governance reform. During Japanese overtures for U.S. support to the Asian bank concept between 1957 and March 1965, the U.S. reply was ambivalent[1061]. The U.S. eventually warmed to the idea of a behind-the-scenes role – but not to a capital subscription[1062]. The U.S. was disinterested in managing the regional politics such an institution would trigger[1063]. Meanwhile, Eugene Black, who had just ended his term as World Bank President in 1963, suspected that the World Bank would also remain guarded and unenthusiastic on the Asian bank idea[1064].

U.S. interests in creation of a new Asian bank quickly changed[1065] as President Johnson became entangled in the Vietnam War[1066]. In an address in April 1965 justifying continued U.S. involvement in Vietnam, Johnson publicly called for the UN to facilitate "countries of southeast Asia to associate themselves in a greatly expanded cooperative effort for development"[1067].

[1061] White 1970, *Supra* p.44.
[1062] Huang, P.-W. (1975). "The Asian Development Bank: Diplomacy and Development in Asia". *Vantage Press*, p.46-47.
[1063] Huang 1975, *Supra* p.14.
[1064] Huang 1975, *Supra* p.23.
[1065] White 1970, *Supra* p.45
[1066] Huang 1975, *Supra* p.50.
[1067] Johnso, L.B. (7 April 1965). "Peace Without Conquest". *Presidential address at Johns Hopkins University in Public Papers of the Presidents of the United States*. Volume I, entry 172. Available: http://www.lbjlib.utexas.edu/johnson/archives.hom/speeches.hom/650407.asp, p.394-99.

Johnson requested that Congress provide US$1 billion toward the initiative, and insisted[1068] that U.S. participation in planning for the new program be led by Eugene Black[1069].

As long as the U.S. had some control over the ADB's priorities, the ADB could enhance rather than undermine U.S. interests. The concept for an Asian Development Bank was initially framed around benefitting "advanced free nations"[1070]. Earlier U.S. concern about the regional power politics the institution would touch off proved prescient though, as the Beijing mocked Johnson's US$1 billion Asian Development Bank as "stick and carrot tactics" and a "hoax"[1071,1072]. Japan worked closely with the U.S. to set up the institution, though the U.S. also put a brake on fuller Japanese ownership of the institution by refusing to deliver critical backing which in all likelihood would have seen the institution headquartered in Tokyo, rather than Manila[1073]. However, Japan was offered a tacit agreement whereby it would maintain the Bank presidency, a privilege it has maintained to the present.

While the U.S. was finally on board, the World Bank remained skeptical of the Asian Bank, despite Eugene Black's political shepherding of the institution. Black's predecessor at the World Bank, George Woods, refused to offer any of the World Bank's skilled officers to staff the ADB, though he invited the ADB to "submit a program of technical assistance" that the World Bank

[1068] Huang 1975, *Supra* p.54.
[1069] Johnson 1965, *Supra*.
[1070] Huang 1975, *Supra* p.16.
[1071] Quoted in Huang 1975, *Supra* p.55.
[1072] After the Asian Development Bank's founding Japan was reticent to discuss an invitation for the People's Republic of China to join, even after Beijing and Tokyo normalized relations in 1972. Beijing informally requested membership in 1982 and formally joined in 1986 after breaking an impasse on how Taiwan would be referenced alongside China as members. Beijing's subscription to the Asian Development Bank was sufficient to warrant a seat on the Board of Directors. See Yasutomo 1983 *Supra*, p.119, 160.
[1073] White 1970, *Supra* p.50.

would then consider[1074], a gesture likely perceived as condescending. Designers of the ADB had internal doubts about the existential value added of their new institution. Rangaswami Krishnamurti, ECAFE's Director of Trade and a visionary of the ADB, wrote in his memoir that he wondered "Would [the ADB] not be simply overlapping and duplicating the functions of the World Bank…on the one hand, and national development banks and institutions on the other?"[1075].

Japan sought differentiation by framing the institution as a source of "Asian solutions to Asian problems"[1076], and wished o be more sympathetic to the interests of recipient governments. This too ran afoul ideologically with the U.S. and World Bank. But as a function of Japan's larger vote share it was more isolated from U.S. and European pressures to institute strong safeguards and condition assistance on reforms – practices that had become standard for the World Bank. Japan found ways to appease U.S. objections. The U.S, despite its publicly principled stance, benefited alongside Japan from creation of special funds which were seen as opportunities for masking bi-lateral finance for political goals[1077]. These funds would not have been permissible at the World Bank. Japan also protected the U.S. voice in management of the ADB, including blocking an effort by India to establish voting rules that would have diminished non-regional influence and been more favorable to recipient country interests[1078].

[1074] Quoted in Wilson, D. (1987). "A Bank for Half the World: The Story of the Asian Development Bank 1966-1986". *Asian Development Bank*, p.15.
[1075] Krishnamurti, R. "ADB – The Seeding Days", p.35-36, as quoted in Wilson 1987, *Supra* p.17.
[1076] White 1970, *Supra* p.70.
[1077] White 1970, *Supra* p.80.
[1078] Shiga, H. (2013). "Role of Japan in the evolution of Indian aid policy". *In* Sato, J. & Shimomura, Y. (Eds.). "The Rise of Asian Donors: Japan's Impact on the Evolution of Emerging Donors". *Routledge*, p.162-63.

U.S. support remained partially conditioned on ideology and continued authority within the institution. The fourth ADB president Fujioka Masao announced a plan in 1985 to increase the impact and profile of the ADB, which drew a rebuke from U.S. leaders who wished to focus on initiatives that promoted private sector development[1079,1080]. In the 1990s, a Japanese plan to increase the lending authority of the ADB by 100-150% failed due to strong opposition from the U.S. which neither wished to increase its contribution or to see a stronger Japanese voice in the institution[1081]. The sixth ADB President Sato Mitsuo oversaw an evolution of the institution in the 1990s toward social issues and away from infrastructure. The shift was widely unpopular among China and India (as major ADB infrastructure beneficiaries), but pleasing to the U.S., which was orchestrating a similar transition at the World Bank.

8.4.4 World Bank – African Development Bank

The African Development Bank (AfDB) was formed in 1964 without the involvement of major non-regional powers, unlike the Inter-American Development Bank and Asian Development Banks, where U.S. resources and blessing were critical. The U.S. did not join the AfDB until 1976, but had participated in drafting the concessional window of the African Development Fund in 1973[1082]. The AfDB was supported by the U.S. to build stronger relations with post-colonial Africa to counter growing Soviet influence across the continent.

[1079] *Far Eastern Economic Review* (16 May 1985), p.63 *In* Wan 1995-1996 *Supra*.
[1080] Japan viewed the U.S. philosophy on the appropriateness of public versus private funding priorities as "arbitrary". *Asian Finance* (15 April 1988), p.34, *In* Wan 1995-1996, *Supra* p.524.
[1081] Wan 1995-1996, *Supra* p.524.
[1082] U.S. Department of the Treasury (February 1982) "United Sates Participation in the Multilateral Development Banks in the 1980s". Washington DC, p.108.

The potential for discord between AfDB and World Bank or the U.S. was initially low. The U.S. opposition to an ascendant Japan taking too much agency in operation of the ADB could be understood as an effort to prevent Japan's relative power gain in Asia. But the AfDB operated under the collective leadership of African nations, none of which had the power of a regional hegemon to contest U.S. or European authority[1083].

As with the ADB, the World Bank maintained a monopoly on training development practitioners for AfDB. Shortly after its founding, AfDB requested that the World Bank nominate some high-level talent to migrate to AfDB, but the World Bank refused, instead offering to train AfDB staff at the World Bank headquarters[1084]. World Bank partnerships with the foundering ADB and AfDB made clear that the regional banks would assume roles as junior partners. Both institutions were too small to compete effectively with the World Bank and lacked independence[1085].

Between 1974-84 the AfDB co-financed 54 projects with the World Bank[1086] or else relied on taking projects that the World Bank didn't have capacity to do itself. The perception of a hierarchy – and the dominant authority of the World Bank – was more engrained at AfDB than it had been for the Asian Development Bank. African leaders themselves saw the World Bank as more legitimate than the AfDB – in some cases paying their loan arrears to the World Bank

[1083] Mingst, K.A. (1990). "Politics and the African Development Bank". *University Press of Kentucky*. p.181.
[1084] Mason & Asher 1973, *Supra* p.584.
[1085] Krasner, S.D. (March 1981). "Power Structures and Regional Development Banks". *International Organization* 35(02): 303–28.
[1086] Mingst, K.A. (1987). "Inter-organizational politics: The World Bank and the African Development Bank". *Review of International Studies 13*(04): 281-93. p.282.

before the AfDB, believing the AfDB would be more sympathetic to their repayment difficulties[1087].

However, both the ADB and AfDB grew concerned about being overshadowed by the World Bank in developing relationships with recipient governments. Both institutions lobbied for co-financed projects to be divided into parts to be delegated among the respective institutions; in this way the regional banks could be assured of some recognition by the recipient government[1088].

In 1982 the AfDB's capital resources increased with the entry of non-regional members[1089], available funding exceeded projects that could use it[1090]. The AfDB operated with ad-hoc project planning on a yearly basis that would allow the most flexibility in keeping a client-orientation and help to build its reputation. The World Bank grew impatient with such non-comprehensive planning practices, as it proffered pro-trade and market-based economic policy interventions.

8.4.5 World Bank – Inter-American Development Bank

The earliest of the regional banks also struggled to gain legitimacy without the blessing of the U.S. The concept for an Inter-American development institution dates back to the late 19th century but was opposed by the U.S. on the ideological refrain that it might compete with private

[1087] Mingst 1990, *Supra* p.112.
[1088] Mason & Asher 1973, *Supra* p.534.
[1089] Strand, J.R. (14 May 2001). "Institutional Design and Power Relations in the African Development Bank". *Journal of Asian and African Studies* 36(2): 203–23.
[1090] Mingst 1987, *Supra* p.283.

banks[1091]. The development of Roosevelt's "Good Neighbor" policy with Central and South American states in 1933 accompanied a broader policy evolution whereby the U.S. would oppose intervention in the internal and external affairs of other states. The IADB gained political momentum under Roosevelt for promoting development and rights consistent with the policy's vision. Congress nonetheless prevented Roosevelt from supporting the establishment of the Bank in 1940[1092], and the proposal was swept under with the escalation of the Second World War[1093].

In the international institution building following the war, Latin American states felt neglected that the U.S. Marshall Plan was prioritizing resources for European states that were relatively wealthy next to Latin America, and that in general IBRD assistance was "inadequate, owing variously to the limitation on its resources, the origin of these resources, and the standards applied to its operations"[1094]. Latin American states wanted an institution that would tailor its activities to Latin American needs, and thought that the global scope of the World Bank and lack of Latin American representation in decisions failed to serve this purpose. Latin American governments wanted more investment in social sector projects, which the World Bank did not see at the time as permitted under its charter[1095]. By this time the U.S. ExIm Bank also had a substantial lending portfolio in water and energy projects in pursuit of developing the U.S. bilateral relationship with Latin America. Earlier U.S. objections to IADB for competing with private capital were subordinated to the more concrete defense that the roles of the IADB could

[1091] White 1970, *Supra* p.143.
[1092] White 1970, *Supra* p.144.
[1093] Dell, S.S. (1969). "The Inter-American Development Bank". *Praeger Publishers*, New York, p.4.
[1094] Statement attributed to Mexico, *In* Zegers, C. "El Banco Interamericano de Desarrollo", p.26, *In* Dell 1969 *Supra*, p.5.
[1095] White 1970, *Supra* p.144. The pendulum would swing in the opposite direction in the coming decades. See Chapter 8.

be served – from the perspective of U.S. leaders – by the new IBRD and U.S. ExIm Bank[1096]. Between 1944 and 1957 the U.S. stymied creation of the IADB during at least four separate international conferences[1097].

Latin American states lobbied to rectify its development finance deficit by increasing the capitalization of special funds within the World Bank (a push that contributed to creation of the International Finance Corporation), and to bolster the capacity of the U.S. ExIm Bank. The IADB's proponents pre-emptively offered the U.S. the right to nominate one of six directors and have one-third of the voting power (alongside, of course, paying in one-third of the subscribed capital)[1098].

A regional architecture of development institutions began to emerge outside of Latin America with U.S. support, and Latin American leaders became impatient with the U.S. failure to support its neighbors to the south[1099]. In 1957 following the Treaty of Rome, the European Economic Community established a new European Development Fund to channel finance to African states, which vindicated the Latin Americans that there was political appetite among donors for regional development institutions. Into 1958, the Brazilian government promoted a hemispheric consciousness with the concept of "Operation Pan-America". They also organized an effort to intensively study benefits associated with enhanced regional cooperation on social and economic development[1100]. The U.S. State Department was seen as taking the loyalty of its Latin

[1096] White 1970, *Supra* p.144.
[1097] White 1970, *Supra* p.144.
[1098] Dell 1969, *Supra* p.9-11.
[1099] Dell 1969, *Supra* p.12.
[1100] White 1970, *Supra* p.147-48.

American allies for granted, but this perception was shattered when activists aggressively protested a visit by Vice President Richard Nixon to Brazil in May 1958[1101].

Nixon's diplomatic embarrassment stimulated greater sensitivity among the State Department. Following U.S. military intervention to stabilize Lebanon in summer 1958, President Eisenhower proposed to a Special Emergency Session of the UN General Assembly that a regional development institution be created for Arab nations, to which the U.S. would contribute[1102]. Fearing that Latin American observers would perceive Eisenhower's Arab development bank proposal as a mirror image to the institution Latin America had long been seeking[1103], the U.S. reversed its opposition to the Inter-American Development Bank a day prior to announcing the Arab institution[1104].

Creation of the IADB also served the purpose of partially blunting other initiatives to change the institutional configuration of development finance. Developing countries were lobbying for creation of a Capital Development Fund within the United Nations, which would provide development finance but use the UN's one-country one-vote representation rule so to be more responsive to the needs of developing countries. According to Dell (1969), the World Bank permitted a number of major reforms in order to stave off interest in this effort. These included

[1101] White 1970, *Supra* p.146-47.

[1102] U.N. doc. A/PV.733, printed in *Public Papers of the Presidents of the United States: Dwight D. Eisenhower, 1958*, pages 606–616 In Office of the Historian. "Foreign Relations Of The United States, 1958–1960, Lebanon And Jordan, Volume Xi, 269. Editorial Note". U.S. Department of State. Available: https://history.state.gov/historicaldocuments/frus1958-60v11/d269 .

[1103] Dell 1969, *Supra* p.23 and p.14. Citing Hadwen, J.G. & Kaufmann, J. (1961). "How United Nations decisions are made". *Leyden*, p.114.

[1104] U.S. support for IADB was announced on 12 August 1958 during a special session of the Inter-American Economic and Social Council, and Eisenhower's speech to the UN General Assembly was on 13 August 1958. Dell 1969, *Supra* p.15. White 1970, *Supra* p.147 does not mention the Arab institution in his account of why the U.S. reversed its position on the IADB.

creation of two new institutions within the World Bank: the International Finance Corporation to make loans to private enterprises and the International Development Association to provide assistance for the poorest countries. Finally, pressure for a Capital Development Fund contributed to the dissolution of opposition to creating the IADB[1105]. Unfortunately for U.S. efforts to keep hold of its concentrated institutional power, these major concessions did not buy much time. A Capital Development Fund was agreed in principle in 1960 and created by the UN General Assembly in December 1966[1106].

U.S. opposition to IADB gave way to opportunism once it was created. The U.S. had 42 percent of the vote share in the early years after IADB's founding. Consistent with rebuilding U.S. relations with Latin America, the U.S. Congress saw IADB as the "Bank of the Alliance"[1107]. IADB was presented as serving two U.S. economic interests: first, Central and South American states were major trade and investment destinations for resources and agriculture; second, the Bank's policy influence helped to maintained the region as an ideological peer of the U.S. and quelled deeper questioning of the U.S.-dominated international order. During replenishment hearings in 1975, the House Banking Committee summarized that:

> "the existing international economic order is being challenged by some Third World spokesmen. If [these changes] were widely adopted, they would impair the continuation of the open, free market orientation in the U.S. and other developed countries…Thus, the economic success of our Latin American neighbors and their allegiance to market-oriented economies…[is important for] world prosperity in general"[1108].

[1105] Dell 1969, *Supra* p.26.
[1106] UN General Assembly – 21st Session (13 December 1966). "Resolution 2186: Establishment of the United Nations Capital Development Fund". Available: http://uncdf.org/un_files/Download/2186.pdf.
[1107] U.S. Senate Committee on Foreign Relations (13 December 1963). "Increasing U.S. participation in Inter-American Development Bank". *88th Congress.* Report No. 777.
[1108] U.S. House of Representatives Committee on Banking, Currency and Housing (8 October 1975). "Increased U.S. Participation in the Inter-American Development Bank". *94th Congress*. Report No. 94-541.

As with the other regional development banks, IADB conflicted with the World Bank frequently. The organization grew to represent different interests within the region. The IADB is more directly influenced by the interests of recipient countries, who are better represented in IADB governance than in the World Bank[1109]. Civil society has tended to focus its resources on influencing the World Bank, giving the regional banks space for less transparency and accountability. IADB and World Bank came into conflict particularly in smaller markets where IADB had taken a larger role early on to establish a niche while economizing on its limited resources. However the World Bank was reluctant to relinquish lead donor status[1110].

Overall, the two institutions coordinated without much difficulty to avoid competition. In education in the 1970s, the IADB took on higher education, the World Bank focused on secondary level, and – emphasizing the importance of the U.S. in brokering harmony between the institutions – USAID developed programming for primary levels[1111]. The IADB president was keen to avoid "counterproductive dichotomies" between the Banks[1112]. On infrastructure, the IADB and World Bank also developed a tacit division of labor, with the IADB focusing on energy projects and World Bank on transportation. Into the 1970s, however, both Banks began coordinating directly on hydropower development because of the scale of these major investments[1113].

[1109] Nelson, P. (2000). "Whose Civil Society - Whose Governance - Decisionmaking and Practice in the New Agenda at the Inter-American Development Bank and the World Bank Special Issue on Civil Society and Multilateral Development Banks". *Global Governance* 6: 405–32.
[1110] Tussie, D. (1995). "The Inter-American Development Bank*"*. *Lynne Rienner Publishers*.
[1111] Tussie 1995, *Supra* p.96.
[1112] Tussie 1995, *Supra* p.96.
[1113] Tussie 1995, *Supra* p.70.

Table 8.3: Case summary, established multilateral/regional development bank or export-credit agency responding to an emergent institution and evaluation of competitive response.

Theory Cases - Multilateral			Explanatory Variables		Response
	Period	*Scope*	*Perceived interest asymmetry*	*Difference in expectations of authority*	*Level of competition*
World Bank - U.S. ExIm	1945 - 1960	Global	Low	High	High
World Bank - ADB	1966 -	Asia	Moderate	Moderate	Moderate
World Bank - AfDB	1964 - 1982	Africa	Low-Mod	Low	Low
World Bank - AfDB	1982 - 1990	Africa	Moderate	Moderate	Moderate
World Bank - IADB	1959 - 1970	Latin America	Low	Moderate	Moderate

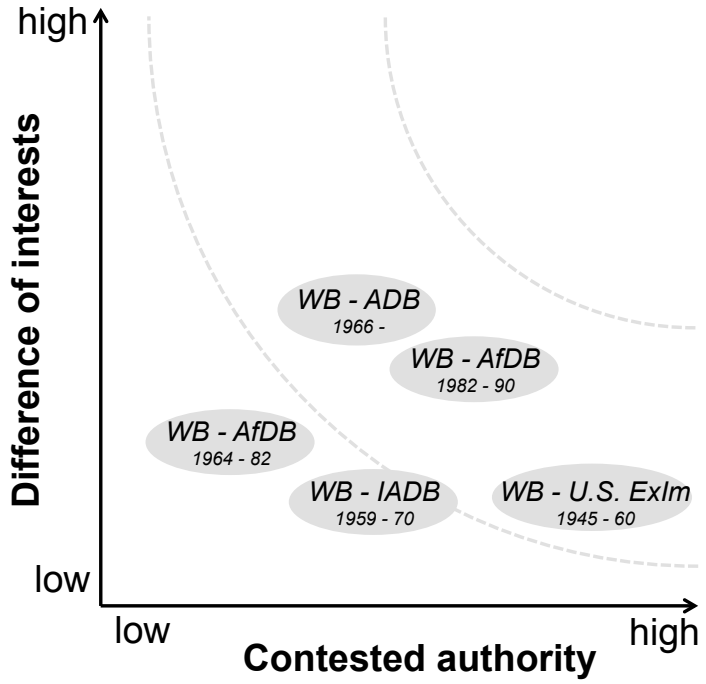

Figure 8.3: Cooperative results for contested rules in development finance

It is worth quoting the conclusion of Mason and Asher, writing in 1973, with regard to the early competitive relationship between the World Bank and regional banks:

> "The story of the Bank's relationships with other international agencies…could lead the reader to believe that the cycle is quite predictable: mutual suspicion at the beginning, some published statements and agreements to make it appear that all is well, occasional tension during the early years over alleged violations of the agreements, gradual recognition that there is room for both agencies and much to be gained from genuine cooperation, and smooth sailing thereafter"[1114].

[1114] Mason & Asher 1973, *Supra* p.586-7.

But institutional coordination has not always led to "smooth sailing". Weaver (2008) examined competitive feelings between the World Bank and regional banks in interviews in the late 1990s and early 2000s, summarizing that:

> "all these institutions appear to be in a fight for sustained relevance in an era characterized by an abundance of easily accessed private capital and the increased tendency of donors to channel aid through their own bilateral agencies and trust funds, where they can more easily earmark monies"[1115].

Even with only minor differences in the power of stakeholders, the World Bank felt threatened by the emerging regional banks, primarily over concerns of whether the emerging institutions would have consistent policy objectives and how their relations with recipient countries would be affected as a result. The AfDB had less focus on comprehensive planning, frustrating the World Bank as it sought to pursue carefully orchestrated programs and economic discipline in recipient countries. The World Bank perceived the IADB to have been siphoning its influence in smaller markets. The ADB funding allocation was far more donor-driven than the World Bank. Therefore, while the U.S. was able to exercise more influence over the ADB[1116] to ensure that its state interests were being served in the region despite any lost authority for the World Bank, as an organization the World Bank became apprehensive that U.S. interests would be served sufficiently by the ADB and thus reduce its own relevance.

Questions still occasionally arise as to the redundancy of the World Bank and regional bank missions. The G-20 summit in Pittsburgh in September 2009 called for the World Bank and

[1115] Weaver 2008, *Supra* p.63.
[1116] Kilby, C. (6 June 2006). "Donor Influence in Multilateral Development Banks: The Case of the Asian Development Bank". *The Review of International Organizations* 1(2): 173–95.

regional banks to "strengthen their coordination" and to ensure a "clearer division of labor"[1117]. The World Bank also perceived the ADB competitively[1118] while it was searching to define a role for itself after the 2007-08 financial crisis[1119].

8.5 Conclusions

Actors in the regime for development assistance are sensitive to emerging actors under a wide range of conditions. Early Japanese involvement in economic assistance was closely coordinated geopolitically with the U.S. and entailed little commercial threat, though as Japan became more technologically capable and competitive, the U.S. used shared institutions to ensure Japan converged with the U.S. on norms around aid and investment. Japan's leadership in the ADB was watched closely by the U.S. to ensure the institution did not gain too much agency or power relative to the World Bank, which also served U.S. interests. Even though the authority of the ADB and World Bank overlapped, putting the organizations in conflict, the U.S. allowed them to coexist because they complemented U.S. interests. The AfDB, managed by the entire region rather than any one dominant regional power, was still made subservient to the World Bank but raised tension by seeking legitimacy in recipient governments through an *ad hoc* lending approach and by refusing to follow World Bank trends. The World Bank's concerns that the U.S. ExIm Bank would interfere in critical markets led to drastic measures – and side-stepping of

[1117] Group of Twenty. "Leaders' Statement The Pittsburgh Summit September 24-25 2009". Available: https://g20.org/wp-content/uploads/2014/12/Pittsburgh_Declaration_0.pdf.

[1118] Nehru, V. (2012). "The World Bank and the Asian Development Bank: Should Asia Have Both?" ADBI Working Paper 385. *Tokyo: Asian Development Bank Institute*. Available: http://www.adbi.org/working-paper/2012/10/02/5243.world.bank.adb.should.asia.have.both/.

[1119] World Bank (20 April 2010). "New World, New World Bank Group: Post-Crisis Directions". *Joint Ministerial Committee of the Boards of Governors of the Bank and the Fund On the Transfer of Real Resources to Developing Countries.*

the World Bank's established rules and procedures – despite the two institutions explicitly serving U.S. state interests. This case demonstrates, perhaps better than any other, that divergence of either interests or authority has the potential to generate discord. Uncertainty over expectations of development authority, coupled with even minor differences in interests, can lead to competitive behavior.

In the cases of the regional banks and the World Bank, the institutions initially deny they were responding competitively to the activities of the other. This response is very similar to how the World Bank and its stakeholders, and the U.S. bilaterally, have publicly welcomed the emerging institutions under China's leadership. Yet under conditions where interests and authority are threatened there is every historical indication that competition is likely to ensue, at least in the near term.

There is substantial similarity in Japan's interests in creating the Asian Development Bank in the 1960s with China's contemporary effort to build the new Asian Infrastructure Investment Bank. Both institutions were founded by nations with growing regional power, and with interests in building an institution where they would have a central role in shaping regional outcomes. Interestingly, just as China opposed the ADB under an ascendant Japan during its creation in the 1960s, Japan (under U.S. pressure) has withheld support for the AIIB under an ascendant China. However, while post-war Japan strived to converge with the advanced industrial nations and gain their trust and status, ascendant China has resented the power manipulation of the Western institutional order. The Japanese international economic cooperation has long been closely coordinated with the U.S., and even though Japan is the largest donor in many markets and has a

more mercantilist geo-economic model than the U.S., Japan does not critically threaten ideological interests or U.S. international authority. By contrast, Chinese aid has been viewed as contesting both U.S. interests and authority, with legitimate power to revise the international institutional architecture. Historical trends and contemporary instances of competitive policy adjustment to China across the development finance regime indicates the likelihood of continued competition between the established institutional order and China as it grows its international investments and institutionalizes its power.

Part IV

Conclusions

Chapter 9

Climate implications of contested multilateralism in the power sector

The central claim of the thesis is that China's emergence has reshaped rule-making authority in power sector finance, and that this threatens to complicate cooperation on low-carbon energy transitions in developing countries. Evidence from cases where China has contested the authority of established regimes provides inductive support for an interpretation of changes taking place in the development finance regime. The following hypotheses are supported by the evidence of the thesis and can assist in analyzing the broad implications of China's development finance activities:

Hypothesis 1 – Declining rule-making regimes adjust policies to retain authority:

Established institutions prefer not to adjust their behavior, so they first attempt to prevent the rising power from gaining legitimacy. Several cases establish the prominence of this strategy. Chapter 3 told a story of the U.S. strong-arming Japan into abandoning the idea of an Asian Monetary Fund after the Asian Financial Crisis. Chapter 8 discussed that the World Bank attempted to pre-empt a challenge from the U.S. ExIm Bank by undermining the institution's political support. The World Bank and the U.S. both avoided competition with the World Bank's operations by refusing to rally behind the Asian Development Bank, and the U.S. prevented Japan from increasing the ADB's capitalization (and thus Japan's vote share) in the institution.

Evidence exists that the established regime attempted to prevent China from becoming a challenger to existing development norms before considering adjustment to its own policies. The U.S. and OECD attempted to persuade China to coordinate its aid packages. The U.S. promoted India's engagement in Africa, hoping the Indian model of governance would be better received than China's (Chapter 4). The World Bank confronted China on its human rights and environmental practices. And as China's autonomy grew, the U.S. attempted to monitor China's efforts to attain rule-making authority including at the Asia Export-Import Forum and Shanghai Cooperation Organization.

Similarly, the U.S. attempted to strand the Asian Infrastructure Investment Bank diplomatically, by discouraging European, Australian, Malaysian, South Korean and Japanese allies from joining the new institution as founding members. Ultimately in a major diplomatic blow to the U.S. the UK chose to bandwagon with the AIIB, leading to a rush of support to China from other U.S. allies. The one exception is Japan – which controls the Asian Development Bank – though Japan also wavered in its decision to join the AIIB.

DV1 – Bilateral policy adjustment:

Where exclusion and assimilation were unsuccessful, established institutions adjust their behavior to safeguard interests and authority. The principle U.S. interests at stake are development ideologies centered on market principles and good governance. China's significant role in the power sector threatens U.S. authority to pressure recipient governments to adopt comprehensive and long-term development plans, generally using market mechanisms.

Chapter 4 provides evidence that the U.S. adjusted its policies to prioritize the power sector in Africa, after years of momentum in the opposite direction. The U.S. sought to regain authority in a sector where China had gained a comparative advantage. Policymakers focused on increasing U.S. trade with Africa, though the Power Africa Initiative shifted both the model and sectoral focus of U.S. economic aid. Simultaneously, unsuccessful interests within the U.S. Congress pushed for weakening the U.S. Foreign Corrupt Practices Act to enable U.S. firms to do business in markets where Chinese competitors were willing to operate. In another instance, although Western donors initially paid little attention to the New Partnership for Africa's Development (NEPAD), the E.U. states "came calling"[1120] to cooperate on infrastructure after China embraced NEPAD as a means to engage more deeply in Africa, which the E.U. saw as its sphere of influence.

Although the leaders of ADB and AIIB publicly committed to "cooperate and cofinance" projects in Asia, Japan quickly sought to reassert its commitment to Asia's development by promising US$110 billion for infrastructure, in clear contrast to AIIB's US$100 capitalization.

DV2 – Adjustment at Export Credit Agencies:

Chapter 5 discusses how the OECD attitude toward China's export finance was initially to bring China into the existing regime. The U.S. was sufficiently comfortable with the OECD Arrangement's stability that it was willing to risk damaging China-OECD engagement over the politics of Taiwan's participation. While the U.S. continued to pressure China to participate in the OECD negotiations, the U.S. ExIm resorted to "matching" China's financing terms in order

[1120] Malcomson, D. Quoted in Huntsman 11 February 2011, *Supra*.

to win a US$477 million rail project bid in Pakistan for U.S. firm General Electric. Chapter 6 provides circumstantial evidence that the U.S. relaxed implementation of a new carbon policy so that it could provide finance for a coal power program that was a priority of the Indian government and otherwise would have sourced the equipment from China.

DV3 – World Bank policy adjustment:

World Bank communications and policy are the most difficult to observe. There is no direct evidence that the Bank altered its priorities to compete with China. Officials in Mauritius argued that there was a "mushrooming of interests"[1121] in dam development by the World Bank when China became involved in the sector, but such statements are anecdotal and speculative. Statistical evidence suggests that China's presence in hydropower markets increased the likelihood and size of World Bank projects, indicating that China may influence the Bank's market selection to counter Chinese authority. Given the strength of the effect China has on the U.S. development priorities, it would be surprising if these stakeholder political interests did not translate to some policy response at the Bank as well, at least in key markets.

Hypothesis 2 – Recipients gain leverage and demand more from donors

DV4 – Recipient governments:

Chapter 4 discussed that African governments balked at China for considering coordination with the U.S. on aid conditions. In 2010, U.S. diplomats wrote that the Kenyan government was

[1121] Mauritius 2011, *Supra*.

using China's aid offerings to "shield itself from Western, and principally U.S., pressure to reform"[1122]. In Chapter 5, recipients benefited when OECD countries' export finance packages were uncoordinated, because competition means lower interest rates and longer repayment periods on loans. The Ethiopian Government was explicit with U.S. officials that they preferred China's aid packages that had "no strings attached", while simultaneously courting World Bank support for the Gibe III hydropower project. Recognizing the U.S. sensitivity to concerns over China's development model, Ethiopian officials goaded the U.S. that Ethiopia may increasingly view China as its "development and ideological model"[1123].

Chapter 8 discusses the Uhuru Railway in Tanzania, in which China initially made an offer of finance so to empower Tanzanian President Nyerere to bargain with the West. A multitude of anecdotes collected through this research indicate the value that recipient governments perceive in having competing financial institutions involved in a sector.

Hypothesis 3 – Fragmented regimes complicate rulemaking and climate policy coherence

DV5 – New governance rules:

In 2010 the U.S. Export-Import Bank's competitiveness report concluded that uncoordinated export finance from the BRICS (and particularly China) "rendered 2010 the 'tipping point' for

[1122] Ranneberger (17 February 2010). "Chinese Engagement In Kenya". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/10NAIROBI181_a.html

[1123] Yamamoto (6 March 2007). "Ethiopia: Background For U.S./China Dialogue On Africa". *Wikileaks*, Available: https://wikileaks.org/plusd/cables/07ADDISABABA697_a.html.

the G-7 export credit activity conducted within the bounds of the OECD rules"[1124]. In February 2012 the U.S. and China agreed to negotiate a separate set of export finance disciplines through the International Working Group, thought to represent a post-OECD forum for negotiating rules on export credits. The Working Group has focused on sectors of little importance to the U.S., indicating China's upper hand in these negotiations. The scale of China's export finance threatens exports from other governments, but the cost of "matching" China's financial terms are unsustainable. Industries instead route their exports through Chinese firms, or transition to markets where China is weaker.

9.1 Looking forward

Diplomatic and ideological divisions between the West and China have spilled into power-sector development decisions, because aid is a currency of politics. The new landscape of power sector governance in the developing world could be plagued with competition without intervention. Under current conditions, discord over authority and long-standing ideologies could spur a race-to-the-bottom that impacts carbon standards along with a suite of social and environmental safeguards.

The current power sector outlook in Chapter 2 makes difficult a low-carbon transition consistent with limiting global temperature rise to 2 degrees Celsius, and practically forecloses possibility for 1.5 degrees Celsius. There is no global framework for incentivizing or coordinating lower-carbon energy alternatives in countries with rapid power sector growth trajectories. Climate

[1124] Export-Import Bank of the United States (June 2011). "Report to the U.S. Congress on export credit competition and the Export-Import Bank of the United States".

finance is a beginning, but current resources are insufficient. The development assistance actors discussed throughout this thesis could be instrumental in delivering climate finance and global experience. However, contestation over rules and expectations of low-carbon infrastructure finance could undermine incentives at development institutions to transition investments in developing countries away from carbon-intensive technologies and toward climate-friendly alternatives[1125].

Discussions are ongoing regarding what type of power sector portfolio the AIIB will adopt. If China's bilateral power sector involvement is indicative of projects that AIIB will support, coal power will get a major boost in Asia. Inferring from the cases of this thesis, other development institutions might adapt in this contested environment by re-embracing coal.

There are several reasons for optimism and short-term strategies to combat an uncooperative outcome. China has shown a willingness to coordinate coal rules with the West, and may actually be more receptive than Japan, which is the second largest global supplier of coal plants. China also expresses a desire for the AIIB to be "lean and green", which could suggest a preference for supporting higher efficiency coal and a more diversified technological mix than has been China's trend thus far.

China's choice to multilateralize its development assistance through the AIIB, rather than continuing to pursue its diplomatic and commercial goals bilaterally, indicates an interest in institutionalizing its power and directly contesting the authority of the established multilateral

[1125] Hannam, P.M., Liao, Z., Davis, S.J. & Oppenheimer, M. (2015). "Developing country finance in a post-2020 global climate agreement". *Nature Climate Change* 5(11): 983-87.

institutions, fulfilling a multi-decadal interest of Chinese leaders (as discussed in Chapter 3). The AIIB could create the opportunity for a new convergence between China, the OECD-member states that joined the AIIB at its founding, and recipient governments. China has a 26% vote share in the AIIB, which is enough for a veto. China's vote share is nearly twice the power of the U.S. in the International Bank for Reconstruction and Development, though the U.S. can rally European allies to block World Bank decisions. Germany has a 4.5% vote share at the AIIB, which is roughly equivalent to China's vote power in the World Bank – where it nonetheless wields great influence in governance decisions (Chapter 7). Collectively Europe holds roughly 22% of the starting vote share in AIIB, 3% shy of veto power. The potential for normative convergence between the OECD and China as major global donors is heightened through the AIIB, though it remains unclear if European standards will lift China, or if Europe will compromise its standards to suit an institutional setting more closely serving the needs of developing states.

As non-members, the U.S. and Japan have no voice in the AIIB, a decision that should be revisited to facilitate coordination between AIIB and the World Bank as well as between AIIB and the ADB. Historical cases show that even small differences in interests and authority leads to competition between established and emerging actors in the development finance regime. Pre-emptive promises of harmony by the AIIB and World Bank are non-credible, given the institutions' likely ideological differences, different stakeholders, and the new uncertainty regarding each institution's authority as trendsetters in global development. Overcoming competition in the new landscape of power sector governance requires pre-emptive coordination. Time and repeated interaction has been shown historically to resolve tension between established

and emerging actors in the regime for global development assistance. But in the race to manage global climate change, there is little time to spare.

Supplement

Table S2.1: Chinese firms and joint ventures supplying turbines to the global and domestic market, ordered by export market.

Company	Lead Mfr	Second Mfr	Export Market (MW)	China market (MW)
Shanghai Electric Group Co Ltd and subsidiaries	CHINA		31210	240656
Dongfang Electric Machinery Works	CHINA		29564	188392
Harbin Electrical Equipment or Harbin Power Equipment or Harbin Power Engineering or Habin Elec Intl	CHINA		16572	180905
Beijing Heavy Elec Machinery Works - BZD or Beijing Beizhong later ABP	CHINA		3160	22188
Hangzhou Steam Turbine Co turbine supplied by Greenesol Power Systems Pvt Ltd	CHINA	INDIA	1065.1	0
Nanjing Turbine & Electric Machinery Works	CHINA		787	3475
Unidentified Chinese supplier	CHINA		633	1427
Hangzhou Boiler Group Co or Hangzhou Steam Turbine Co or Hangzhou Electrical Equipment Co	CHINA		488	35
Full Dimension Power Tech Co Ltd	CHINA		450	0
Wuhan Turbine Generator Factory later China Chang Jiang Energy Corp (China Yangtze Power Co)	CHINA		200	255
Qingdao Turbine Works or Qingdao Jinan Turbine & Electric Machinery Group Co Ltd	CHINA		165	119
Shandong Machinery Export & Import Group	CHINA		142	0
China National Machinery Import and Export Corp (subsidiary of SINOMACH)	CHINA		138	0
Qingdao Jieneng Power Station Engineering Co Ltd	CHINA		126	0
China National Machinery Industry Corp	CHINA		120	0
Guangdong Machinery Import & Export Corp	CHINA		55	0
Alstom Beizhong Power (Beijing) Co Ltd	CHINA		0	10880
China Changjiang Power Corp	CHINA		0	27
China Shoto	CHINA		0	570
Hafei Industry-Windpower Equipment Co Ltd or Hafei Automotive	CHINA		0	290
Harbin Haqi Industrial Development Co (subsidiary of Harbin Electric Co)	CHINA		0	1255
Liangxiang	CHINA		0	250
Shaanxi Machinery and Equipment Corp	CHINA		0	100
Shandong Jinan Generating Equipment Co Ltd or Jinan Diesel Ltd or Jinan Power Equipment	CHINA		0	610
Shanxi	CHINA		0	1.5
Wuhan Boiler Co Ltd or Wuhan Boiler Works, 51% acquired by Alstom in Aug 2007	CHINA		0	64.5
Hitachi/Dongfang	JAPAN	CHINA	2072	2072
MHI/Harbin	JAPAN	CHINA	1244.2	1244.2
Alsthom/BZD (Beijing Heavy Machinery)	FRANCE	CHINA	660	660

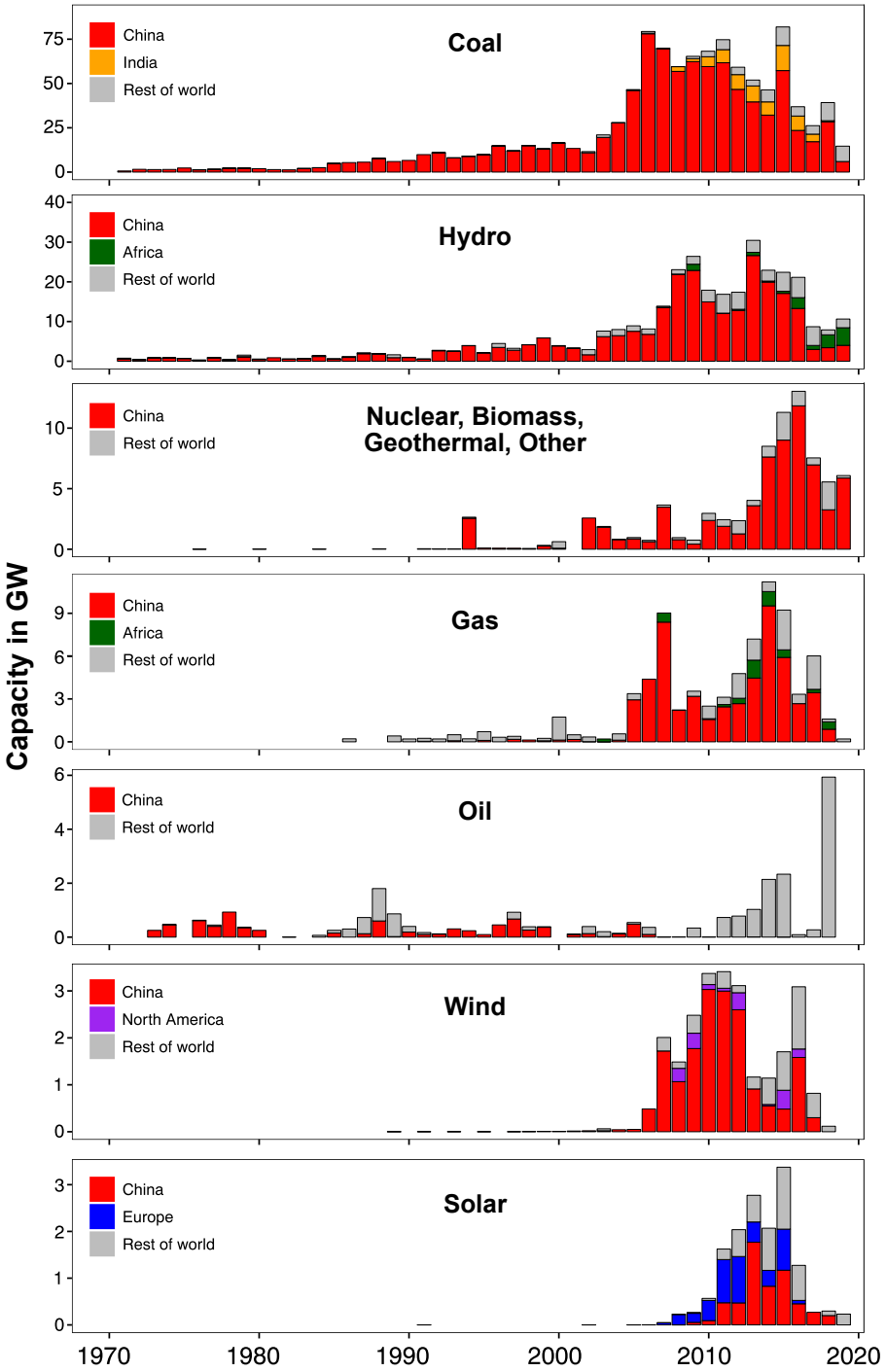

Figure S2.1: Power capacity involving Chinese manufacturers, showing new installed or pipeline capacity within China (in red) or exported to other markets. Coal and hydropower are by far the largest domestic and export technologies. Coal power exports began in 2008 after domestic installations peaked. Hydropower exports climbed after the 2000 "going out" policy. Gas and oil power technology has a long export history. Solar power began as an export industry before the domestic market took off.

Table S2.2: Export origins and destinations 1955-2015.

Timeperiod 1955-2015		Destination															
		AUSTRALIA	CHINA	FRANCE	GERMANY	INDIA	INDONESIA	JAPAN	OTHER	RUSSIA	SOUTH AFRICA	SOUTH KOREA	UKRAINE	UNITED KINGDOM	USA	VIETNAM	**Exported total**
Origin	CHINA	0	651500	0	0	55986	10778	0	11392	660	0	0	0	0	0	6059	**84875**
	FRANCE	466	5194	12999	6468	549	130	0	20182	0	795	625	0	0	3726	0	**38134**
	GERMANY	3650	7105	254	39863	19741	1770	0	20937	0	20066	698	325	30	1064	0	**75640**
	INDIA	0	0	0	0	108673	228	0	0	0	0	0	0	0	0	0	**228**
	JAPAN	17965	26909	0	1590	7231	8202	46322	46053	0	140	7745	0	0	17409	2588	**135832**
	OTHER	1362	6613	0	58	4180	179	0	70753	22	20	200	144	0	1344	8	
	RUSSIA	0	11994	0	8860	5976	0	0	29550	33581	0	0	11146	0	0	954	**68480**
	SOUTH KOREA	0	0	0	0	1370	700	0	906	0	0	14683	0	0	0	2320	**5296**
	SWITZERLAND	1413	3012	1601	20313	1199	0	0	26665	0	6065	0	0	0	18777	0	**79045**
	UKRAINE	0	1280	0	0	12	0	0	5799	11474	0	0	14990	0	0	0	**18565**
	UNITED KINGDOM	10017	11373	10	207	2566	372	0	11185	0	15224	60	0	43211	865	0	**51880**
	USA	0	8809	0	0	2593	1340	175	18761	0	0	6353	0	0	292086	600	**38631**
	UNKNOWN	326	208887	675	6099	2176	3001	1458	6127	2807	0	917	1001	54	3704	515	

Table S2.3: Export origins and destinations 1955-70.

Timeperiod 1955-70		Destination															
		AUSTRALIA	CHINA	FRANCE	GERMANY	INDIA	INDONESIA	JAPAN	OTHER	RUSSIA	SOUTH AFRICA	SOUTH KOREA	UKRAINE	UNITED KINGDOM	USA	VIETNAM	Exported total
Origin	CHINA	0	1033	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	FRANCE	0	0	7004	0	0	0	0	2306	0	0	100	0	0	1752	0	**4158**
	GERMANY	160	75	254	14847	924	0	0	4865	8	1740	0	0	0	0	0	**8025**
	INDIA	0	0	0	0	218	0	0	0	0	0	0	0	0	0	0	**0**
	JAPAN	0	62	0	0	383	0	4615	755	150	80	38	0	0	0	0	**1468**
	OTHER	192	448	0	0	197	0	0	16526	0	20	0	144	0	266	3	
	RUSSIA	0	1627	0	210	1184	0	0	8048	9777	0	0	8950	0	0	159	**20178**
	SWITZERLAND	528	50	1601	7345	38	0	0	4682	0	965	0	0	0	606	0	**15814**
	UKRAINE	0	0	0	0	12	0	0	581	5410	0	0	5725	0	0	0	**6003**
	UNITED KINGDOM	6082	0	10	114	375	0	0	4935	12	4458	0	0	29822	550	0	**16535**
	USA	0	0	0	0	2257	0	175	3810	0	0	195	0	0	114674	0	**6437**
	NA	534	3208	1245	4170	95	0	906	3377	1634	0	0	839	57	3400	0	

Table S2.4: Export origins and destinations 1970-85.

Timperiod 1970-85		Destination															
		AUSTRALIA	CHINA	FRANCE	GERMANY	INDIA	INDONESIA	JAPAN	OTHER	RUSSIA	SOUTH AFRICA	SOUTH KOREA	UKRAINE	UNITED KINGDOM	USA	VIETNAM	Exported total
Origin	CHINA	0	14035	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	FRANCE	0	0	5783	0	280	0	0	5134	0	0	500	0	0	0	0	**5914**
	GERMANY	1060	0	0	12836	2444	0	0	7029	0	6497	400	0	0	0	0	**17431**
	INDIA	0	0	0	0	13823	0	0	0	0	0	0	0	0	0	0	**0**
	JAPAN	7837	2218	0	0	0	400	6113	11682	0	60	1689	0	0	80	28	**23993**
	OTHER	25	392	0	23	1365	0	0	34055	0	0	200	0	0	13	5	
	RUSSIA	0	1600	0	7150	452	0	0	14166	13272	0	0	2506	0	0	275	**26149**
	SWITZERLAND	535	313	0	6742	14	0	0	9249	0	5100	0	0	0	14612	0	**36565**
	UKRAINE	0	0	0	0	0	0	0	5218	5100	0	0	7520	0	0	0	**10318**
	UNITED KINGDOM	4500	1050	0	93	434	2	0	3311	0	3660	60	0	15349	0	0	**13109**
	USA	0	0	0	0	345	0	0	4995	0	0	1520	0	0	162811	0	**6860**
	NA	8	9596	27	1246	3	0	75	1025	1034	0	0	224	0	567	220	

Table S2.5: Export origins and destinations 1985-2000.

Timeperiod 1985-2000		Destination															
		AUSTRALIA	CHINA	FRANCE	GERMANY	INDIA	INDONESIA	JAPAN	OTHER	RUSSIA	SOUTH AFRICA	SOUTH KOREA	UKRAINE	UNITED KINGDOM	USA	VIETNAM	**Exported total**
Origin	CHINA	0	84645	0	0	134	0	0	240	0	0	0	0	0	0	0	**374**
	FRANCE	0	3834	412	0	0	130	0	1647	0	0	25	0	0	278	0	**5914**
	GERMANY	1680	950	0	8864	10868	0	0	4549	0	11839	168	0	30	52	0	**30136**
	INDIA	0	0	0	0	19616	5	0	0	0	0	0	0	0	0	0	**5**
	JAPAN	8763	7953	0	0	1427	4112	17938	14720	0	0	125	0	0	1843	0	**38942**
	OTHER	0	4116	0	0	1212	179	0	15322	0	0	0	0	0	1098	0	
	RUSSIA	0	6675	0	1500	2285	0	0	6521	7634	0	0	0	0	0	220	**17201**
	SOUTH KOREA	0	0	0	0	0	0	0	0	0	0	7646	0	0	0	0	**0**
	SWITZERLAND	350	2549	0	5921	1148	0	0	11280	0	0	0	0	0	3369	0	**24616**
	UKRAINE	0	1280	0	0	0	0	0	0	24	0	0	625	0	0	0	**1304**
	UNITED KINGDOM	0	8817	0	0	1898	341	0	3463	0	6338	0	0	1320	315	0	**21171**
	USA	0	6089	0	0	77	1340	0	7836	0	0	2000	0	0	28304	0	**17341**
	NA	14	31282	25	649	213	243	165	1047	105	0	473	0	24	1010	0	

Table S2.6: Export origins and destinations 2000-2015.

Timeperiod 2000-2015		Destination															
		AUSTRALIA	CHINA	FRANCE	GERMANY	INDIA	INDONESIA	JAPAN	OTHER	RUSSIA	SOUTH AFRICA	SOUTH KOREA	UKRAINE	UNITED KINGDOM	USA	VIETNAM	**Exported total**
Origin	CHINA	0	551788	0	0	55852	10778	0	11152	660	0	0	0	0	0	6059	**84501**
	FRANCE	466	1360	0	6468	269	0	0	11096	0	795	0	0	0	1696	0	**22149**
	GERMANY	750	6080	0	3717	5523	1770	0	4587	0	18	130	325	0	1012	0	**20194**
	INDIA	0	0	0	0	75027	223	0	0	0	0	0	0	0	0	0	**223**
	JAPAN	1365	16676	0	1590	5421	3690	17825	18896	0	0	5894	0	0	15486	2560	**71578**
	OTHER	1145	1657	0	35	1406	0	0	5809	22	0	0	0	0	0	0	
	RUSSIA	0	2142	0	0	2055	0	0	1110	4048	0	0	0	0	0	300	**5607**
	SOUTH KOREA	0	0	0	0	1370	700	0	906	0	0	7038	0	0	0	2320	**5296**
	SWITZERLAND	0	125	0	933	0	0	0	1800	0	0	0	0	0	205	0	**3063**
	UKRAINE	0	0	0	0	0	0	0	0	940	0	0	1120	0	0	0	**940**
	UNITED KINGDOM	0	1506	0	0	10	30	0	0	0	1426	0	0	0	0	0	**2972**
	USA	0	2720	0	0	50	0	0	2331	0	0	2638	0	0	6049	600	**8339**
	NA	0	164868	0	79	1929	2758	418	1480	239	0	444	22	0	698	295	

Table S2.7: Fuel capacities by global region and status.

	COAL			GAS			HYDRO			NON-HYDRO RE		
	Construction	Operating	Planned	Construction	Operating	Planned	Construction	Operating	Planned	Construction	Operating	Planned
AFRICA	10554	44544	33608	17693	66627	56102	15572	28304	48227	1844	6692	10533
ANZ-OCEANIA	180	28507	2400	1171	19596	5564	1	14084	839	461	6602	12041
ASIA	214137	1208966	813721	29254	286310	145307	101436	413476	238107	8641	85994	45097
CIS	3410	90178	14707	7863	151194	16941	3476	75314	24397	201	1303	3901
EUROPE	8920	189497	18227	5289	187387	44378	6709	205526	36218	10384	147636	92724
LATIN	2844	16493	10059	5237	72071	31085	30967	172922	69011	6188	24569	26096
MIDEAST	4199	20089	23803	24217	181289	66242	8747	39794	16296	803	5121	7816
N AMERICA	22	319735	40	18829	394614	92412	4143	175946	30734	13330	109717	111289
Total	*244265*	*1918009*	*916566*	*109553*	*1359087*	*458030*	*171050*	*1125365*	*463829*	*41851*	*387635*	*309496*

	NUCLEAR			OIL			OTHER			*Region Total*
	Construction	Operating	Planned	Construction	Operating	Planned	Construction	Operating	Planned	
AFRICA		1930	12800	1876	28874	3900	5354	8312	9778	*413123*
ANZ-OCEANIA				37	4617	364	274	1682	320	*98740*
ASIA	47554	60532	126000	890	108270	6193	6961	71304	9299	*4027446*
CIS	11578	40654	32420		14219	12	1574	7406	1389	*502137*
EUROPE	4350	129690	26530	390	57921	749	1475	41869	1401	*1217270*
LATIN	1377	5410	3600	2251	61909	3374	3135	19745	3142	*571483*
MIDEAST	8000	1000	17120	14374	88995	22348	11340	40254	6302	*608149*
N AMERICA	5738	119087	8738	34	63604	1127	6570	95098	18648	*1589455*
Total	*78597*	*358303*	*227208*	*19851*	*428409*	*38067*	*36682*	*285670*	*50279*	*9027802*

Table S6.1: Analysis of official communications to the U.S. Export-Import Bank immediately preceding the first Sasan vote on 24 June 2010[1126].

			Arguments for ExIm support								
Name	**Institution**	**Date**	*Jobs / stimulus*	*Project to be built anyway*	*Competition generally*	*China competition*	*Project environmentally compliant*	*Environmental benefits to U.S. involvement*	*Influence/ Relations with India*	*India needs power*	*Export balance*
Russell D. Feingold	U.S. Senate, WI	1-Jun-10	■	■	■			■	■	■	
Paul Ryan	U.S. House, WI-1st	7-Jun-10					■				
Ron Kind	U.S. House, WI-3rd	14-Jun-10	■	■	■				■		
Carl Levin	U.S. Senate, MI	18-Jun-10	■								
Joe Sestak	U.S. House, PA-7th	18-Jun-10	■	■	■			■	■		
Sherrod Brown	U.S. Senate, OH	22-Jun-10	■								
Debbie Stabenow	U.S. Senate, MI	21-Jun-10	■								
	Number of references		6	3	3	0	1	2	3	1	0
	Percent of total		86%	43%	43%	0%	14%	29%	43%	14%	0%

[1126] Two additional letters sent in January by Sen. Herbert Kohl (WI) and Rep. James Sensenbrenner, Jr. (WI-5th) are excluded because they were principally intended to inquire as to the status of the Sasan transaction, since they represent Bucyrus. Kohl's letter discusses job creation.

Table S6.2: Analysis of official communications to the U.S. Export-Import Bank between June 24 (rejection of the Sasan project) and July 14 (new vote)[1127].

			Arguments for ExIm support									
Name	**Institution**	**Date**	*Jobs / stimulus*	*Project to be built anyway*	*Competition generally*	*China competition*	*Project environmentally compliant*	*Environmental benefits to U.S. involvement*	*Influence/ Relations with India*	*India needs power*	*Export balance*
Ron Kind	U.S. House, WI-3rd	26-Jul-10	■		■						
Russell D. Feingold	U.S. Senate, WI	28-Jun-10	■	■	■						■
F. James Sensenbrenner, Jr.	U.S. House, WI-5th	28-Jun-10 (Joint letter)	■	■	■	■	■	■			
Paul Ryan	U.S. House, WI-1st										
Robert Wirch	WI State Senate-22nd	29-Jun-10	■	■	■	■	(attachment)	■		■	
Thomas Nelson	WI State Rep & Majority Leader-5th	29-Jun-10	■	■	■						
Josh Zepnick	WI State Rep-9th	29-Jun-10	■		■		■				
Neal Kedzie	WI State Senator-11th	29-Jun-10 (Joint letter)	■	■	■		■	■	■		
Bob Ziegelbauer	WI State Rep-25th										
Dan Kapanke	WI State Senate-32nd										
Jeff Plale	WI State Senate-7th										
Don Pridemore	WI State Rep-99th										
Mark Honadel	WI State Rep-21st										
Tom Lothian	WI State Rep-32ndh										
Joel Kleefisch	WI State Rep-38th										
Alberta Darling	WI State Senate-8th										
Dale Schultz	WI State Senate-17th										
Steve Kestell	WI State Rep-27th										
Samantha Kerkman	WI State Rep-66th										
Randy Hopper	WI State Senate-18th										
Spencer Coggs	WI State Senate-6th										
Roger Roth	WI State Rep-56th										
John Murtha	WI State Rep-29th										
Mary Lazich	WI State Senate-28th										
Dan LeMahieu	WI State Rep-59th										
John Townsend	WI State Rep-52nd										
	Number of references		*7*	*5*	*7*	*2*	*4*	*3*	*1*	*1*	*1*
	Percent of total		*100%*	*71%*	*100%*	*29%*	*57%*	*43%*	*14%*	*14%*	*14%*

[1127] An additional letter was received on 29 June 2010 from Willie L. Hines, Jr., President of the City of Milwaukee Common Council, advocating the project because of jobs/economic stimulus, and because the project would be built anyway.

Table S6.3: Indian Power projects with all-Chinese suppliers (page 1 of 2).

Plant name	Added MW	Size per unit	Year of commissioning	City	State	Steam Temperature	Parent Company	STATUS	Generator Manufacturer	Steam System Manufacturer	Turbine Manufacturer
METTUR MALCO	75	25	1999	Salem Dist	Tamil Nadu	SUBCR	VEDANTA RESOURCES PLC	OPR	SHANGHAI	SHANGHAI	SHANGHAI
KORBA BALCO-I	540	135	2005	Korba Dist	Chhattisgarh	SUBCR	BHARAT ALUMINIUM CO (BALCO)	OPR	ZINAN	HARBIN	DONGFANG
DEENBANDHU CHHOTU RAM	600	300	2008	Yamunanagar Dist	Haryana	SUBCR	HARYANA POWER GEN CO (HPGC)	OPR	SHANGHAI	SHANGHAI	SHANGHAI
DURGAPUR DPL	300	300	2008	Burdwan Dist	West Bengal	SUBCR	DURGAPUR PROJECTS LTD (DPL)	OPR	DONGFANG	DONGFANG	DONGFANG
GUJARAT CEMENT WORKS	92	23	2008	Amreli Dist	Gujarat	SUBCR	ADITYA BIRLA GROUP	OPR	CMEC	CMEC	CMEC
JHARSUGUDA CPP	1215	135	2008	Jharsuguda Dist	Odisha	SUBCR	VEDANTA RESOURCES PLC	OPR	SHANGHAI	SHANGHAI	SHANGHAI
SAGARDIGHI	600	300	2008	Murshidabad Dist	West Bengal	SUBCR	WEST BENGAL POWER DEV CORP	OPR	DONGFANG	DONGFANG	DONGFANG
VIKRAM CEMENT	46	23	2008	Khor - Neemuch Dist	Madhya Pradesh	SUBCR	ADITYA BIRLA GROUP	OPR	CMEC	CMEC	CMEC
JALLIPA KAPURDI	1080	135	2009	Barmer Dist	Rajasthan	SUBCR	JSW GROUP	OPR	DONGFANG	DONGFANG	DONGFANG
LANCO AMARKANTAK	1920	300	2009	Korba Dist	Chhattisgarh	SUBCR	LANCO GROUP	OPR	DONGFANG	DONGFANG	DONGFANG
MADURAI	10	10	2009	Madurai Dist	Tamil Nadu	SUBCR	AURO MIRA ENERGY CO PVT LTD	OPR	JIENENG	WUXI	JIENENG
ROSA POWER	1200	300	2009	Shahjahanpur Dist	Uttar Pradesh	SUBCR	RELIANCE INFRASTRUCTURE LTD	OPR	SHANGHAI	SHANGHAI	SHANGHAI
SARADAMBIKA	10	10	2009	Chandrapur Dist	Maharashtra	SUBCR	SARADAMBIKA POWER PLANT PVT	OPR	HANGZHOU	WUXI	HANGZHOU
VIJAYANAGAR POWER	1200	300	2009	Bellary Dist	Karnataka	SUBCR	JSW GROUP	OPR	SHANGHAI	SHANGHAI	SHANGHAI
MUNDRA ADANI	4620	330, 660	2010	Mundra Taluka - Kutch Dist	Gujarat	SUBCR	ADANI POWER LTD	OPR	BEIZHONG	BWBC	BEIZHONG
RAJIV GANDHI (HISAR)	1200	600	2010	Hisar Dist	Haryana	SUBCR	HARYANA POWER GEN CO (HPGC)	OPR	SHANGHAI	SHANGHAI	SHANGHAI
RATNAGIRI	1200	300	2010	Ratnagiri Dist	Maharashtra	SUBCR	JSW GROUP	OPR	SHANGHAI	SHANGHAI	SHANGHAI
UDUPI	1200	600	2010	Padubidri - Udupi Dist	Karnataka	SUBCR	LANCO GROUP	OPR	DONGFANG	DONGFANG	DONGFANG
VS LIGNITE	135	135	2010	Bikaner Dist	Rajasthan	SUBCR	KSK ENERGY VENTURES PVT LTD	OPR	JINAN	WUHAN	DONGFANG
WARDHA WARORA	540	135	2010	Chandrapur Dist	Maharashtra	SUBCR	KSK ENERGY VENTURES PVT LTD	OPR	HARBIN	DONGFANG	DONGFANG
ANPARA-C	1200	600	2011	Sonebhadra Dist	Uttar Pradesh	SUBCR	LANCO GROUP	OPR	DONGFANG	DONGFANG	DONGFANG
CUTTACK WORKS	50	50	2011	Cuttack Dist	Odisha	SUBCR	AARTI STEELS LTD	OPR	DONGFANG	WUXI	DONGFANG
JHARSUGUDA STERLITE	2400	600	2011	Jharsuguda Dist	Odisha	SUBCR	VEDANTA RESOURCES PLC	OPR	DONGFANG	HARBIN	DONGFANG
KHOPOLI WORKS	60	30	2011	Raigarh Dist	Maharashtra	SUBCR	UTTAM GALVA STEELS LTD	OPR	CHINA	CHINA	CHINA
KRISHNAPATNAM MEENAKSHI	270	135	2012	Nellore Dist	Andhra Pradesh	SUBCR	MEENAKSHI ENERGY PVT LTD	OPR	SHANGHAI	SHANGHAI	SHANGHAI
MAHATMA GANDHI	1320	660	2012	Jhajjar Dist	Haryana	SUPERC	CLP GROUP	OPR	DONGFANG	HARBIN	DONGFANG
SALAYA	1200	600	2012	Vadinar - Jamnagar Dist	Gujarat	SUBCR	ESSAR ENERGY PLC	OPR	HARBIN	HARBIN	HARBIN
TIRODA	3300	660	2012	Tiroda Town - Gondia Dist	Maharashtra	SUPERC	ADANI POWER LTD	OPR	SHANGHAI	SHANGHAI	SHANGHAI
KALISINDH	1200	600	2013	Jhalarapatan Tehsil - Jhalawar Dist	Rajasthan	SUPERC	RAJASTHAN RV UTPADAN NIGAM	CON	DONGFANG	DONGFANG	DONGFANG
KAMALANGA	1400	350	2013	Kamalanga - Dhenkanal Dist	Odisha	SUBCR	GMR GROUP	OPR	SHANGHAI	HARBIN	SHANGHAI
KAWAI	1320	660	2013	Baran Dist	Rajasthan	SUPERC	ADANI POWER LTD	CON	SHANGHAI	SHANGHAI	SHANGHAI
KORBA BALCO-II	1200	300	2013	Korba Dist	Chhattisgarh	SUBCR	VEDANTA RESOURCES PLC	CON	HARBIN	HARBIN	HARBIN
LANCO BABANDH	1320	660	2013	Dhenkanal Dist	Odisha	SUPERC	LANCO GROUP	CON	HARBIN	DONGFANG	HARBIN
MAHAN ESSAR	1800	600	2013	Sidhi Dist	Madhya Pradesh	SUBCR	ESSAR ENERGY PLC	OPR	HARBIN	HARBIN	HARBIN
MAHANADI	3600	600	2013	Akaltara - Janjgir-Champa Dist	Chhattisgarh	SUBCR	KSK ENERGY VENTURES PVT LTD	OPR	DONGFANG	SHANGHAI	DONGFANG
METTUR	600	600	2013	Salem Dist	Tamil Nadu	SUPERC	TAMIL NADU GEN & DIST CORP LTD	OPR	DONGFANG	DONGFANG	DONGFANG
PALONCHA PLANT	156	156	2013	Khammam Dist	Andhra Pradesh	SUBCR	NAVA BHARAT VENTURES LTD	OPR	DONGFANG	WUXI	DONGFANG
RAGHUNATHPUR	1200	600	2013	Purulia Dist	West Bengal	SUPERC	DAMODAR VALLEY CORP (DVC)	CON	SHANGHAI	SHANGHAI	SHANGHAI
RATIJA	50	50	2013	Korba Dist	Chhattisgarh	SUBCR	ACB (INDIA) LTD	OPR	JIENENG	JIENENG	JIENENG
SASAN UMPP	3960	660	2013	Sasan - Sidhi Dist	Madhya Pradesh	SUPERC	RELIANCE INFRASTRUCTURE LTD	OPR	SHANGHAI	SHANGHAI	SHANGHAI
TADALI	600	300	2013	Tadali - Chandrapur Dist	Maharashtra	SUBCR	CESC LTD	CON	SHANGHAI	SHANGHAI	SHANGHAI
TALWANDI SABO	1980	660	2013	Mansa Dist	Punjab	SUPERC	VEDANTA RESOURCES PLC	OPR	DONGFANG	HARBIN	DONGFANG
UCCHPINDA	1440	360	2013	Dabar - Janjgir-Champa Dist	Chhattisgarh	SUBCR	RKM POWERGEN PVT LTD	CON	HARBIN	CWPC	HARBIN
WARORA EMCO	600	300	2013	Warora - Chandrapur Dist	Maharashtra	SUBCR	GMR GROUP	OPR	SHANGHAI	SHANGHAI	SHANGHAI
BANDAKHAR	300	300	2014	Pali - Korba Dist	Chhattisgarh	SUBCR	MARUTI CLEAN COAL & POWER LTD	CON	BEIZHONG	CWPC	BEIZHONG
HALDIA ENERGY	600	300	2014	Haldia - Purba Medinipur Dist	West Bengal	SUBCR	CESC LTD	CON	SHANGHAI	SHANGHAI	SHANGHAI
KRISHNAPATNAM GAYATRI	1320	660	2014	Nellore Dist	Andhra Pradesh	SUPERC	GAYATRI ENERGY/SEMBCORP	CON	DONGFANG	DONGFANG	DONGFANG
LANCO BABANDH	1320	660	2014	Dhenkanal Dist	Odisha	SUPERC	LANCO GROUP	CON	HARBIN	DONGFANG	HARBIN

Table S6.3: Indian Power projects with all-Chinese suppliers (page 2 of 2).

Plant name	Added MW	Size per unit	Year of commissioning	City	State	Steam Temperature	Parent Company	STATUS	Generator Manufacturer	Steam System Manufacturer	Turbine Manufacturer
LANCO VIDARBHA	1320	660	2014	Wardha Dist	Maharashtra	SUPERC	LANCO GROUP	CON	HARBIN	DONGFANG	HARBIN
LANCO VIDARBHA	1320	660	2014	Wardha Dist	Maharashtra	SUPERC	LANCO GROUP	CON	HARBIN	DONGFANG	HARBIN
MUTIARA	1200	600	2014	Ottapidaram - Tuticorin Dist	Tamil Nadu	SUBCR	COAL AND OIL GROUP	CON	HARBIN	HARBIN	HARBIN
NILACHAL	1050	350	2014	Cuttack Dist	Odisha	SUBCR	KVK ENERGY & INFRASTRUCTURE	CON	HARBIN	HARBIN	HARBIN
RAIGARH TRN	600	300	2014	Raigarh Dist	Chhattisgarh	SUBCR	ACB (INDIA) LTD	CON	BEIZHONG	CWPC	BEIZHONG
SINGHITARAI	1320	660	2014	Singhitarai - Janjgir-Champa Dist	Chhattisgarh	SUPERC	ATHENA ENERGY VENTURES PVT LTD	CON	DONGFANG	DONGFANG	DONGFANG
THOOTHUKKUDI IBPML	1320	660	2014	Thoothukudi - Tuticorin Dist	Tamil Nadu	SUPERC	NATL GROUP	CON	HARBIN	HARBIN	HARBIN
DHENKANAL NPPL	1040	520	2015	Dhenkanal Dist	Odisha	SUBCR	ESSAR POWER LTD	CON	HARBIN	HARBIN	HARBIN
TORI	1980	660	2015	Latehar Dist	Jharkhand	SUPERC	ESSAR ENERGY PLC	CON	HARBIN	HARBIN	HARBIN
TILAIYA UMPP	3960	660	2016	Hazaribagh Dist	Jharkhand	SUPERC	RELIANCE INFRASTRUCTURE LTD	PLN	SHANGHAI	SHANGHAI	SHANGHAI
DONGAMAHUA	540	135	2010-12	Raigarh Dist	Chhattisgarh	SUBCR	JINDAL STEEL & POWER LTD	OPR	SHANGHAI	SHANGHAI	SHANGHAI
ANGUL STEEL	810	135	2011-13	Angul - Dhenkanal Dist	Odisha	SUBCR	JINDAL STEEL & POWER LTD	OPR & CON	SHANGHAI	SHANGHAI	SHANGHAI
BUTIBORI	600	300	2012-13	Nagpur Dist	Maharashtra	SUBCR	RELIANCE INFRASTRUCTURE LTD	OPR	SHANGHAI	SHANGHAI	SHANGHAI
ANUPPUR	1200	600	2013-14	Jaithari - Anuppur Dist	Madhya Pradesh	SUBCR	MOSER BAER INDIA LTD	CON	DONGFANG	DONGFANG	DONGFANG
BHAVNAPADU	2640	660	2014-?	Srikakulam Dist	Andhra Pradesh	SUPERC	ATHENA ENERGY VENTURES PVT LTD	CON & DEF	DONGFANG	DONGFANG	DONGFANG
CHITRANGI	3960	660	2015-17	Chitrangi - Singrauli Dist	Madhya Pradesh	SUPERC	RELIANCE INFRASTRUCTURE LTD	CON	SHANGHAI	SHANGHAI	SHANGHAI
AMRAVATI	1320	660	NA	Nandgaonpet - Amravati Dist	Maharashtra	SUPERC	INDIABULLS GROUP	PLN	HARBIN	HARBIN	HARBIN
BANKA	1320	660	NA	Banka Dist	Bihar	SUPERC	ABHIJEET GROUP	PLN	DONGFANG	DONGFANG	DONGFANG
CHANDRAPUR GUPTA	600	300	NA	Chimur Taluk - Chandrapur Dist	Maharashtra	SUBCR	GUPTA CORP LTD	PLN	SHANGHAI	SHANGHAI	SHANGHAI
KRISHNAPATNAM NELCAST	1320	660	NA	Nellore Dist	Andhra Pradesh	SUPERC	NCC INFRASTRUCTURE HOLDINGS	PLN	HARBIN	HARBIN	HARBIN
KRISHNAPATNAM UMPP	3960	660	NA	Krishnapatnam - Nellore Dist	Andhra Pradesh	SUPERC	RELIANCE INFRASTRUCTURE LTD	DEL	SHANGHAI	SHANGHAI	SHANGHAI
MATRISHI USHA JAYASWAL	1320	660	NA	Hempur - Latehar Dist	Jharkhand	SUPERC	ABHIJEET GROUP	PLN	DONGFANG	DONGFANG	DONGFANG
NEPTUNE ORISSA	2400	600	NA		Odisha	SUBCR	ESSAR ENERGY PLC	PLN	HARBIN	HARBIN	HARBIN

Table S7.1: Involvement of Chinese firms in African hydropower.

Plant	Country	Capacity (MW)	China Publicly Interested	Year Online	River	Major Basin
KAJBAR	SUDAN	360	Sep-1997	NA	Nile	Nile
TEKEZE-I	ETHIOPIA	300	Jun-2002	2009	Tekeze	Nile
ITEZHI TEZHI	ZAMBIA	120	Jul-2003	2018	Kafue	Zambezi
KAFUE GORGE LOWER	ZAMBIA	800	Jul-2003	2017	Kafue	Zambezi
LOM-PANGAR	CAMEROON	29.6	Oct-2003	2016	Sanaga	Sanaga
ADJARALA	TOGO	147	Jun-2004	2018	Mono	Mono
GANGELAS	ANGOLA	1.2	Nov-2005	2014	Nene	Cunene
SANG'ORO	KENYA	21.2	Sep-2006	2012	Sondu Miriu	Nile
SAHANIVOTRY	MADAGASCAR	15	Apr-2007	2008	Sahanivotry	Madagascar
KANWELUME	ZAMBIA	93	Jul-2007	NA		Congo
KUNDABWIKA	ZAMBIA	151	Jul-2007	NA	Kalungwishi	Congo
MAMBILLA	NIGERIA	3040	Jul-2007	2019	Donga (Benue)	Niger
AWISAM	GHANA	50	Jul-2008	NA	Pra	Pra
TANOSO	GHANA	65	Jul-2008	NA	Tano	Tano
BONSA	GHANA	17	Aug-2008	NA	Bonsa	Ankobra
AMBODIROKA	MADAGASCAR	40.5	Sep-2008	NA	Betsiboka	Madagascar
SONDU MIRIU	KENYA	60	Sep-2008	2007-08	Sondu Miriu	Nile
GILGEL GIBE-IV	ETHIOPIA	1450	Jul-2009	NA	Omo	Lake Turkana
MABUBAS	ANGOLA	26.8	Jul-2009	2012	Dande	Dande
BELES	ETHIOPIA	435	Sep-2009	2010	Beles	Nile
BOALI-III	CENT. AFRICAN REP.	10	Nov-2009	NA	Mbali	Congo
FELOU	MALI	124.8	Nov-2009	2013	Senegal	Senegal
TAOUSSA	MALI	25	Dec-2009	NA	Niger	Niger
KAPICHIRA	MALAWI	64	Jul-2010	2014	Shire	Zambezi
CHARLOTTE	SIERRA LEONE	2	Oct-2010	2015		Sierra Leone*
SKEREIK	SUDAN	420	Nov-2010	2015	Nile	Nile
GRAND RENAISSANCE	ETHIOPIA	1750	Jul-2011	2017-18	Abay (Blue Nile)	Nile
SEMULIKI	DEM. REP. CONGO	72	Jul-2011	NA	Semuliki	Nile
MUSONDA FALLS	ZAMBIA	5	Dec-2011	2015	Luongo	Congo
BEDDEN	SOUTH SUDAN	522	Jul-2012	2020	White Nile	Nile
LIOUESSO	REP. CONGO	19.2	Jul-2012	2015	Lengoué	Congo
KABOMPO GORGE	ZAMBIA	40	Sep-2012	2016	Kabompo	Zambezi
KARUMA FALLS	UGANDA	600	Sep-2012	2018	White Nile	Nile
BUSANGA	DEM. REP. CONGO	240	Jul-2013	NA	Lualaba	Congo
ISIMBA FALLS	UGANDA	183.2	Jul-2013	2016	Nile	Nile
NABUYOLE FALLS	KENYA	10.6	Aug-2013	NA	Nzoia	Nile
RUMAKALI	TANZANIA	222	Oct-2013	2022	Rumakali	Zambezi
ABA SAMUEL	ETHIOPIA	6.6	Jan-2014	2016	Akaki	Awash
GEBA-1	ETHIOPIA	220	Sep-2014	NA	Geba	Nile
GEBA-2	ETHIOPIA	165	Sep-2014	NA	Geba	Nile
MASIGIRA	TANZANIA	118	Oct-2014	NA	Songwe	Zambezi
HEMANG	GHANA	60	Nov-2014	2018	Pra	Pra
LUAPASSO	ANGOLA	48.5	Jul-2015	NA	Luapasso	Zambezi
TCHIHUMBWE	ANGOLA	12.42	Jul-2015	2015		Queve
FARIN RUWA	NIGERIA	16	Aug-2015	NA	Farin Ruwa	Niger

Table S7.2: Hydropower projects in Africa involving Chinese finance.

Plant	Country	Capacity (MW)	China Publicly Interested	Year Online	River	Major Basin
MEROWE	SUDAN	1250	Jun-2003	2008-10	Nile	Nile
IMBOULOU	REP. CONGO	120	Jul-2003	2012	Léfini	Congo
KARIBA NORTH	ZAMBIA	720	Jul-2003	2013-14	Zambezi	Zambezi
MEMVE'ELE	CAMEROON	200	Oct-2003	2016	Ntem	Ntem
KARIBA SOUTH	ZIMBABWE	300	Dec-2004	2017	Zambezi	Zambezi
BUI	GHANA	399	Nov-2005	2013	Black Volta	Volta
BELINGA	GABON	50	Mar-2006	NA	Ogooué	Ogooué
MPHANDA NKUWA	MOZAMBIQUE	2400	Apr-2006	2019	Zambezi	Zambezi
SOUAPITI	GUINEA	515	Jul-2006	NA	Konkoure	Gambia
FINCHAA-AMERTI-NESHE (FAN)	ETHIOPIA	97	Dec-2006	2011	Neshe	Nile
GRAND POUBARA	GABON	160	Jan-2008	2013	Ogooué	Ogooué
KALETA	GUINEA	240	Feb-2008	2016	Konkoure	Gambia
MEKIN	CAMEROON	15	Mar-2008	2014	Dja	Congo
DJIBLOHO	EQU. GUINEA	120	Jul-2008	2012	Wele	Congo
PORT LOKO HYDRO	SIERRA LEONE	2	Jan-2009	2014	Bankasoka	Sierra Leone*
GILGEL GIBE-III	ETHIOPIA	1870	Jul-2009	2015-16	Omo	Lake Turkana
HALELE	ETHIOPIA	96	Jul-2009	NA	Omo	Lake Turkana
LUNZUA UPGRADE	ZAMBIA	14.4	Jul-2009	2014	Lunzua	Congo
WERABESSA	ETHIOPIA	339	Jul-2009	NA	Omo	Lake Turkana
CHEMOGA-YEDA I	ETHIOPIA	208	Sep-2009	NA	Abay (Blue Nile)	Nile
GENALE-DAWA-III	ETHIOPIA	254.1	Sep-2009	2016	Genale Dawa	Genale Dawa
BURDANA	SUDAN	15	Apr-2010	2016	Setit	Tekeze
RUMELA	SUDAN	320	Apr-2010	2016	Atbarah (Nile)	Nile
ZUNGERU	NIGERIA	700	Jul-2010	2018	Kaduna	Niger
ZONGO-II	DEM. REP. CONGO	150	Jan-2011	2015	Congo	Congo
BAKALORI ZAMFARA	NIGERIA	100	Jul-2011	NA	Sokoto	Niger
SOUBRE	COTE D'IVOIRE	275	Oct-2012	2018	Sassandra	Sassandra
GOUINA	MALI	280	Jan-2014	2017	Senegal	Senegal

Table S7.3: Chinese involvement in sector-level support or preliminary consideration of hydropower involvement.

Plant	Country	Capacity (MW)	China Publicly Interested	Year Online	Type of Involvement	River	Major Basin
AKOSOMBO	GHANA	1020	Mar-2000	1971	Sector Support	Volta	Volta
KPONG	GHANA	182.8	Mar-2000	1981	Sector Support	Volta	Volta
KINKON	GUINEA	3.2	Jul-2004	1970	Sector Support		Niger
MOUKOUKOULOU	DEM. REP. CONGO	75	Jul-2004	1977	Sector Support	Bouenza	Kouilou-Niari
TINKISSO	GUINEA	1.2	Jul-2004	1974	Sector Support		Niger
INGA-III BASSE-CHUTE	DEM. REP. CONGO	4752	Aug-2005	2020	Preliminary	Congo	Congo
AYAGO NORTH	UGANDA	350	Jan-2007	2018	Preliminary	White Nile	Nile
AYAGO SOUTH	UGANDA	250	Jan-2007	2018	Preliminary	White Nile	Nile
BEKONGOR-III	SIERRA LEONE	84	Mar-2007	NA	Preliminary		Sierra Leone*
BATOKA	ZIMBABWE	4800	Jun-2007	2021	Preliminary	Zambezi	Zambezi
MUGERE	BURUNDI	8	Sep-2007	1982	Sector Support		Nile
SAMBANGALOU	GUINEA	128	Feb-2008	NA	Preliminary	Gambia	Gambia
LUSIWASI LOWER	ZAMBIA	83	Jul-2009	NA	Preliminary	Zambezi	Zambezi
MPANGA COAST	TANZANIA	165	May-2011	2016	Preliminary	Mpanga	Nile
GURARA	NIGERIA	30	Jun-2013	2015	Preliminary	Gurara	Nile
HIGH GRAND FALLS	KENYA	600	Jun-2013	2019	Preliminary	Tana	Tana
BAYNES	NAMIBIA	400	Jul-2014	2021	Preliminary	Cunene	Cunene

Table S7.4: World Bank greenfield and greenfield study support hydropower projects in Africa since 1990.

Associated Plant	Country	Capacity (MW)	Year Online	World Bank Board Approval	Project ID	Type of Involvement	River	Major Basin
NALUBAALE	UGANDA	NA	NA	13-Jun-1991	P002929	Greenfield	Nile	Nile
'MUELA	LESOTHO	72	1999	23-Jul-1991	P001396	Greenfield	Nqoe	Orange
N'ZILO-2	DEM. REP. CONGO	100	NA	20-Aug-1991	P003139	Study	Lualaba	Congo
N'ZILO	DEM. REP. CONGO	NA	NA	20-Aug-1991	P003139	Study	Lualaba	Congo
LOWER KIHANSI	TANZANIA	180	1999-2000	14-Jan-1992	P002811	Greenfield	Kihansi (Ulanga)	Rufiji
KAPICHIRA	MALAWI	64	2014	17-Jun-1992	P001662	Greenfield	Shire	Zambezi
	GUINEA	NA	NA	28-Jul-1992	P001043	Study		
	RWANDA	NA	NA	9-Feb-1993	P002241	Study		
GILGEL GIBE-II	ETHIOPIA	420	2009-10	11-Dec-1997	P000736	Greenfield	Omo	Lake Turkana
ISHASHA RIVER	UGANDA	6.5	2011	13-Dec-2001	P069996	Greenfield	Ishasha	Nile
MPANGA	UGANDA	18.6	2011	13-Dec-2001	P069996	Greenfield	Mpanga	Nile
NYAGAK	UGANDA	7.86	2012	13-Dec-2001	P069996	Greenfield	Nyagak (Ora)	Nile
BUMBUNA-I	SIERRA LEONE	50	2010	16-Jun-2005	P086903	Greenfield	Seli	Sierra Leone
FELOU	MALI	62.4	2013	29-Jun-2006	P094916	Greenfield	Senegal	Senegal
GOUINA	MALI	140	2017	29-Jun-2006	P094916	Greenfield	Senegal	Senegal
BUJAGALI FALLS	UGANDA	255	2012	26-Apr-2007	P089659	Greenfield	Nile	Nile
ADJARALA	BENIN	NA	NA	26-Jun-2008	P111019	Study	Mono	Mono
ISHASHA RIVER	UGANDA	6.5	2011	6-Apr-2009	P112334	Greenfield	Ishasha	Nile
MPANGA	UGANDA	18.6	2011	6-Apr-2009	P112334	Greenfield	Mpanga	Nile
FELOU	MALI	62.4	2013	27-Aug-2009	P114935	Greenfield	Senegal	Senegal
CHIMGONDA	MALAWI	35	NA	28-Jun-2011	P099626	Study	Dwambazi	Zambezi
LOWER FUFU	MALAWI	135	NA	28-Jun-2011	P099626	Study	South Rukuru	Zambezi
MPATAMANGA GORGE	MALAWI	310	NA	28-Jun-2011	P099626	Study	Shire	Zambezi
LOM-PANGAR	CAMEROON	29.6	2016	27-Mar-2012	P114077	Greenfield	Sanaga	Sanaga
KANDADJI DAM	NIGER	130	2017	2-Oct-2012	P130174	Greenfield	Niger	Niger
ZUNGERU	NIGERIA	700	2018	2-Oct-2012	P130174	Study	Kaduna	Niger
RUSUMO FALLS	BURUNDI - RWANDA - TANZANIA	81	2019	6-Aug-2013	P075941	Greenfield	Kagera	Nile
INGA-III BASSE-CHUTE	DEM. REP. CONGO	4752	2020	20-Mar-2014	P131027	Study	Congo	Congo
JIJI RIVER	BURUNDI	31.5	NA	22-Apr-2014	P133610	Greenfield	Jiji	Nile
MULEMBWE	BURUNDI	16.5	NA	22-Apr-2014	P133610	Greenfield	Mulembwe	Nile
KANDADJI DAM	NIGER	130	2017	22-May-2014	P148972	Greenfield	Niger	Niger
BATOKA	ZIMBABWE	2400	2021	30-May-2014	P133380	Study	Zambezi	Zambezi
ADJARALA	BENIN - TOGO	147	2018	NA	P115063	Greenfield (dropped)	Mono	Mono
HALELE	ETHIOPIA	96	NA	NA	P125734	Greenfield (dropped)	Omo	Lake Turkana
WERABESSA	ETHIOPIA	339	NA	NA	P125734	Greenfield (dropped)	Omo	Lake Turkana

Table S7.5: World Bank capacity building and sectoral support projects in Africa since 1990.

Associated Plant	Country	Capacity (MW)	Year Online	World Bank Board Approval	Project ID	Type of Involvement	River	Major Basin
	TOGO	NA	NA	2-Aug-1990	P002863	Capacity Building		
INGA-III	DEM. REP. CONGO	NA	NA	20-Aug-1991	P003139	Capacity Building	Congo	Congo
BUJAGALI FALLS	UGANDA	255	2012	20-Jan-2000	P069840	Capacity Building	Nile	Nile
	DEM. REP. CONGO	NA	NA	11-Nov-2003	P069258	Capacity Building		
	ZAMBIA	NA	NA	11-Nov-2003	P069258	Capacity Building		
	BURUNDI	NA	NA	5-May-2004	P075945	Capacity Building		
	DEM. REP. CONGO	NA	NA	5-May-2004	P075945	Capacity Building		
	ETHIOPIA	NA	NA	5-May-2004	P075945	Capacity Building		
	KENYA	NA	NA	5-May-2004	P075945	Capacity Building		
	RWANDA	NA	NA	5-May-2004	P075945	Capacity Building		
	SUDAN	NA	NA	5-May-2004	P075945	Capacity Building		
	TANZANIA	NA	NA	5-May-2004	P075945	Capacity Building		
	UGANDA	NA	NA	5-May-2004	P075945	Capacity Building		
	BENIN	NA	NA	6-Jul-2004	P079633	Associated Infrastructure		
BUMBUNA-I	SIERRA LEONE	50	2010	16-Jun-2005	P086801	Capacity Building	Seli	Sierra Leone
	GHANA	NA	NA	30-Jun-2005	P075994	Associated Infrastructure		
BALASSA	GUINEA	180	NA	8-Jun-2006	P093826	Capacity Building	Senegal	Senegal
BOUREYA	GUINEA	160	NA	8-Jun-2006	P093826	Capacity Building	Bafing	Senegal
GOUINA	MALI	140	2017	8-Jun-2006	P093826	Capacity Building	Senegal	Senegal
GOURBASSI	MALI	25	NA	8-Jun-2006	P093826	Capacity Building	Faleme	Senegal
KOUKOUTAMBA	GUINEA	294	NA	8-Jun-2006	P093826	Capacity Building	Bafing	Senegal
	BENIN	NA	NA	29-Jun-2006	P094917	Associated Infrastructure		
	GHANA	NA	NA	29-Jun-2006	P094917	Associated Infrastructure		
	TOGO	NA	NA	29-Jun-2006	P094917	Associated Infrastructure		
	UGANDA	NA	NA	26-Apr-2007	P069208	Capacity Building		
	ETHIOPIA	NA	NA	20-Dec-2007	P074011	Associated Infrastructure		
	SUDAN	NA	NA	20-Dec-2007	P074011	Associated Infrastructure		
	BURUNDI	NA	NA	13-May-2008	P097974	Capacity Building		
	ETHIOPIA	NA	NA	1-Sep-2009	P116595	Capacity Building		
	TANZANIA	NA	NA	6-Apr-2010	P117260	Capacity Building		
	ETHIOPIA	NA	NA	29-Jun-2010	P120172	Capacity Building		
	BURKINA FASO	NA	NA	29-Jun-2011	P094919	Associated Infrastructure		
	GHANA	NA	NA	29-Jun-2011	P094919	Associated Infrastructure		
	UGANDA	NA	NA	30-Jun-2011	P119737	Associated Infrastructure		
	LIBERIA	NA	NA	26-Jan-2012	P129097	Capacity Building		
VICTORIA FALLS	ZAMBIA	NA	NA	15-May-2012	P124351	Associated Infrastructure	Zambezi	Zambezi
BEKONGOR-III	SIERRA LEONE	84	NA	31-May-2012	P113266	Capacity Building		
KASSA B	GUINEA	118	NA	31-May-2012	P113266	Capacity Building	Kaaba	Kaaba
SOUAPITI	GUINEA	515	NA	31-May-2012	P113266	Capacity Building	Konkoure	Gambia
	DEM. REP. CONGO	NA	NA	28-Jun-2012	P126421	Associated Infrastructure		
GILGEL GIBE-III	ETHIOPIA	1870	2015	12-Jul-2012	P126579	Associated Infrastructure	Omo	Lake Turkana
	UGANDA	NA	NA	22-May-2013	P133005	Associated Infrastructure		
	ZAMBIA	NA	NA	30-May-2013	P133184	Associated Infrastructure		
KARIBA SOUTH	ZAMBIA	NA	NA	30-May-2014	P133380	Capacity Building	Zambezi	Zambezi
	GUINEA	NA	NA	16-Jun-2014	P146696	Capacity Building		
	LESOTHO	NA	NA	20-Jun-2014	P149467	Capacity Building		
FOMI	GUINEA	90	NA	17-Nov-2014	P149714	Capacity Building	Niandan	Niger
BATOKA	ZIMBABWE	2400	2021	6-Mar-2015	P143546	Capacity Building	Zambezi	Zambezi
	GABON	NA	NA	17-Sep-2015	P144135	Capacity Building		

Table S7.6: World Bank rehabilitation projects in Africa since 1990.

Associated Plant	Country	Capacity (MW)	Year Online	World Bank Board Approval	Project ID	Type of Involvement	River	Major Basin
INGA-I	DEM. REP. CONGO	NA	NA	20-Aug-1991	P003139	Rehabilitation	Congo	Congo
INGA-II	DEM. REP. CONGO	NA	NA	20-Aug-1991	P003139	Rehabilitation	Congo	Congo
N'SEKE	DEM. REP. CONGO	NA	NA	20-Aug-1991	P003139	Rehabilitation	Lualaba	Congo
RUZIZI-I	DEM. REP. CONGO	NA	NA	20-Aug-1991	P003139	Rehabilitation	Ruzizi	Nile
SELINGUE	MALI	NA	NA	25-Apr-1996	P034617	Rehabilitation	Sankarani	Niger
GITARU	KENYA	81.5	1999	19-Jun-1997	P001344	Rehabilitation	Tana	Tana
KAFUE GORGE LOWER	ZAMBIA	800	2017	19-Feb-1998	P035076	Rehabilitation	Kafue	Zambezi
KARIBA NORTH	ZAMBIA	360	2013-14	19-Feb-1998	P035076	Rehabilitation	Zambezi	Zambezi
KAFUE GORGE	ZAMBIA	NA	NA	19-Feb-1998	P035076	Rehabilitation	Kafue	Zambezi
VICTORIA FALLS	ZAMBIA	NA	NA	19-Feb-1998	P035076	Rehabilitation	Zambezi	Zambezi
KIIRA	UGANDA	205	2000-04	3-Jul-2001	P002984	Rehabilitation	Nile	Nile
NYABARONGO-I	RWANDA	28	2014	27-Jan-2005	P090194	Rehabilitation	Mwogo (Nyabarongo)	Nile
GARAFIRI	GUINEA	75	1999	22-Jun-2006	P077317	Rehabilitation	Konkoure	Gambia
ANKAZOBE	MADAGASCAR	NA	NA	13-Jul-2006	P095240	Rehabilitation	Madagascar	Madagascar
TSIAZOMPANIRY FRAISE	MADAGASCAR	5.64	2010	13-Jul-2006	P095240	Rehabilitation	Madagascar	Madagascar
TSIAZOMPANIRY JIRAMA	MADAGASCAR	NA	NA	13-Jul-2006	P095240	Rehabilitation	Madagascar	Madagascar
VOLOBE	MADAGASCAR	4.8	NA	13-Jul-2006	P095240	Rehabilitation	Madagascar	Madagascar
VOLOBE HYDELEC	MADAGASCAR	3.5	NA	13-Jul-2006	P095240	Rehabilitation	Madagascar	Madagascar
ANDEKALEKA	MADAGASCAR	NA	NA	13-Jul-2006	P095240	Rehabilitation	Madagascar	Madagascar
ANTELOMITA I	MADAGASCAR	NA	NA	13-Jul-2006	P095240	Rehabilitation	Madagascar	Madagascar
INGA-I	DEM. REP. CONGO	NA	NA	29-May-2007	P097201	Rehabilitation	Congo	Congo
INGA-II	DEM. REP. CONGO	NA	NA	29-May-2007	P097201	Rehabilitation	Congo	Congo
KANDADJI	NIGER	130	2017	3-Jul-2007	P093806	Rehabilitation	Niger	Niger
JEBBA	NIGERIA	NA	NA	3-Jul-2007	P093806	Rehabilitation	Niger	Niger
KAINJI	NIGERIA	NA	NA	3-Jul-2007	P093806	Rehabilitation	Niger	Niger
BOALI-I	CENT. AFRICAN REP.	NA	NA	17-Feb-2009	P114111	Rehabilitation	M'Bali	
NYEMANGA	BURUNDI	1.4	2009	30-Sep-2010	P122217	Rehabilitation	Siguvyaye	Nile
RWEGURA	BURUNDI	NA	NA	30-Sep-2010	P122217	Rehabilitation	Kitenge	Nile
YANDOHUN REBUILD	LIBERIA	NA	NA	30-Nov-2010	P120660	Rehabilitation	Yandohun	Yandohun
INGA-I	DEM. REP. CONGO	NA	NA	28-Jun-2011	P114782	Rehabilitation	Congo	Congo
INGA-II	DEM. REP. CONGO	NA	NA	28-Jun-2011	P114782	Rehabilitation	Congo	Congo
CORUMANA	MOZAMBIQUE	16.6	1990	15-Sep-2011	P107350	Rehabilitation	Sabie	Komati
JEBBA	NIGERIA	NA	NA	23-Nov-2011	P111179	Rehabilitation	Niger	Niger
KAINJI	NIGERIA	NA	NA	23-Nov-2011	P111179	Rehabilitation	Niger	Niger
GARAFIRI	GUINEA	75	1999	31-May-2012	P129148	Rehabilitation	Konkoure	Gambia
KAMUZU	MALAWI	NA	1966	14-Jun-2012	P117617	Rehabilitation	Lilongwe	Zambezi
SHIRE RIVER	MALAWI	NA	NA	14-Jun-2012	P117617	Rehabilitation	Shire	Zambezi
DIAMA	SENEGAL - MAURITANIA	NA	NA	5-Dec-2013	P131323	Rehabilitation	Senegal	Senegal
KARIBA NORTH	ZAMBIA	360	2013-14	9-Dec-2014	P146515	Rehabilitation	Zambezi	Zambezi

Table S7.7: World Bank small-scale hydropower projects since 1990.

Associated Plant	Country	Capacity (MW)	Year Online	World Bank Board Approval	Project ID	Type of Involvement	River	Major Basin
	ETHIOPIA	NA	NA	19-Sep-2002	P049395	Small Scale		
	ETHIOPIA	NA	NA	28-Jul-2005	P077380	Small Scale		
	SOUTH AFRICA	NA	NA	28-Jun-2007	P073322	Small Scale		
	TANZANIA	NA	NA	13-Dec-2007	P101645	Small Scale		
MUJILA FALLS	ZAMBIA	1.4	2015	20-May-2008	P077452	Small Scale	Zambezi	Zambezi
ZENGAMINA	ZAMBIA	NA	NA	20-May-2008	P077452	Small Scale	Zambezi	Zambezi
	UGANDA	NA	NA	6-Apr-2009	P112340	Small Scale		
	LESOTHO	NA	NA	25-May-2009	P108143	Small Scale		
	RWANDA	NA	NA	15-Oct-2009	P097818	Small Scale		
	ZAMBIA	NA	NA	22-Sep-2010	P121325	Small Scale		
	TANZANIA	NA	NA	7-Jun-2011	P125824	Small Scale		
MWACHE	KENYA	NA	NA	18-Jun-2013	P117635	Small Scale	Mwache	Mwache
	UGANDA	NA	NA	18-Mar-2014	P133318	Small Scale		
	LIBERIA	NA	NA	11-Jan-2016	P149683	Small Scale		

Table S7.8: Technically feasible hydropower potential by country[1128].

Country	Hydro Potential (GWh/year)*
ANGOLA	150000
BENIN	498
BOTSWANA	NA
BURKINA FASO	1316
BURUNDI	1500
CAMEROON	115000
CENTRAL AFRICAN REPUBLIC	2500[a]
CHAD	150
CONGO	10000
CONGO DEM REP	438000[b]
COTE D'IVOIRE	12400
DJIBOUTI	NA
EQUATORIAL GUINEA	NA
ERITREA	NA
ETHIOPIA	260000[a]
GABON	80000
GAMBIA	NA
GHANA	10600
GUINEA	19300
GUINEA-BISSAU	300
KENYA	6228[c]
LESOTHO	61300[d]
LIBERIA	11000
MADAGASCAR	180000
MALAWI	6000[a]
MALI	5000
MAURITANIA	120
MOZAMBIQUE	37647[a]
NAMIBIA	9000
NIGER	1300[a]
NIGERIA	32450

[1128]Main source is a compilation by the Norwegian Renewable Energy Partners. Available: http://www.intpow.com/index.php?id=487&download=1. Original listed source is the World Atlas Industry Guide of 2009 (proprietary) from the International Journal on Hydropower & Dams. Available: http://www.hydropower-dams.com/world-atlas-industry-guide.php?c_id=159. The data are supplemented by the World Bank Group and other sources noted in the Table. Where available, technically feasible hydropower potential was used in GWh, though in some cases potential was listed in MW, and converted to GWh using a capacity factor of 50% (Available: https://www.eia.gov/todayinenergy/detail.cfm?id=22832). Where a technical listing was not available, economically feasible hydropower potential was used, as noted in the table.

RWANDA	1752[e]
SENEGAL	4250
SIERRA LEONE	5256[f]
SOUTH AFRICA	14000
SOUTH SUDAN	24454[g]
SUDAN	19000[h]
SWAZILAND	560
TANZANIA	20000
TOGO	1700
UGANDA	12500[i]
ZAMBIA	26280[j]
ZIMBABWE	17500

[*] Technically feasible hydropower potential unless noted otherwise

[a] Lower bound of technically feasible hydropower potential

[b] Converted from 100 GW Technical Potential

[c] Converted from 1.42 GW Technical Potential

[d] Technical potential is listed as only 0.45 GW, though World Bank Group estimates up to 14 GW[1129]

[e] Converted from 0.40 GW Technical Potential

[f] Converted from 1.20 GW Technical Potential

[g] Converted from estimate of 5.58 GW[1130]

[h] This is a more conservative estimate using economically feasible potential from 2009, which includes South Sudan. More recent estimates for Sudan alone are close at 24132 GWh[1131]

[i] Lower limit of economically feasible potential

[j] Converted from 6.0 GW Technical Potential

[1129] Climate Investment Funds. "Lesotho: Overview". Available: https://www-cif.climateinvestmentfunds.org/country/lesotho [Accessed 4 August 2016].

[1130] UNIDO and ICSHP (2013). "World Small Hydropower Development Report 2013". Available: http://www.smallhydroworld.org/fileadmin/user_upload/pdf/Africa_Eastern/WSHPDR_2013_South_Sudan.pdf

[1131] REEEP (2012). "Sudan". Available: https://www.reeep.org/sudan-2012 [Accessed 4 August 2016].

Table S7.9: Econometric results – the effect of cumulative capacity of Chinese hydropower projects within a country on World Bank project size and occurrence.

Dependent Variable	*World Bank hydro in a Country-year*				
	Project size		*Binary*		
	Linear		Poisson		
Model	(1)	(2)	(3)	(4)	(5)
Cumulative capacity of Chinese projects	**0.065*** (0.007)**	**3.6e-5*** (1.0e-5)**	**1.8e-4** (8.0e-5)**	**1.9e-4** (7.6e-5)**	**1.0e-4 (8.0-5)**
New capacity of non-China, non-WB projects	-0.038* (0.02)	-7.7e-5** (2.8e-5)	-5.3e-4 (3.6e-4)	-7.0e-4* (4.0e-4)	-7.4e-4* (4.2e-4)
Country hydro potential	8.3e-5 (8.1e-5)	3.6e-7** (1.1e-7)	2.3-6** (1.0e-6)	3.0e-6*** (1.1e-6)	3.6e-6*** (1.1e-6)
WB investment 1990-2000	-0.012 (0.0084)	5.1e-5*** (1.2e-5)		5.8e-4*** (1.3e-4)	6.1e-4*** (1.3e-4)
Post World Commission on Dams (binary)	-2.4 (19)	6.3e-5 (2.6e-2)	2.3e-2 (5.3e-1)	1.3*** (0.33)	0.034 (0.54)
Post Water Resources Sector Strategy (binary)	-3.3 (19)	1.1e-1*** (2.6e-2)	1.5*** (0.47)		1.5*** (0.47)
Constant	8.5 (13)	-2.3e-2 (1.8e-2)	-3.7*** (0.31)	-4.2*** (0.35)	-4.2*** (0.32)
Observations	975	975	1,075	975	975
Adj R-squared / AIC	**0.093**	**0.095**	**575**	**547**	**533**
Residual Std. Error	196	0.273			
Log Likelihood			-281	-268	-260
F-Statistic	17.6***	18.1***			
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.01					

Table S7.10: Econometric results – the effect of any Chinese hydropower project in any previous year within a country on World Bank project size and occurrence.

Dependent Variable	*World Bank hydro in a Country-year*			
	Project size		*Binary*	
	Linear		Poisson	
Model	(6)	(7)	(8)	(9)
China in any previous year (binary)	**57*** (17)**	**0.45** (0.19)**	**0.53** (0.23)**	**0.056 (0.26)**
New capacity of non-China, non-WB projects		-2.8e-3 (2.1e-2)		-6.5e-4 (4.2e-4)
Country hydro potential		2.7e-4*** (8.1e-5)		4.2e-6*** (9.9e-7)
WB investment 1990-2000		-1.1e-3 (8.6e-3)		6.3e-4*** (1.3e-4)
Post Water Resources Sector Strategy (binary)	4.8 (14)	11.9 (15.7)	1.4*** (0.30)	1.6*** (0.315)
Constant	1.3 (8.2)	-8.2 (11.2)	-3.6*** (0.25)	-4.3*** (0.32)
Observations	1075	975	1075	975
Adj R-squared / AIC	**0.014**	**0.023**	**582**	**532**
Residual Std. Error	195	204		
Log Likelihood			-288	-260
F-Statistic	8.9***	5.5***		
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.01				

Table S7.11: Econometric results – the effect of lagged number of years since first Chinese hydropower project within a country on World Bank project size and occurrence.

Dependent Variable	*World Bank hydro in a Country-year*				
	Project size		***Binary***		
	Linear		Poisson		
Model	(10)	(11)	(12)	(13)	(14)
Lag since first China project	**4.0*** (1.4)**	**3.5e-3* (1.8e-3)**	**0.058** (0.021)**	**0.051** (0.021)**	**0.014 (0.024)**
New capacity of non-China, non-WB projects	-6.7e-3 (0.021)	-6.3-5** (2.8e-5)	-1.3e-4 (2.8e-4)	-6.7e-4 (4.2e-4)	-6.9e-4 (4.3e-4)
Country hydro potential	3.0-4*** (8.0-5)	4.8e-7*** (1.1e-7)		4.0e-6*** (9.5e-7)	4.3e-6*** (9.6e-7)
WB investment 1990-2000	7.3e-3 (8.7e-3)	6.3e-5*** (1.1e-5)		6.3e-4*** (7.4e-7)	6.4e-4*** (1.3e-4)
Post World Commission on Dams (binary)	-15.6 (20.3)	-0.012 (0.027)	0.98** (0.35)	0.97*** (0.37)	-0.025 (0.55)
Post Water Resources Sector Strategy (binary)	11.8 (20.1)	0.11*** (0.027)			1.6*** (0.48)
Constant	11.6 (15.4	-1.4 (0.021)	-3.2*** (0.32)	-3.9*** (0.37)	-4.2*** (0.40)
Observations	975	975	1,075	975	975
Adj R-squared / AIC	**0.025**	**0.087**	**601**	**547**	**534**
Residual Std. Error	203	0.274			
Log Likelihood			-296	-268	-260
F-Statistic	5.1***	16.4***			
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.01					

Table S7.12: Econometric results – the effect of several indicators of Chinese involvement in hydropower within a basin on World Bank project size and occurrence.

Dependent Variable	*World Bank hydro in a Basin-year*						
	Project size			*Binary*			
	Linear				Poisson		
Model	Basin FE (15)	Basin FE (15)	Basin FE (17)	Basin FE (18)	(19)	(20)	Basin FE (21)
Cumulative capacity of Chinese projects	**0.057*** (7.4e-3)**			**2.8e-5*** (5.6e-6)**			
Lag since first China project		**9.2*** (2.8)**			**0.071 (0.053)**		
Cumulative number of Chinese projects			**64*** (71)**			**0.28*** (0.055)**	**0.044 (0.099)**
Post World Commission on Dams (binary)	-4.5 (23)	-63** (31)	-7.1 (23)	-0.019 (0.017)	-17 (1371)	-16 (1368)	-18 (2995)
Post Water Resources Sector Strategy (binary)	-5.5 (23)	-27 (30)	-37 (24)	0.031* (0.017)	17 (1371)	17 (1368)	19 (2995)
Constant	5.2 (45)	74 (54)	1.9 (44)	-2.7e-3 (0.034)	-3.4 (0.63)	-4.1*** (0.45)	-23 (8106)
Observations	800	800	800	800	800	800	800
Adj R-squared / AIC	**0.084**	**0.027**	**0.11**	**0.12**	**215**	**199**	**213**
Residual Std. Error	219	226	216	0.164			
Log Likelihood					-103	-96	-72
F-Statistic	3.2***	1.7***	3.8***	4.1***			
	Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.01						

Table S7.13: Econometric results – the effect of interaction between China involvement and previous World Bank relationship in a country on size and occurrence of World Bank hydropower projects.

World Bank hydro in a country-year		
Dependent Variable	***Project size***	***Binary***
	Linear	
Model Reference	Country (22)	Country (23)
Cumulative capacity of Chinese projects	**0.068*** (8.7e-3)**	**2.1e-5* (1.2e-5)**
Cumulative number of Chinese projects	**15 (14)**	**0.055*** (0.020)**
China in any previous year (binary)	**-9.3 (31)**	**-0.090** (0.043)**
New capacity of non-China, non-WB projects	-0.039* (0.02)	-8.9e-5*** (2.8e-5)
Country hydro potential	6.5e-5 (8.1e-5)	3.6e-7*** (1.1e-7)
WB investment 1990-2000	1.1e-3 (9.9e-3)	4.5e-5*** (1.4e-5)
Post Water Resources Sector Strategy (binary)	3.6 (15)	0.10*** (0.021)
Interaction: (China in any previous year * WB investment 1990-2000)	**-0.046** (0.019)**	**8.5e-6 (2.6e-5)**
Constant	-1.3 (12)	-0.018 (0.017)
Observations	975	975
Adj R-squared / AIC	**0.098**	**0.10**
Residual Std. Error	196	0.272
Log Likelihood		
F-Statistic	14.3***	14.7***
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.01		

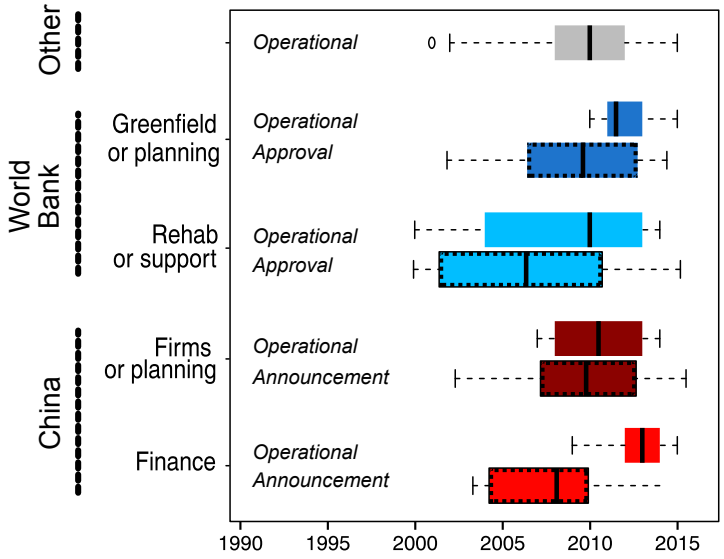

Figure S7.1: Timing of re-emergence since 2000. The lower panel shows the distribution of only those projects since the World Commission on Dams report in 2000, showing both the dates of first involvement as well as dates those projects were commissioned. Boxes show the lower and upper quartiles of the data.

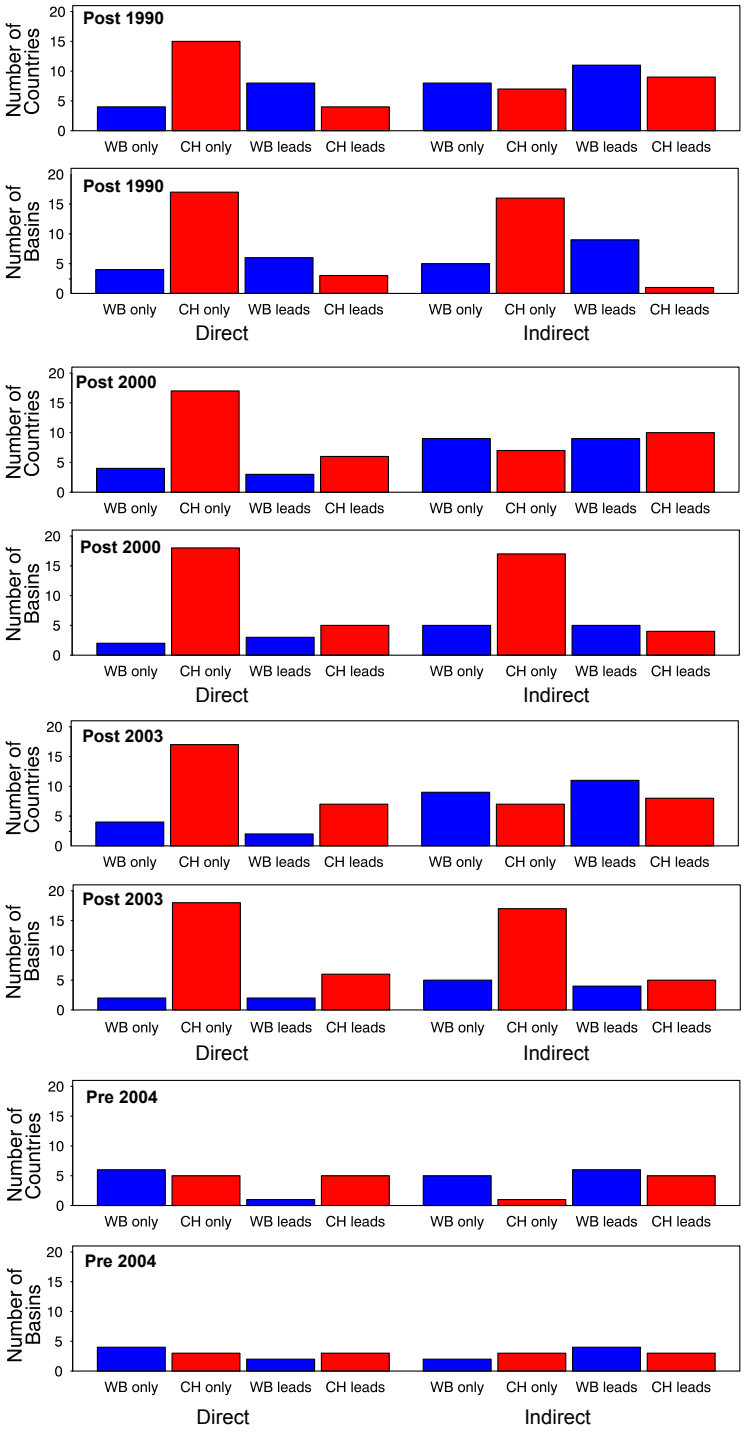

Figure S7.2: Sensitivity analysis on Figure 7.7, with time cuts after 1990, after 2000, after 2003 and before 2004

Index

A

AES, 201-04, 270, 289
Afghanistan, 200
African Development Bank, 87, 114, 116, 278, 282, 287, 313, 344, 355, 360-62, 369-70
Angola, 54, 72, 90, 106, 110, 279, 339
Arun III, 256, 275-77
Asian Development Bank, 3, 44, 54-56, 63, 156, 174, 179, 202, 314, 331, 355-62, 366, 369-71, 374-76, 381
Asian Export Credit Agency Forum, 62
Asian Infrastructure Investment Bank, 3, 18, 55-56, 349, 371, 375-81
Asian Monetary Fund, 60-61, 374
Aswan High Dam, 338-39
authority, iii, 4, 7-11, 14-17, 27, 44, 52, 57, 60-64, 69-74, 103, 107-08, 128, 131-33, 146, 150-51, 158, 176, 245, 267-68, 297, 309-10, 314-24, 331-35, 350-51, 354-61, 369-81

B

Banco del Sur, 59
Bandung, Indonesia, 49-51, 335-336
Bechtel, 144-46, 179
Beijing Consensus, 287
Berne Union, 135-36, 162-64
Black, Eugene, 338, 351-58
Brazil, 55, 60-61, 140, 159-62, 234, 256-58, 266, 365
Bretton Woods, 53, 58, 266, 350-51
BRICS, 55, 62, 159-60, 164, 219, 235, 322, 378
Briscoe, John, 256-65, 279
Brundtland Commission, 252
Bucyrus, 205-07, 219, 224, 229-32, 241, 389
Bujagali Dam, 257, 270, 292
Bush, George W., 81-82, 88-89, 95-98, 200, 213, 215, 223, 239-240, 285

C

Canada, 136-37, 142, 181-84, 187-94, 243, 252, 271
Carbon, ix, 13, 18, 24, 30-31, 151, 167-71, 175-77, 196-99, 205-11, 218-30, 236, 246-47, 377-79
Caterpillar, 179, 184-87, 193, 206
Chávez, Hugo, 59
Chhattisgarh, 203-04
China Export-Import Bank, 162, 217
Chinese state banks, 62, 161-62, 183, 217, 231, 235, 270
Christensen, Thomas, 82, 92, 98, 127
Climate change, ix, 3, 9, 13-24, 28-31, 43, 46-47, 115, 122, 167-75, 196-200, 205-07, 213, 240, 246, 250-52, 267-68, 374, 378-80, 399
Clinton, Hillary, 99, 111
Clinton, William, 81, 96-101, 111, 145-46, 155, 180, 184-85, 191-92, 195, 239-42, 332
Coal, iii, ix, 3, 5, 10-47, 54, 64, 79, 91, 110, 115, 122, 129, 151, 155-56, 167-77, 196-230, 237-47, 267-68, 377, 380, 384
Cold War, 17, 53, 83, 178, 277, 316, 323-24, 332-39, 344
Conable, Barber, 253-54
conditionality, 6, 61, 151, 156, 189, 326, 352, 359
contested authority, iii, 4-5, 15-18, 74, 274, 310, 317-21, 354
Cooperation, 2, 5, 9-12, 16, 50-66, 83-87, 91, 99, 129, 134-39, 141-43, 147-52, 157, 160-64, 169, 175, 190-91, 201, 216-17, 226, 244, 265, 279, 312-23, 328-31, 334-35, 356, 364, 368-76
coordination, 7-12, 19, 61-62, 85, 91, 97-98, 127, 132, 136, 141, 144, 158-61, 176-81, 264, 266, 286-89, 315-16, 324-26, 330, 350, 369-70, 375, 377, 380-81
Corker, Robert, 118, 121
Council of Environmental Quality, 149-50, 211

D

Dabhol, 144-45, 146, 157, 203, 228
delegation, 8-10, 16, 18, 49, 65, 69, 104, 129, 175, 199, 248, 285, 298, 308, 323, 341, 351
Democratic Republic of Congo, 72, 90, 106, 110, 277-80, 288, 332
Development Assistance Committee, 77, 120, 161, 316, 327, 328
diplomacy, iii, 16, 59, 74, 81-98, 104-10, 120, 124-27, 131, 134, 147, 154, 161-62, 170, 172, 175, 185-91, 199-203, 213, 216, 232, 235, 239, 245, 250, 278-80, 286, 307, 314-17, 323, 326, 338-47, 357, 365, 375, 379
Discord, iii, 6, 10-20, 29, 58, 64, 73, 82, 85, 88, 95-101, 112-13, 117-41, 148, 158-60, 176, 183-85, 189-92, 201, 212, 215, 219, 223, 229-34, 243-47, 260, 312, 316, 319-24, 330-37, 346, 351-54, 361-62, 367, 371-79

E

Ed Royce, 11, 105, 111-21, 126-27
Egypt, 256, 282, 328, 338-39
Eisenhower, Dwight D., 338, 354, 365
Enron, 144-46, 157
Ethiopia, 84, 102, 106, 109-11, 257, 270, 274, 280-84, 287-88, 293, 300, 378
Export finance, iii, ix, 5, 9, 12, 14, 43-45, 58, 62-65, 70, 98, 129-98, 205-07, 212, 222, 233-35, 239, 244-45, 261, 266, 292, 329, 340, 351, 376, 379

F

France, 41, 59, 88, 130, 135-39, 168, 184, 188-95, 271-72, 315, 329-32

G

General Electric, 132, 142-47, 157, 182, 194, 228, 233, 242, 331, 353, 377

geopolitics, 71, 73, 138, 146, 188, 216, 228, 233, 245, 247, 276, 280, 287, 314-15, 323-27, 330-31, 337-38
Germany, 34, 37, 41, 87, 130, 138-40, 168-71, 188, 190-94, 198, 221, 232, 243, 260, 315, 325, 332, 351, 381
Gilgel Gibe, 111, 257, 274, 280-87, 300, 378
Glenn Amendment, 144-45
Globeleq-Lanco, 202
governance, iii, ix, 2-7, 19, 53, 57, 61-64, 68, 69-78, 83, 85, 89-94, 98-111, 126, 128, 143, 197, 250-51, 256, 259-61, 264-65, 280-81, 286, 288, 296, 307-12, 317, 357, 367, 375-81
Grand Inga Dam, 110, 122, 274-80, 287, 300
Group of 20, 53, 61, 205-06, 369-70
Group of 7, 54, 58-59, 85, 136, 194, 234, 379
Group of 77, 7, 50, 58, 59, 136
Guinea, 269, 293, 297, 332

H

hierarchy, 65, 244, 313-15, 361
Hitachi, 41, 331
Hydropower, iii, ix, 4, 6, 9-10, 14, 23-29, 32, 47, 79-80, 84, 92, 105, 110, 111, 115, 121, 122, 175-95, 217, 241-84, 287-308, 337-38, 367, 377-78, 384, 393-404

I

ideology, iii, 11, 13, 16-17, 50, 53, 70-74, 93, 97, 103, 121, 125, 128, 174, 191, 276, 282, 287, 309-10, 317, 323, 328, 332-34, 339-42, 355, 360-62, 366, 372, 378-79
imperialism, 6, 50, 335, 339-41
India, ix, 5, 10, 13, 23, 26-29, 37-38, 42-45, 49, 57, 61-62, 84, 88-89, 144-46, 157-62, 167, 171-72, 175-77, 196-97, 200-06, 211-66, 276, 325, 333-34, 359-60, 375, 377, 391-92
Indonesia, 26, 29, 38, 54, 62, 144, 162, 164, 172, 237, 325, 335
Indonesian, 26, 29
influence, 9, 11, 14, 55-59, 64, 66, 71, 88-98, 107, 112-14, 123-30, 154, 160, 196, 214, 245, 250-51, 260, 262, 265, 267, 276-79, 287, 290, 308-09, 314-15, 318, 326, 332-37, 346, 351, 355, 359-60, 366, 369, 376-77, 381
infrastructure, 4, 10, 17, 28, 30, 53, 55-60, 69, 75, 78, 85-87, 90, 97-102, 105, 110-11, 119-28, 141, 146, 170, 180, 197-204, 212, 215, 235, 250, 256, 258, 261-67, 272, 275, 278, 280, 286-87, 292, 293-95, 298, 300, 302, 309, 328, 330, 334, 340, 351, 360, 367, 376
Inter-American Development Bank, 351, 355, 360, 362-69
interests, iii, 4-12, 16, 18, 59-74, 83, 85, 90-101, 107-12, 116, 119, 122-30, 134, 136-67, 176, 179-81, 186, 191, 195, 201-06, 213-14, 222, 228, 230-50, 255, 259, 269, 272-78, 287, 292, 309, 313-45, 351-59, 365-81
International Monetary Fund, 7, 53-54, 59-63, 98, 136, 152, 279, 283, 322, 329
International Rivers Network, 259-62, 267, 284
International Union for the Conservation of Nature, 258, 262
International Working Group, 3, 12, 166-69, 379

J

Japan, 3, 5, 7, 18, 26, 29, 34-41, 44, 46, 52, 56, 60-63, 85, 88, 116, 136-39, 145, 147, 155-57, 168-73, 181, 184, 187-95, 221, 228-31, 243, 247, 260, 276, 314-16, 323-35, 343-61, 370-76, 380-81
Japanese Bank for International Cooperation, 231, 330
Johnson, Lyndon B., 87, 89, 182, 190, 326, 342, 345, 357-58

K

Kamarck, Martin, 184-88
Kennedy, John F., 326, 332
Keohane, Robert, 1-3, 62, 156, 319
Krishnapatnam, 202, 237
Kusile, 246

L

Latin America, 23-24, 50, 71, 92, 94, 131-33, 336, 351, 363-66
leverage, iii, 17, 56, 61, 90, 98-99, 105, 126-27, 142, 145, 152, 165, 227, 250, 274-76, 284-85, 337, 344, 377
Li Ruogu, 53, 286

M

Malawi, 106, 110
Manibeli Declaration, 255
Mao Zedong, 50, 178, 336
Marshall Plan, 131, 324, 333, 338, 363
McNamara, Robert, 251, 336
Medupi, 198
Menendez, Robert, 92, 114, 118
Middle East, 23-24, 71, 127
Mitsubishi, 41, 331
Morse Commission, 3, 62, 253-56
Mozambique, 81, 106, 110, 293, 337, 339, 342
Multilateral Development Banks, 9, 66, 125, 197, 199, 205, 316, 349, 360, 367-69
multilateralism, 6, 42, 52-59, 63, 65, 70-72, 75-77, 91, 120, 125, 128, 152, 166, 168, 170, 197, 222, 252, 261, 264, 286, 297, 314, 368
multipolarity, 6, 51-53, 71
Myanmar, 74, 81, 91-92, 126, 200, 269, 275, 346

N

Nam Theun II, 256, 274-76, 289
Narmada Valley, 253
National Advisory Council, 222, 350
National Environmental Protection Act, 148-53, 196-97, 211
National Security Council, 184-85, 214, 239, 326, 333, 342-43
natural gas, 18, 23, 29-30, 32, 47, 79, 86, 108, 110, 115, 146-47, 178, 196, 211, 217, 220, 228, 331
negotiation, iii, 12, 49, 99, 110, 140, 286, 341, 379
NEPAD, 86, 376
Nepal, 256, 269, 275, 277

New Deal, 131, 351
Nigeria, 54, 104, 106, 109, 116, 297, 325
Nixon, Richard, 365
Non-Governmental Organizations, 221, 255-259
Nyerere, Julius, 2, 340-46, 378

O

Obama, Barack H., 13, 73, 98, 99, 100, 105, 111, 114-22, 125-26, 166-67, 170, 174, 196-200, 205, 211, 216, 219, 223-28, 232-34, 239-46
Odisha, 203-04
OECD Arrangement, 62-63, 130, 136-40, 143, 148, 159, 160-65, 185, 189, 212, 233, 329, 376
Operations Evaluation Department, 257
Organisation of Economic Cooperation and Development, iii, 2, 5, 10, 12, 14, 16, 21, 23, 26, 29, 34, 39, 43-47, 54, 58, 62-63, 74-80, 85-86, 96, 101, 106, 108, 120-21, 126-30, 135-40, 143, 148, 154-78, 182, 184, 187, 189, 194, 197, 200, 212, 219, 222, 226, 233-35, 243, 247, 261, 266, 316, 326-31, 375 -79
Overseas Private Investment Corporation, 9, 110, 113, 118, 120-22, 146, 168, 196, 199

P

Pakistan, 81, 91, 144-45, 200, 214, 233, 325, 333, 377
Pelosi, Nancy, 188, 229, 252
Philippines, 54, 62, 148, 151, 172, 269, 356, 358
Power Africa, 11, 69, 71, 72, 73, 74, 77, 80, 89, 101, 104-27, 280, 376

R

regime, ix, 2-19, 49, 54, 57, 63, 86, 129, 133, 137, 139, 151, 152, 159, 176-77, 297, 316, 319-21, 374-76
Reliance, 203, 206-09, 215, 217, 224-32, 236-37, 241-42, 247
Roosevelt, Franklin D., 131, 351, 363
Russia, 34, 37, 57, 162, 189, 214, 219, 232, 266, 314, 341

S

Sakakibara, Eisuke, 61
Sardar Sarovar, 253-55
Sasan, 13, 167, 175-78, 196-97, 200, 202, 205-06, 209-11, 216-46, 389, 390
Shanghai Cooperation Organization, 57, 266
Shanghai Electric, 35, 201, 209, 217, 220, 231, 238, 242
Siemens, 194, 229, 331
South Korea, 26, 62, 171, 201-02, 325, 375
sovereignty, iv, 2, 6, 49-51, 84, 149, 163, 240, 264, 317, 335
Soviet Union, 6, 17, 24, 49-57, 83, 131, 138-39, 156, 178, 276-77, 314-16, 323-26, 332-41, 344, 350, 356, 360
Steiner, Achim, 262
Stockholm Conference on the Human Environment, 252
Strategic and Economic Dialogue, 55, 166, 169, 222
strategic competitor, 81
strategic partner, 81, 89, 178, 214
subcritical, 38-40, 246
sub-Saharan Africa, 11, 15, 78-80, 94, 96, 100, 105, 109, 113-15, 119, 120, 126, 249, 269, 273, 291, 298, 332, 339
Sudan, 74, 81, 86, 90, 126, 161, 269, 271, 279-83, 286, 325, 399
Summers, Lawrence, 61
supercritical, 38-41, 170-72, 197-202, 208, 217, 228

T

Tanzania, 2, 106, 109, 110, 337-45, 378
Tanzania-Zambia railway, 2, 339-45, 378
Tata Mundra, 197, 202, 237
Three Gorges Dam, 14, 157, 175-195, 218, 238-46, 260, 280, 282
Tianxia, 50, 51
Tied Aid, 43, 160, 222, 329-31
Tilaiya, 202-03, 227, 237, 247
Truman, Harry, 334, 350-51
Turkey, 139, 172

U

U Thant, 341
U.S. Bureau of Reclamation, 137, 145, 178-80, 193, 277, 314, 337, 342
U.S. Department of State, 49, 100, 127, 131, 145, 149-51, 200, 211, 215, 277, 325, 337, 345, 353, 364-65
U.S. Department of the Treasury, 61, 109, 114, 125, 140, 161, 166, 168-69, 198, 199, 222, 280, 338, 349, 351-54, 360
U.S. Export-Import Bank, 9, 12-13, 54, 62, 102-03, 113, 120-22, 131-34, 140, 144-68, 175-247, 286, 330, 350-54, 363, 364, 370, 374-76
U.S. Trade and Development Agency, 146, 179
U.S.-Africa Leaders' Summit, 115
U.S.-China Economic and Security Review Commission, 54, 82, 90-96, 112
Ultra Mega Power Projects, 13, 27, 167, 196, 201-05, 213, 221, 227, 237
ultra-supercritical, 38, 40-41, 170-71, 208
United Kingdom, 2, 24, 27, 30, 34, 50, 99, 120, 130, 138-39, 188-90, 198, 243, 315, 338-39, 342-43, 375
United Nations, 2, 7, 52, 58-59, 66, 83-84, 120-21, 252, 281-82, 335, 340- 41, 349, 356-57, 365-66

V

Vietnam, 26, 29, 63, 172, 246, 275-76, 289, 326, 336, 357

W

Wapenhans Report, 254-56
Westphalia, 51
White House, 49, 100, 106, 116, 166, 170, 184-85, 211-12, 216, 218-22, 224, 226, 230, 235-36
Wolfensohn, James, 256
Wolfowitz, Paul, 281, 285, 288-89
Woods, Ngaire, 54
World Bank Group, iii, ix, 2-3, 7-14, 43-45, 50-66, 76, 81, 84, 87, 91, 95, 98, 106, 109, 114-15, 120-21, 125, 131,

152-53, 172-73, 179-82, 187, 195-202, 246-314, 322, 329-31, 337-41, 344-45, 349-70, 374-81, 395-404
World Commission on Dams, 258-62, 265-67, 301, 307, 405
World Electric Power Plants, 20-22, 27-33, 40, 79, 80, 106-07, 248-49, 270, 290, 292
World Trade Organization, 7, 52, 121, 164, 165, 166, 234, 264

X

Xiaolangdi dam, 195, 246

Z

Zambia, 2, 270-72, 279, 339-40, 344,-45, 378
Zhou Enlai, 49-50, 82, 88, 335, 339-44
Zoellick, 81-82, 199, 279, 285-86