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The Governing Paradox in a Transition Economy: Repeated Institutional Reforms and Increasing Regulatory Capture in China's Energy Sector

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Why have administrative reforms failed to improve the governance of China's energy sector? This article argues that, in the context of China's partial reforms, strategies for revamping China's energy sector have oscillated between centralization and decentralization, creating a diverse array of stakeholders without providing any institutional coordination among them. In addition, corporatized state-owned enterprises have their own commercial interests, giving them incentives to capture industrial regulators. As a result, regulatory capture has become a serious threat to the governance of China's energy sector. The findings of this study carry implications for our understanding of regulatory development in transitional economies.

INTRODUCTION

The development of the energy sector has long been a critical issue for both academic scholars and policy practitioners. It is closely related to both domestic economic growth and global power shifts. The challenge of energy safety and stability faced by China provides a clear example. China's rapid industrialization and urbanization has caused energy consumption to skyrocket, and energy shortages present an obstacle to its economic development. China has, therefore, continued to restructure its energy sector. At the same time, China's official engagements with energy-rich African countries and the actions of Chinese enterprises in the global energy market have given rise to accusations of new colonialism (Grammaticas 2012; Krause-Jackson 2011). Due to its importance for both the domestic and international political economy, the institutional development of its energy sector has been a key aspect of several rounds of administrative reforms in China. Nevertheless, after having implemented several reform agendas, excessive state intervention and an underdeveloped regulatory system have remained,

destabilizing China's energy sector. The central government has raised the issue of deepening institutional reforms in its White Papers on energy in 2007 and 2012, respectively (The Information Office of the State Council 2007, 2012). Moreover, at the 6th meeting of the Central Leading Group for Financial and Economic Affairs in June 2014, Xi Jinping emphasized the significance of structural reform in the energy sector and the construction of an effective and competitive market (Kong 2014). Against this background, it is puzzling that China's energy sector has continued to suffer from an underdeveloped market and immature governing system after several rounds of restructuring. Why have China's energy reforms been unable to make any progress even after such similar goals have been raised again and again? In general, why has a transition economy failed to reform its energy sector in response to increasing energy demands?

It is not uncommon to see Chinese national oil companies (NOCs) creating artificial shortages of natural gas to circumvent price regulations. Similarly, power shortages and rationing have occurred frequently. The reform of the electricity industry has stagnated due to the contradictory pricing mechanisms of "marketized coal, planned electricity" (市场煤计划电 *shichang mei, jihua dian*), which means that the price of coal is decided by the market mechanism while the price of electricity is decided by

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administrative orders (Zhang 2012). In the meantime, China's coal mining operations have been notorious for their safety issues, making coal the bloodiest industry in China (Wright 2011). Moreover, China's energy sector as a whole faces serious corruption issues, which are critical obstacles to achieving good governance (Rose-Ackerman 2017, 23–27). If institutional reforms in China's energy sector are intended to facilitate a market mechanism, establish a regulatory system, and secure a steady energy supply, then the preceding examples show that past reforms have fallen short of these goals and failed to improve China's greater energy security (Yao and Chang 2014, 595–604). Why have more reforms merely led to more dilemmas in China's energy sector? This article seeks to explain these paradoxical developments.

Most of the existing literature has attempted to explain the above contradictions by exploring only a single industry, for example, the petrochemical industry (Zhang 2004; Chen 2006, 151–172; Downs 2008a), electricity industry (Chen 2010, 69–95; Lin and Purra 2019, 401–410), renewable industry (García 2013, 119–146), methanol gasoline industry (Kostka and Hobbs 2012, 204–218), new energy automobile industry (Liu and Kokko 2013, 21–29), and low-carbon industry (Andrews-Speed 2012). There are few exceptions that have provided a descriptive analysis of the entire sector (Downs 2008b, 42–45; Kong 2009, 789–812). Roselyn Hsueh's (2011) examination of sub-sectoral variation in regulatory mechanisms is one such exception. She insightfully points out that institutional involvement has created more stakeholders with their own interests that have in fact become the impediments to further reform. The existing literature is deficient in two ways. First, all previous studies have delivered a snapshot analysis based on a single round of reforms, but the reform of China's energy sector has been a continuous effort over six decades, beginning in 1949. Interactions among the actors involved should, instead, be examined from a long-term perspective. Second, since a majority of previous studies have focused only on a single industry, they have had difficulty generalizing their arguments across the energy sector as a whole. As such, this paper aims to enrich the discussion on energy governance in China by proposing an analytical framework to examine changes in the governance structures of China's oil, electricity, and coal industries since 1949, especially during the reform era.

This paper argues that structural reforms in China's energy sector have swayed between centralization and decentralization (Table 1), leading to an increase in stakeholders without providing institutionalized mechanisms to coordinate their interests. The more stakeholders there are, the more vested interests are involved, making the implementation of reforms less likely. The reforms have failed due to a weak state capacity whereby the central state is unable to accommodate various conflicting interests

between different actors. By examining China's renewable energy development in the power sector, Yixin Dai (2015) illuminates that successful policy implementation depends on the coordination of various stakeholders that have a vested interest in the issue. With its several failed attempts to reestablish the Ministry of Energy (MOE), it is clear that the Chinese state has sought to centralize its governing authority, but has encountered strong resistance from these industries, becoming trapped in a centralization–decentralization cycle. The reform agenda has been rendered inconsistent with a corporatization of central state-owned enterprises (SOEs) in the energy sector that has transformed these firms into profit-seeking actors (Naughton 2008; Liou 2009, 670–690). These factors have complicated the policy agenda and resulted in the dilemma of regulatory capture.

As a developing country in a globalized economy, China is under enormous pressure to play industrial catch-up, which requires a functioning governing structure in its energy sector. In other words, reforming the energy sector to secure its energy supply is the top priority in China's transition economy and worthy of further exploration even if the trend is not representative of other industries. Regrettably, China's energy sector has suffered failures with respect to creating the MOE and promulgating energy law, the boom-and-bust cycle of the coal industry, limitations on electricity reforms, and an imbalance of demand and supply in the oil industry. With these issues in mind, it seems puzzling that the central state has reiterated the same goals after having implemented strategic reforms for many years. For this reason, the energy sector is a critical case for examining the development of Chinese industrial reforms. The three energy industries analyzed in this paper—oil, electricity, and coal—are positioned in the low, middle, and high areas of the marketization spectrum, respectively. By examining these industries, this article intends to comprehensively illustrate the paradox that the Chinese state has suffered from. While the central government has applied similar reform schemes and directly appointed the top leaders of the SOEs, these three industries have all encountered similar problems, though their natures vary. The SOEs' top leaders in the three industries are ranked at the deputy ministerial level and appointed by the Central Organization Department of the Chinese Communist Party. China Coal is the only exception. Its general manager is ranked at the bureau level and appointed by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC).

The remainder of this study is organized as follows. The next section proposes a regulatory approach and explores the governance of China's energy sector. This paper then proceeds to examine reforms to the governance structures of the oil, electricity, and coal industries. The paper concludes with theoretical implications of understanding regulatory issues for economic development in transitional

TABLE 1
The Evolution of Energy Governance in China (From 1949 to the Present)

<i>Period</i>	<i>Lead Central Energy Agencies</i>	<i>Governance Structure¹</i>	<i>Rationale for Change</i>
1949–1955	Ministry of Fuel Industry	Centralization Decentralization	Consolidate control of the new communist regime over energy resources Handle growing demand for energy supply
1955–1970	Ministry of Petroleum Industry Ministry of Coal Industry Ministry of Electric Power (1955–58) Ministry of Water Resources and Electric Power (1958–1979) Third Ministry of Machine-Building Industry (1956–1958)		
	Second Ministry of Machine-Building Industry (1958–1982)		
1970–1975	Ministry of Fuel and Chemical Industry Ministry of Water Resources and Electric Power (1958–1979)	Centralization	Transfer most energy management to local governments and leave a few energy decision-making authorities at the central level in response to the ideology advocated by the Cultural Revolution
1975–1979	Ministry of Petroleum and Chemical Industry (1975–1978) Ministry of Petroleum Industry (1978–1988) Ministry of Chemical Industry (1978–1998) Ministry of Coal Industry Ministry of Water Resources and Electric Power (1958–1979)	Decentralization	Stimulate energy production destroyed by the Cultural Revolution
1980–1983	State Energy Commission	Centralization	Develop a comprehensive energy policy in response to the initiation of economic reform
1983–1988	Ministry of Electric Power (1979–1982) Ministry of Petroleum Industry (1978–1988) Ministry of Coal Industry Ministry of Water Resources and Electric Power Ministry of Nuclear Industry ²	Decentralization	Reduce administrative intervention and respond to the reform strategy of separation of ownership from management
1988–1993	Ministry of Energy	Centralization	Replace energy line ministries with state-owned energy companies
1993–1998	Ministry of Coal Industry (abolished in 1998) Ministry of Electric Power (abolished in 1998) Various administrative state-owned energy companies in the petroleum and nuclear industries	Decentralization	Respond to strong opposition from administrative state-owned energy companies over a unified energy management system
1998–2008	State Development Planning Commission (1998–2003) National Development and Reform Commission (2003–2013) National Energy Leading Group (2005–2008) ³ State Electricity Regulatory Commission (2003–2013) National Energy Administration ⁴	Decentralization	Administrative reform in 1998 and 2003, aiming to transform China into a regulatory state
2008–2013	National Energy Commission ⁵ State Electricity Regulatory Commission (2003–2013)	Centralization	Effectively regulate state-owned energy companies; search for a coherent energy policy and ensure energy management
2013–2015	National Energy Regulatory Administration	Centralization	Incorporate State Electricity Regulatory Commission into National Energy Administration, aiming to serve national energy strategy
2015–present	National Energy Commission National Energy Administration ⁶	Centralization	Implement a new round of electricity reform and further strengthen the central regulatory authority

economies and the debate between “gradualism” and “shock therapy” in economic reform.

The argument put forth here is based on over 30 interviews with scholars, policymakers, and managers in various energy industries, universities, and think tanks conducted between 2012 and 2016 in China; in-depth research of the Chinese national news media; and a comprehensive review of official documents on energy policies and reform schemes.

A THEORETICAL FRAMEWORK FOR CHINA'S ENERGY GOVERNANCE

Before analyzing China's energy governance, a few conceptual remarks on theories of regulation are in order. Following Julia Black's definition of regulation adopted by the *Oxford Handbook of Regulation*, we regard regulation as “the intentional use of authority to affect behavior of a different party according to set standards, involving instruments of information-gathering and behavior modification” (Baldwin, Cave, and Lodge 2010). Economic regulation and social regulation are the two operative types of regulation. The former addresses market behavior and trading while the latter deals with issues related to the environment, safety, and health. As this article mainly explores how vested interests created in the course of partial economic reforms tend to hinder effective supervision over market transactions, we focus solely on economic regulation.

Ideally, the state delegates its authority to independent and professional regulatory entities and allows them to make policies and maintain market stability (Bernstein 1955). Yet, when regulatory agencies are influenced by interest groups, they tend to protect the profits of the regulated enterprises, resulting in “regulatory capture” (Laffont and Tirole 1991, 1089–1127; Stigler 1971, 3–21). Since the United States established its first independent regulatory agency (IRA) in the late nineteenth century, the institution has been regarded as the most effective mechanism for economic governance. The first IRA was the Interstate Commerce Commission established by the United States in 1887 (Majone 1996, 47–60). West European countries adopted this institutional arrangement in various industries in the comprehensive privatization period of the 1980s.

The development of the Chinese regulatory system is closely related to the logic of its economic governance. After implementing economic reforms and the opening-up policy, the Chinese government had to give up its practice of strictly regulating and planning production to govern its industries. The rise of domestic market mechanisms and private capital has led the government to, instead, emulate the Western model of governance over industries. Through a series of governmental reforms, China wishes to achieve

the goal of “separating government functions from enterprise management” (政企分开 *zhengqi fenkai*) and “separating the political and regulatory functions” (政监分开 *zhengjian fenkai*). The former distinguishes the roles of the government and state-owned enterprises and assists state-owned enterprises in establishing modern enterprise systems. The latter clarifies the division of labor between policy-making functions and regulatory functions. Up to the present time, China has established four single-industry-oriented IRAs. They are the China Securities Regulatory Commission (CSRC), China Insurance Regulatory Commission (CIRC), China Banking Regulatory Commission (CBRC), and State Electricity Regulatory Commission (SERC). Due to low regulatory effects, the SERC was deactivated in administrative reforms of the State Council in March 2013 and was taken over by the National Energy Administration.

There is no agreement in academic circles on whether China can transform itself into a regulatory state through reforming its industrial management. Dali Yang (2004) argues that the Chinese government has improved its ability in relation to governance and gained power through large-scale reforms in several respects. Margaret Pearson (2005, 296–322) further claims that, although the current economic system may not be perfect, the Chinese government is indeed moving toward becoming a regulatory state and is demonstrating the preliminary effects. In contrast, Scott Kennedy (2005) examines several industries and concludes that the excessive lobbying behavior of enterprises has been the main cause of invalid governmental regulations. Similarly, Minxin Pei (2006) indicates that the Chinese government is dealing with the disadvantages of corrupt officials, declining state capacity, and social imbalances that impede further reforms. Falling somewhere in-between the above perspectives, Hsueh (2011) argues that the Chinese government holds various stances according to the characteristics of different industries and demonstrates varying regulatory abilities. The central state decides how to manage the sectors in terms of their strategic values. Pearson (2015, 27–45) contends that regulation in China is “tiered” in terms of the party leaders' control over different sectors and distinguishes three hierarchical tiers in China's economy, namely “top,” “middle,” and “bottom.” Although the centralized and corporatized shareholder model enhanced state control over the energy sector in the beginning, it later caused several unexpected developments, such as the failure to establish the MOE and adopt energy law. In addition, some scholars have pointed out a problematic governance structure and regulatory dilemmas in various industries (Yeo 2009, 1013–1032; Hu 2011, 523–540; Tsai 2011, 520–539; Yasuda 2015, 745–769; Zhang 2015, 475–498). Unfortunately, China's regulatory agencies are only nominally independent and lack significant power. Giant state-owned energy enterprises have close relationships with the Chinese government to an extent that overwhelms effective regulation (Tsai 2014, 452–473).

Nonetheless, the governing capacity of a given sector has long-established roots. The emergence of IRAs is only one of many governmental restructuring measures taken by the Chinese government, and many other agendas have been implemented in the course of restructuring the energy sector. In sum, this paper proposes two long-term factors to explain how the Chinese government has failed to manage the energy sector: the evolution of the sector, and the interactions between sectoral regulatory agencies and other governmental entities over the past sixty years. In the following sections, this paper shall discuss the oil, electric, and coal industries.

THE EVOLUTION OF ENERGY GOVERNANCE

The Oil Industry

Since the establishment of the People's Republic of China (PRC) in 1949, the governance structure of the oil industry has experienced a total of ten rounds of reform, oscillating back and forth between centralization and decentralization. To implement a system for its planned economy, the Chinese government first established the single and integrated Ministry of Fuel Industry (MFI) to manage all energy-related industries, the oil industry included. Chinese leaders soon realized that the biggest disadvantage of a centralized regulatory system was the lack of specific regulatory standards based on different industry characteristics. Backward technologies and infertile production were additional challenges for managing energy-related industries. China's overall industrial development was especially stifled by oil shortages. In 1955, the Chinese government delegated power to different energy-related bureaucracies including the Ministry of Petroleum Industry (MPI), the Ministry of Coal Industry (MCI), and the Ministry of Electric Power (MEP), in order to replace the MFI. The MPI led several rounds of exploration for oilfields and successfully increased oil production. As decentralized governance conflicted with the ideology of a planned economy during the Cultural Revolution, the government recentralized energy governance and established the Ministry of Fuel and Chemical Industry (MFCI) to replace every energy-related agency except for the Ministry of Water Resources and Electric Power (MWREP). As the Cultural Revolution came to an end, the Chinese government attempted to correct economic disaster and boost production. The country's centralized energy governance was once again divided into separate regulatory agencies. The governance structure of China's oil industry was influenced overall by the two factors of political ideology and production capability until 1979.

During its economic transition, the governance of China's petroleum industry evolved in such a way that it

began to reflect the transformation of the role of government in the market, namely, the shift from being the owner of the industry to becoming its regulator. In 1980, the State Energy Commission (SEC) was established to support economic development by stabilizing and coordinating the energy supply with a centralized energy governance structure. At the same time, reforms based on the premise of "separating government functions from enterprise management" divided the duties of the SEC among several regulatory agencies including the MCI, MWREP, and the Ministry of Nuclear Industry. Since the MPI has been an independent organization at the administrative level of the National Energy Commission (NEC) since 1978, the oil industry's regulatory system was not influenced by this round of centralization-decentralization reforms.

The Chinese government once again established the MOE to govern all energy industries in 1988. Meanwhile, together with the China National Offshore Oil Corporation (CNOOC) created in 1982 and the Sinopec Group (SINOPEC) created in 1983, China deactivated the MPI and restructured it as the Chinese National Petroleum Corporation (CNPC) with regulatory power. Although the three national oil companies (NOCs) were reorganized as enterprises in the capital market by the end of the 1990s, they undertook partial regulatory functions until the establishment of the National Energy Administration (NEA) in 2008. Even after the establishment of the NEA, the First Department of Supervision and Administration under the State Administration of Work Safety was set up in each of the three NOCs and related staff were paid by the companies.

Other than governmental agencies in the energy sector, it is noteworthy that there have always been several bureaucratic actors involved in the governance of the oil industry. Kenneth Lieberthal and Michael Oksenberg refer to this phenomenon as "fragmented authoritarianism" (Lieberthal and Oksenberg 1988). For example, the State Planning Commission (SPC) before 1998, the State Development Planning Commission (SDPC) from 1998 to 2003, and the National Development and Reform Commission (NDRC) since 2003 have controlled the price-making apparatus for oil products and held the power of approval to develop certain oilfields. In addition, transactional activities between NOCs and foreign oil companies have required approval from the Ministry of Foreign Economic Relations and Trade before 1993, the Ministry of Foreign Trade and Economic Co-operation after administrative reforms from 1993 to 2003, and the Ministry of Commerce (MOC) since 2003.

Generally speaking, over ten bureaucracies are currently involved with the regulatory system of the oil industry, including the State Council, the NDRC, SASAC, the MOC, the Ministry of Finance (MOF), the NEA, the Ministry of Foreign Affairs, the Ministry of Land and Resources (MLR), the Ministry of Environmental Protection, the Ministry of Housing and Urban-Rural

Development, and the State Administration of Foreign Exchange. Moreover, as the oil industry has become more globalized and involved with international organizations and multinational companies, the complexity of state regulation has similarly increased (Bina 2006, 4–34; Ross and Voeten 2016, 85–97).

The Electricity Industry

As in the oil industry, governance of the electric industry experienced several rounds of structural reforms as it swayed between centralized and decentralized management. Before its economic transition, governance of the power industry went through three stages: centralized governance by the Ministry of Fuel Industry from 1949 to 1955, decentralized governance by the Ministry of Electric Power (MEP) from 1955 to 1958, and then continued decentralized governance by the Ministry of Water Resources and Electric Power from 1958 to 1979. At the same time, governance was complicated by the transfer of management of the power industry to the Central Military Commission due to considerations of national security during the Cultural Revolution. With the start of economic reforms in 1978, the Chinese government reestablished the MEP with the intent to break the national monopoly and liberalize the power industry. It also lowered the thresholds for entering the market and reformed its pricing mechanism to attract capital investment. As noted earlier, China established the MOE by integrating the governance of its coal, oil, and power industries during administrative reforms in 1988. However, this integration did not reduce conflicts or other inconsistencies among different industries in the energy sector.

Compared to other energy industries in China, the nature of the electric industry is that of a pronounced demand for raw materials, an uneven distribution of capacity, and a low rate of international trade. Power generation is concentrated in the central and western areas of China, while the mass consumers of power are in the coastal areas. Liberalization and privatization have suffered limitations in the power sector. In the 1990s, the Chinese government began to promote the liberalization of the industry and permitted the establishment of power plants under various kinds of property rights, intending to mitigate difficulties resulting from a shortage of investment. Formats for property rights include public, private, joint venture, build-operate-transfer (BOT), transfer-operate-transfer (TOT), and initial public offering (IPO) (Bellier and Zhou 2003, 69–76). As a result, power capacity increased sharply and became a source of support for rapid economic growth in China. Despite their remarkable short-term effects, however, these policies also introduced more long-term contradictory factors and gave rise to structural regulatory problems. In order to deal with an oversupply of power after

a sharp increase in power capacity, the SPC declared a suspension on new thermal power plants for the three years following 1999, called “*sannian bushang huodian*” (no more thermal power for three years).

In December 1995, the Chinese government passed the “Electricity Law” to promote its agenda for the “Separation of Power Networks and Electricity Generating Companies” and set up a foundation for further reforms (Andrews-Speed 2000, 111–130). The State Power Corporation of China (SPCC) was then established in 1997. Later, China abolished the MEP during the 1998 administrative reforms and transferred its regulatory power to the State Economic and Trade Commission (SETC) and the State Planning Commission (SPC). Though it managed to solve the problem of mixed governmental functions and enterprise management, the SPCC vertically monopolized the power industry and became the “corporatized MEP” due to the lack of either a specialized regulatory agency or a free market. Several former officials of the MEP transferred their careers to the SPCC. For example, the first general manager of the SPCC was the last minister of the MEP, Dazhen Shi. In such an instance, private and foreign-invested power plants could not compete with the SPCC, and they exited the market one by one. The Chinese government proposed “three assurances” to the foreign-invested power sector at the end of the 1980s with respect to the capacity, price, and profits of power generation. However, the foreign-invested power plants were still unable to compete with the SPCC’s monopolistic advantages and the investors withdrew from China. Local protectionism presented another problem. In the context of efforts to stabilize power supply and facilitate local economic development, conflicts arose between provinces with high power generation and provinces with high consumption.

In 2002, the State Council proposed the “notification of the administrative reform of the power system” (also called the fifth document). Accordingly, the State Electricity Regulatory Commission (SERC) was established as the first IRA in the Chinese industrial sector; the SPCC was divided into two grid corporations (the State Grid Corporation of China and China Southern Power Grid Company Limited) and five generation companies (Datang International Power Generation Co., Ltd., China Huaneng Power Int’l Inc., GD Power Development Co., Ltd., Huadian Power International Co., Ltd., and China Power Investment Co.). However, the SERC faced several difficulties that arose from inherent design flaws and insufficient authorization.

First, the SERC was not a ministry of the State Council but was affiliated as a public service unit (事业单位 *shiyew danwei*). Second, the Electricity Law of 1995 has never been revised and is not tailored to current developments. As a result, the SERC has sometimes implemented policies without a legal foundation. Third, the organization is too small in size to regulate the giant power industry. The SERC initially had only 89 formal staff members, while the State

Grid Corporation of China, for example, has over one and a half million employees. Fourth, few chairmen of the SERC have been professionally trained in the field of electricity. They have usually held the post for short periods before retiring or being transferred to other positions, making it difficult for them to wield regulatory authority. There have been four successive chairmen of the SERC: Songyue Chai, Quan You, Xudong Wang, and Xinxiong Wu. Fifth, voices to integrate all regulatory systems in the energy sector continue to make themselves heard. The establishment of the SERC has not silenced these voices, but has been, by contrast, considered as an interim arrangement. Sixth, the Chinese government has not fully authorized the SERC. As in the oil industry discussed above, several governmental agencies also share partial power in regulating power affairs, such as the NDRC, SASAC, NEA, the Ministry of Environmental Protection, the MLR, MOF, MWREP and the Ministry of Water Resources are two different ministries, the State Administration for Industry and Commerce, and so on. Seventh, local government and power companies have conspired in motivating profits in such a way as to impede or ignore the regulatory efforts of the SERC. Without any apparent objections, the SERC was dismantled in the 2013 administrative reforms. Since then the NEA has taken over the power and duties of the SERC, and the former chairman of the SERC, Xinxiong Wu, was promoted to deputy director of the NDRC and director of the NEA. In March 2015, the central government promulgated a new scheme of electricity reform focusing on planning, generator operations and pricing, and grid company regulation, which further strengthened the regulatory authority (The State Council 2015).

The Coal Industry

The earliest governance agency for the coal industry in the PRC was the MFI, established in 1949. Its subordinate unit, the Coal Management Bureau (CMB), directly regulated all state-owned coal mines along with other local bureaus. In 1955, when the energy governance structure shifted toward decentralization to provide each industry in the sector with more specialized management, the MFI was discontinued and the MCI established. The CMB was also discontinued, but the five local bureaus were kept and directly run by the MCI. In 1958, the Chinese government gave instructions that regulatory power should be delegated to localities. Some provinces established Coal Management Departments, and some entrusted related duties to local Industry Departments. The delegation of production plans from the center to the localities led directly to the overproduction of coal. Consequently, all coal regulatory agencies became affiliated units of the MCI as the Chinese government centralized coal enterprises in the 1960s. The MCI was merged into the MFCI in 1970 during the

Cultural Revolution, and the Chinese government once again delegated coal business to the localities. To recover from the ensuing economic disaster, the unified governance of the energy sector was once again decentralized in the hope that industry-based agencies would efficiently stimulate the supply of oil, power, and coal. The MFCI was therefore deactivated and the MCI reestablished in 1975. As such, the coal industry became regulated under dual leadership: the MCI played the leading role while being assisted by local governments.

With an agenda to transform energy line ministries into state-owned energy companies, the MCI was again deactivated and the China General Coal Corporation (CGCC) established. Above all the energy companies was the MOE, created in 1988. The CGCC was to be responsible for industrial planning while under the regulation of the MOE. Until then, the regulatory system for the coal industry had exhibited characteristics of multiple leadership and decentralized governance. Besides the aforementioned duties, the CGCC took charge of coal mines under central planning while local governments were left to regulate and contract with the coal mines. In 1993, the MOE and CGCC were dismantled and the MCI formed for a third time. For the provinces with coal mines, dual leadership was again adopted: the central ministry took the leading role and the local departments acted as subordinates. For those provinces without coal mines, local departments of the coal industry were responsible for coal regulation.

The MCI was established with several major goals. The first was to gradually cease mandatory production plans and instead adopt guidance plans that evaluated only two indexes: profits and losses, and the death rate per million tons. The second was to stop intervening in the production and management activities of enterprises. Third, the MCI was to set up market mechanisms and relax coal tariffs. The fourth was to delegate regulatory power to cadres. In 1996, a legal foundation for coal regulation was first provided in the form of the “Coal Industry Law.” In 1998, according to the “Notification Regarding Establishing State Bureaus under the Management of Ministries,” the MCI was reorganized as the State Coal Industry Administration (SCIA) under the jurisdiction of the SETC. The SCIA was responsible for regulating business while leaving production and trade to enterprises and the market.

In order to strengthen the supervision of industrial safety, the Chinese government established the State Administration of Coal Mine Safety (SACMS). The SACMS was the same agency as the SCIA, meaning that it was one agency with two titles. Meanwhile, the local CMBs were restructured as the Coal Mine Safety Supervision Bureaus, which were governed by the dual leadership of the SACMS and local governments. In 2001, the SCIA was deactivated and the State Administration of Work Safety (SAWS) was established.

Like the SCIA, the SAWS was under the jurisdiction of the SETC and in fact the same agency as the SACMS, a second single governmental body with two titles.

In 2003, after the deactivation of the SETC as part of a routine restructuring agenda of the Chinese government, the SAWS became a directly affiliated agency of the State Council. The focus of the regulatory system turned to production safety and the prevention of mining accidents, leaving development policies to the NEA. Nevertheless, coal mining accidents remained a big headache for the Chinese government. In order to increase their power to regulate, the SAWS was upgraded from the vice-ministerial level to the ministry level and the SACMS from the bureau level to the vice-ministerial level in 2005. Moreover, in 2006 the government document “Opinions Regarding Issues Related to Strengthening the Regulatory System for the Coal Industry” announced that the partial supervision authority of the NDRC would be transferred to the SAWS and SACMS, consolidating its regulatory power. In 2009, the canceling of the Annual Meeting of Coal Contracts (煤炭订货会 *meitan dinghuohui*) signified the comprehensive marketization of the coal industry.

RECENT DEVELOPMENTS AND DIFFICULTIES WITH THE EXISTING GOVERNING STRUCTURE

As shown in the preceding section, the continuous governance reform of China’s energy sector has fallen into a cycle of centralization and decentralization. The number of bureaucratic actors involved did not decrease due to the centralization of authority in the hands of a higher energy agency. The centralization agenda merely put a comprehensive agency above the industrial line-ministries to direct its general development policy, leaving the industrial line-ministries to handle day-to-day routine tasks. This dynamic once again dominated the restructuring of energy governance in 2008.

The 2008 administrative reforms combined the NDRC’s National Energy Bureau and the National Energy Leading Group into the NEA. This arrangement entrusts the NEA with the responsibility for setting energy strategies with the intent to correct the disadvantages of decentralized regulations and self-willed actions of the energy industries. At the same time, appeals to reestablish the MOE have not disappeared. From an organizational perspective, the NEA was regarded as a transitional arrangement before the MOE was established. The NEA is an independent agency at the vice-ministerial level but under the governance of the NDRC. Moreover, while the NEA integrates the regulatory functions of the energy sector, the NDRC controls the important pricing power of energy. Even in the most recent administrative reforms in 2013, such a division of labor has remained and the NEA’s duties, size, and posts of staff (三定 *san ding*, the three-dimensional regulations) have been finalized.

The Oil Industry

The three NOCs are all at the vice-ministerial level. The NEA is also vice-ministerially ranked. In China, where bargaining power among bureaucratic agencies is decided based on organizational administrative rank (Liou 2014, 225–226), this institutional arrangement vests the NEA with insufficient authority to be a regulator. Furthermore, the SASAC controls the evaluation mechanism for the performance of managers and wields the corresponding power for managing human resources among the three NOCs. In a way that makes their regulatory tasks more complicated, the three NOCs are listed in both domestic and overseas capital markets, giving them strong incentives to maximize profits. In such a situation, the NEA lacking any power over pricing is akin to a tiger without teeth. The artificial shortages of gasoline and diesel in 2005 and 2011 illuminate how vested interests have intervened and state regulation suffered in the oil sector (Bradsher 2005; Wang 2011; Wang and Zhou 2011). The details of the regulatory difficulties in China’s oil industry are as follows.

First, as noted earlier, the regulatory system of the oil industry has experienced several rounds of centralization and decentralization. Each time the industry adopts a decentralized governance structure, new stakeholders appear. This makes the following centralization stage of reform more complicated as the system faces conflicts of interest and greater difficulty in its coordination. Actors with vested interests under the old decentralized structure do not disappear. In other words, although an integrated regulatory energy agency is set up on top of many other related entities, the resources owned by the entities remain as their administrative assets.

For example, the MPI and the SEC coexisted in the 1980s. According to its institutional design, the MPI should be under the SEC’s jurisdiction. However, the reality was that the MPI was controlled by the SPC more than by the SEC as the SPC held pricing power and the power to approve investments. Another clear example is that the experience of being an administrative corporation has resulted in the CNPC, SINOPEC, and CNOOC all holding dual organizational identities—governmental and corporate. After restructuring the oil industry in 1998, the NOCs almost failed the regulatory system despite the NDRC’s efforts to utilize pricing power to discipline the NOCs. Fictitious “oil shortages” and “gas shortages” have occurred periodically. The pricing mechanism of oil products in China has greatly influenced the behavior of NOCs in the market (Chen, Ding, and Miu 2011, 81–121).

Second, regulatory capture has resulted from the unique administrative levels of the Chinese party-state system. As mentioned above, the three NOCs are at the vice-ministerial level, as is the NEA. When regulators and their objects of regulation exist at the same level in an administrative system, it is difficult for the former to establish regulatory authority. Meanwhile, NOCs have millions of employees and have

mastered the necessary professional technologies over a period spanning several decades. Except for the CNOOC with its less than one hundred thousand employees, the number of employees in the CNPC and SINOPEC exceeds one million in each case. That is to say, the newly established regulator has hardly the authority or the capacity to regulate the oil industry.

Finally, as the corporatization agenda has successfully established the commercial motives of the NOCs (Steinfeld 2010), the lack of a capable coordination agency across departments has also led to regulatory capture. Currently, over ten bureaucracies with different interests share regulatory power over the oil industry. Given that the three NOCs pursue the goal of maximizing profits, they are competing for market share in a zero-sum game, especially by way of lobbying the regulatory and supervisory agencies. They are unwilling to bear policy functions such as the stabilizing of the oil supply unless the government promises to compensate them for their policy losses.

The Electricity Industry

While the causes of regulatory capture in China's power sector are similar to those in the oil industry, its regulatory system has swayed from centralization to decentralization even more explicitly. The electricity industry has been restructured almost every five years and switched from one lead ministry to several governmental agencies. Objects of regulation have also been transformed from all enterprises under the MEP and the SPCC to the seven central SOEs at present. Massive stakeholders and complicated interactions are all rooted in the regulatory reforms. The best case to illustrate the regulatory dilemma is the strong resistance to reform from the State Grid Corporation and the debate over the establishment of an ultra-high-voltage power-grid system (Wan 2018; Wang 2014). The development of solar and wind power also demonstrates the complex interaction among different actors and difficulties with policy implementation (Dai 2015).

After the SERC was discontinued in 2013, the NEA centralized supervisory power and assigned its main duties to its subordinate, the Department of Electricity. This, however, did not solve the regulatory problems, but rather simply transferred them to the NEA. The NDRC still holds two important regulatory powers (the approval power of projects and pricing power) and wields them to manage the macroeconomic situation but not the power sector. As such, it is hard for the NEA to actually intervene in policymaking. For example, when economic growth slows down, the NDRC deliberately lowers the price of electricity in order to boost industrial production. When electricity generation increases, the NDRC encourages local governments to develop high-energy-consuming industries in order to fully utilize electric power. This course of twisting regulatory tools into administrative measures is not only harmful to the development of the power

market, but has also caused power reforms to stagnate. In the meantime, the NEA remains understaffed. Although the NEA has expanded its electricity department to five hundred employees, this is nothing compared to a single power company such as the State Grid Corporation of China with over one and a half million employees, not to mention the number of employees in other industries. The NEA simply lacks the capacity to monitor and govern the industry.

Like their counterparts in the oil industry, central power SOEs are ranked at the vice-ministerial level. As the NEA is at the same administrative level, the arrangement can be a major obstacle when the NEA performs its duties. Because of its equivalent administrative rank, there is a certain mobility of leadership between the regulatory agencies and central power SOEs as a part of the personnel management of the Chinese Communist Party. For example, the former deputy director of the National Energy Administration, Yumin Wang, had served in power enterprises for over twenty years before being appointed deputy chairman of the SERC in 2004. After the deactivation of the SERC, its former deputy chairman, Yeping Wang, became the general manager of Datang International Power Generation Co., Ltd., having been transferred from a body that served as a regulator to one that was subject to regulation. Arrangements such as this one allow the managers of regulated enterprises to learn more regulatory skills. At the same time, those same managers may possess an abundance of interpersonal relations and administrative networks that are conversely able to capture regulators and thus weaken their regulatory authority.

The Coal Industry

The regulatory dilemmas faced by the coal industry are similar to those in the oil and power industries in that too many stakeholders were involved during the cycle of centralization and decentralization reforms, while multiple regulators lacked unified regulatory platforms and goals. The only difference is that regulators of the coal industry have held a higher administrative rank than a majority of the managers of regulated enterprises, yet this institutional arrangement still faces regulatory difficulties posed by local governments, which are the biggest stakeholders in the coal industry.

The Coal Division of the NEA is currently in charge of policymaking and planning while the SACME regulates safety issues in China's coal industry. Compared to the oil and power industries, coal has been relatively more marketized. Coal enterprises were formed under various formats of property rights. The market shares of the large-scale central SOEs, Shenhua Co. Ltd. and China National Coal Group Corporation, were only about 15 percent in 2014, not enough to dominate the market. Other large local SOEs account for a 65 percent market share while around 7,000 private companies, almost all of them quite small, account for a mere 20 percent. Given that local coal SOEs owned

by provincial and city governments contribute significantly to local revenues, resistance has arisen when the central regulators have imposed industrial safety regulations that might hinder coal production. The result has been a spate of mining accidents. Shanxi province is the best case to illustrate this dilemma (Zhu, Li, and Li, 2013, 98–106). According to the statistics of Coal China, one hundred mining accidents occurred from November 2007 through the beginning of 2013 in which over two thousand people died.

Neither public nor private coal mines can prevent the occurrence of accidents. Though many officials have been punished or forced to leave their posts, the situation has not improved. As a central unit, the SACMS proposes regulations and investigates industrial safety accidents. However, it is local governments that take charge of supervision on issues such as the qualifications for extraction and production, the trading process of the market, and the approval of employees. If the owners of small- and medium-sized mines are well connected with local officials and respond to their rent-seeking intentions, they can weaken the monitoring system and evade central regulations. For instance, in Jiexiu city of Shanxi province, the director of local SAWS was found to be an investor in illegal coal mines (Wu 2007). Shenmu city in Shaanxi province remains well known for illegal coal mines and problematic regulation (Ta 2018). After repeatedly experiencing regulatory reforms, the regulatory structure of the coal industry has become one in which the local governments are active and the central government is passive, creating great opportunities for enterprises to penetrate and capture the overall system.

CONCLUSIONS

After closely examining the institutional evolution and regulatory reforms of the three major industries in China's energy sector, this paper demonstrates that China's energy governance has swayed between two poles of centralization and decentralization, which explains the inefficiency in China's energy governance. On the one hand, the resulting centralization–decentralization cycles have made the implementation of reforms inconsistent. On the other hand, the increase in the number of stakeholders brought about by the cycles has worsened the conflicts between various agencies and made coordination between them more difficult.

The findings of this article provide some further theoretical exploration into regulatory development in a transitional economy. When a state's economic system is in transition, it is necessary to synchronize (or advance) the construction of the corresponding governing structure and to continue to adjust regulatory mechanisms according to changing circumstances. However, if the governing structure is formed based

on demands from the market after this transition has already been embarked upon, its operations will be obstructed by resistance from vested interests.

The findings of this article also provide new observations for the classic debate between “shock therapy” and “gradualism” in the study of economic transitions. One widely accepted perspective is that China's gradualist approach has changed the incentive structure of its bureaucracies, successfully restricted the predatory hands of the state, and increased the efficiency of production while decreasing the cost of reform (Oi 1999; Qian 2003, 297–333; Naughton 2007). However, if we consider a longer period of time, these contentions are not beyond question. As this article illustrates, the core ambition of gradualist reform is to solve immediate economic problems and focus on short-term goals. These short-term goals are not always inherently consistent and do not necessarily lead to the achievement of long-term goals such as a well-functioning market economy. At worst, vested interests created in the course of gradualist reform can fall into the trap of a “partial reform equilibrium” (Hellman 1998, 203–234). A governing infrastructure built with these underlying conditions can hardly be effective. In contrast, though Russia has suffered from a failed market transition and growing corruption (Rutland 1999, 183–200), its electricity reform has illuminated a different picture of “post-Soviet developmentalism” wherein institutional creation rests on developmental bargains between the central government and oligarchic conglomerates (Wengle 2015). While the Russian state has incorporated institution-building into its developmental agenda, China's energy reform has rather been merely a reaction to macroeconomic measures (Yao and Chang 2015, 131–139).

In a partially reformed economy, market mechanisms are not well established and fail to manage supply–demand relations. The key to this outcome is that the governing structure has confronted both internal constraints and external restrictions during its construction: the former are due to the insufficient delegation of regulatory power, while the latter are a result of the growing number of powerful regulated enterprises. The interactions among these restrictions make it more difficult for the central state to overcome regulatory capture by vested interests. In the long run, the more bureaucratic actors become involved in the regulatory system, and the more inconsistent policies become, the greater the chance for regulatory failure. In other words, the cost of gradualist reform is in fact not as low as it has been argued in theory. The dilemma of energy governance in China reflects a clear logic: when a state fails to establish a functioning market mechanism, whether the governing structure is centralized or decentralized, it is nevertheless doomed to suffer from regulatory capture.

ABBREVIATIONS

CBRC	China Banking Regulatory Commission
CGCC	China General Coal Corporation
CIRC	China Insurance Regulatory Commission
CMB	Coal Management Bureau
CNOOC	China National Offshores Oil Corporation
CNPC	Chinese National Petroleum Corporation
CSRC	China Securities Regulatory Commission
IPO	Initial Public Offering
IRA	Independent Regulatory Agency
MCI	Ministry of Coal Industry
MEP	Ministry of Electric Power
MFCI	Ministry of Fuel and Chemical Industry
MFI	Ministry of Fuel Industry
MLR	Ministry of Land and Resources
MNI	Ministry of Nuclear Industry
MOC	Ministry of Commerce
MOE	Ministry of Energy
MOF	Ministry of Finance
MPI	Ministry of Petroleum Industry
MWREP	Ministry of Water Resources and Electric Power
NDRC	National Development and Reform Commission
NEA	National Energy Administration
NEC	National Energy Commission
NOC	National Oil Company
PRC	People's Republic of China
SACMS	State Administration of Coal Mine Safety
SASAC	State-owned Assets Supervision and Administration Commission of the State Council
SAWS	State Administration of Work Safety
SCIA	State Coal Industry Administration
SDPC	State Development Planning Commission
SEC	State Energy Commission
SERC	State Electricity Regulatory Commission
SETC	State Economic and Trade Commission
SINOPEC	Sinopec Group
SOE	State-owned Enterprise
SPC	State Planning Commission
SPCC	State Power Corporation of China

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NOTES

1. Governance structure refers to whether a single government body with the mandate to coordinate energy policymaking among various central agencies, is established. During the period of centralized energy management, there may be another government body with the same bureaucratic rank parallel to that of the coordination body.
2. The organizational predecessors of the Ministry of Nuclear Industry were the Third Ministry of the Machine-Building Industry (1956–1958) and the Second Ministry of the Machine-Building Industry (1958–1982).
3. The National Energy Leading Group headed by former premier Wen Jiabao was created in May 2005 to play the role of lead coordinator across line ministries. In 2008 it was incorporated into the National Energy Administration.
4. The National Energy Administration was transformed from the Energy Bureau of the National Development and Reform Commission (NDRC). Compared to its predecessor, the National Energy Administration enjoys a higher bureaucratic rank at the vice-ministerial level. Yet, similar to the energy management system of the previous period, the energy price-setting authority still belongs to the Department of Price at the NDRC.
5. While the National Energy Administration, ranked at the vice-ministerial level, is mandated with energy policy coordination, the National Energy Commission under the direct leadership of the State Council is a high-level coordination and discussion government agency that has adequate authority to address disagreements between the National Energy Administration and other stakeholders.
6. The Chinese government launched a new round of electricity reform in March 2015. The centrally led reform scheme aims to introduce a spot-market mechanism and create a new pricing system.

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REFERENCES

- Andrews-Speed, Philip. 2000. "Reform of China's Energy Sector: Slow Progress to an Uncertain Goal." In *China's Economy in Transition*, edited by Juzhong Zhuang, Sarah Cook, and Shujie Yao, 111–30. London: Palgrave Macmillan.
- Andrews-Speed, Philip. 2012. *The Governance of Energy in China: Transition to a Low-Carbon Economy*. Hampshire, U.K.: Palgrave MacMillan.
- Baldwin, Robert, Martin Cave, and Martin Lodge, eds. 2010. *The Oxford Handbook of Regulation*. Oxford, UK: Oxford University Press.
- Bellier, Michel, and Yue Maggie Zhou. 2003. *Private Participation in Infrastructure in China*. Washington, DC: The World Bank.
- Bernstein, Marver H. 1955. *Regulating Business by Independent Commission*. Princeton, NJ: Princeton University Press.
- Bina, Cyrus. 2006. "The Globalization of Oil: A Prelude to A Critical Political Economy." *International Journal of Political Economy* 35 (2):4–34. doi:10.2753/IJP0891-1916350201.
- Bradsher, Keith. 2005. "Fuel Shortages Put Pressure on Price Controls in China." *New York Times*, August 18. Accessed February 15, 2019. <https://www.nytimes.com/2005/08/18/business/worldbusiness/fuel-shortages-put-pressure-on-price-controls-in.html>.
- Chen, Ling. 2010. "Playing the Market Reform Card: The Changing Patterns of Political Struggle in China's Electric Power Sector." *China Journal* 64: 69–95. doi:10.1086/tcj.64.20749247.

- Chen, Shaofeng. 2006. "State-Regulated Marketization: China's Oil Pricing Regime." *Perspectives* 7 (3):151–72.
- Chen, Yihe, Runyi Ding, and Bian Miu. 2011. "Tongzhangxia Wenbutuijin Shiyou Shichanghua Gaige [Steadily Facilitate Marketization Reform of Petroleum Price under Inflation]." In *Zhongguo Nengyuan fazhan bao-gao* [Annual Report on China's Energy Development], edited by Minxuan Cui, 81–121. Beijing: Social Sciences Academic Press.
- Dai, Yixin. 2015. "Who Drives Climate-Relevant Policy Implementation in China?" IDS Evidence Report 134, Institute of Development Studies and Tsinghua University, London and Beijing. http://opendocs.ids.ac.uk/opendocs/bitstream/123456789/6104/1/ER134_WhoDrivesClimate-relevantPolicyImplementationinChina.pdf.
- Downs, Erica S. 2008a. "Business Interest Groups in Chinese Politics: The Case of the Oil Companies." In *China's Changing Political Landscape: Prospect for Democracy*, edited by Cheng Li, 121–41. Washington DC: Brookings Institution Press.
- Downs, Erica. 2008b. National Energy Administration Will Struggle to Manage the Energy Sector Effectively." *China Business Review*, November–December. Accessed February 3, 2018. http://www.frankhaugwitz.eu/doks/policy/2008_11_China_NEA_Brookings.pdf.
- García, Clara. 2013. "Policies and Institutions for Grid-Connected Renewable Energy: 'Best Practice' and the Case of China." *Governance* 26 (1):119–46. doi:10.1111/gove.2013.26.issue-1.
- Grammaticas, Dimian. 2012. "Chinese Colonialism?" *BBC News*, July 19. Accessed February 3, 2018. <http://www.bbc.co.uk/news/world-asia-18901656/>.
- Hellman, Joel S. 1998. "Winners Take All: The Politics of Partial Reform in Postcommunist Transitions." *World Politics* 50 (2):203–34. doi:10.1017/S0043887100008091.
- Hsueh, Roselyn. 2011. *China's Regulatory State: A New Strategy for Globalization*. Ithaca: Cornell University Press.
- Hu, Henry L. 2011. "The Political Economy of Governing ISPs in China: Perspectives of Net Neutrality and Vertical Integration." *The China Quarterly* 207: 523–40. doi:10.1017/S0305741011000634.
- Kennedy, Scott. 2005. *The Business of Lobbying in China*. Cambridge: Harvard University Press.
- Kong, Bo. 2009. "China's Energy Decision-Making: Becoming More like the United States." *Journal of Contemporary China* 18 (62):789–812. doi:10.1080/10670560903172840.
- Kong, Weiqian. 2014. "Xi Jinping Zhuchi Zhaokai Zhongyang Caijing Lingdao Xiaozu Huiyi [Xi Jinping the Meeting of the Central Leading Group for Financial and Economic Affairs]." *Xinhua Net*, June 13. Accessed 3 February, 2018. http://www.xinhuanet.com/video/2014-06/13/c_126616850.htm.
- Kostka, Genia, and William Hobbs. 2012. "Embedded Interests and the Managerial Local State: The Political Economy of Methanol Fuel-Switching in China." *Journal of Contemporary China* 22 (80):204–18. doi:10.1080/10670564.2012.734078.
- Krause-Jackson, Flavia. 2011. "Clinton Chastises China on Internet, African 'New Colonialism.'" *Bloomberg*, June 11. Accessed 3 February 2018. <http://www.bloomberg.com/news/2011-06-11/clinton-chastises-china-on-internet-african-new-colonialism-.html>/Laffont.
- Laffont, Jean-Jacques, and Jean Tirole. 1991. "The Politics of Government Decision-Making: A Theory of Regulatory Capture." *The Quarterly Journal of Economics* 106 (4):1089–127. doi:10.2307/2937958.
- Lieberthal, Kenneth, and Michel Oksenberg. 1988. *Policy Making in China: Leaders, Structures, and Processes*. Princeton: Princeton University Press.
- Lin, Kun-chin, and Mika M. Purra. 2019. "Transforming China's Electricity Sector: Politics of Institutional Change and Regulation." *Energy Policy* 124: 401–10. doi:10.1016/j.enpol.2018.07.041.
- Liou, Chih-Shian. 2009. "Bureaucratic Politics and Overseas Investment by Chinese State-Owned Oil Companies: Illusory Champions." *Asian Survey* 49 (4):670–90. doi:10.1525/as.2009.49.4.670.
- Liou, Chih-Shian. 2014. "Rent Seeking at Home, Capturing Market Share Abroad: The Domestic Determinants of the Transnationalization of China State Construction Engineering Corporation." *World Development* 54 (2):225–26. doi:10.1016/j.worlddev.2013.08.011.
- Liu, Yingqi, and Ari Kokko. 2013. "Who Does What in China's New Energy Vehicle Industry." *Energy Policy* 57: 21–29. doi:10.1016/j.enpol.2012.05.046.
- Majone, Giandomenico. 1996. "The Rise of Statutory Regulation in Europe." In *Regulating Europe*, edited by Giandomenico Majone, 47–60. London: Routledge.
- Naughton, Barry. 2007. *The Chinese Economy: Transitions and Growth*. Cambridge: The MIT Press.
- Naughton, Barry. 2008. "SASAC and Rising Corporate Power in China." *China Leadership Monitor* 24, Accessed February 3, 2018. <http://www.hoover.org/research/sasac-and-rising-corporate-power-china>.
- Oi, Jean C. 1999. *Rural China Takes Off*. Berkeley: University of California Press.
- Pearson, Margaret M. 2005. "The Business of Governing Business in China: Institutions and Norms of the Emerging Regulatory State." *World Politics* 57 (2):296–322. doi:10.1353/wp.2005.0017.
- Pearson, Margaret. 2015. "State-Owned Business and Party-State Regulation in China's Modern Political Economy." In *State Capitalism, Institutional Adaptation, and the Chinese Miracle*, edited by Barry Naughton and Kellee Tsai, 27–45. New York: Cambridge University Press.
- Pei, Minxin. 2006. *China's Trapped Transition: The Limits of Development Autocracy*. Cambridge: Harvard University Press.
- Qian, Yingyi. 2003. "How Reform Worked in China." In *In Search of Prosperity: Analytical Narratives on Economic Growth*, edited by Dani Rodrik, 297–333. Princeton: Princeton University Press.
- Rose-Ackerman, Susan. 2017. "What Does 'Governance' Mean?" *Governance* 30 (1):23–27. doi:10.1111/gove.2017.30.issue-1.
- Ross, Michael, and Erik Voeten. 2016. "Oil and International Cooperation." *International Studies Quarterly* 60 (1):85–97. doi:10.1093/isq/sqv003.
- Rutland, Peter. 1999. "Mission Impossible? The IMF and the Failure of the Market Transition in Russia." *Review of International Studies* 25: 183–200. doi:10.1017/S0260210599001837.
- Steinfeld, Edward S. 2010. *Playing Our Game: Why China's Economic Rise Doesn't Threaten the West*. Oxford: Oxford University Press.
- Stigler, George. 1971. "The Theory of Economic Regulation." *Bell Journal of Economics and Management Science* 2 (1):3–21. doi:10.2307/3003160.
- Ta, Buping. 2018. "Jianguan Quewei, Zhifa Buli, Shaanxi Shenmu 'Heimei' Luanxiang Congsheng [Lack of Regulation and Legal Enforcement, Illegal Coal Mines in Shenmu City of Shaanxi Province Rampant]." *Xibuliaoawang*, March 12. Accessed February 15, 2019. <https://www.xibuliaoawang.com/show-3-837-1.html>.
- The Information Office of the State Council. 2007. "China's Energy Conditions and Policies." December 26. <http://www.china.org.cn/english/environment/236955.htm>.
- The Information Office of the State Council. 2012. "China's Energy Policy 2012." October 24. http://www.gov.cn/english/official/2012-10/24/content_2250497.htm.
- The State Council. 2015. "Zhonggong zhongyang guowuyuan guanyu jinyibu shenhua dianli tizhi gaige de ruogan yijian [Opinions on Deepening Electricity Reforms]." March 15. Accessed February 5, 2019. http://tgs.ndrc.gov.cn/zywj/201601/t20160129_773852.html.
- Tsai, Chung-Min. 2011. "The Reform Paradox and Regulatory Dilemma of China's Electricity Industry." *Asian Survey* 51 (3):520–39. doi:10.1525/as.2011.51.3.520.
- Tsai, Chung-Min. 2014. "Regulating China's Power Sector: Creating an Independent Regulator without Autonomy." *The China Quarterly* 218: 452–73. doi:10.1017/S0305741014000381.
- Wan, Jing. 2018. "Guojia Fagaiwei Jianzhi Dianli Hangye Longduan [NDRC Aims at Reforming the Monopoly of the Electricity Industry]." *Xinhua Net*, September 6. Accessed February 15, 2019. http://www.xinhuanet.com/politics/2018-09/06/c_1123386352.htm.

- Wang, Jie. 2011. "Chaiyouhuang Benzhi Tuxian Jianguanhuang [The Nature of the Shortage of Diesel Highlights the Regulatory Problems]" *China Net*, October 26. Accessed February 15, 2019. http://opinion.china.com.cn/opinion_78_26178.html.
- Wang, Qiang. 2014. "Zhongguo Diangai Guanjian Renzaiyu Pochu Dianwang Longduan [They Key to China's Power Reform Remains to Break the Monopoly of the Grid System]." *New York Times (CN)*, April 4. Accessed February 15, 2019. <https://cn.nytimes.com/china/20140404/cc04wangqiang/zh-hant/>.
- Wang, Ying, and Yan Zhou. 2011. "Private Fuel Stations Scramble as Diesel Supplies Tank." *China Daily*, October 21. Accessed February 15, 2019. http://www.chinadaily.com.cn/cndy/2011-10/21/content_13945181.htm.
- Wengle, Susanne. 2015. *Post-Soviet Power: State-Led Development and Russia's Marketization*. New York: Cambridge University Press.
- Wright, Tim. 2011. *The Political Economy of the Chinese Coal Industry: Black Gold and Blood-Stained Coal*. London: Routledge.
- Wu, Shuaili. 2007. "Anjian Zhuren Cangu Meikuang, Cengceng Jianguan Xingtong Xushe [The Director of Local SCAME Invests in Coal Mines, Regulation Was Ineffective]." *Xinhua Net*, January 30. Accessed February 15, 2019. http://www.xinhuanet.com/zg/jx/2007-01/30/content_5674945.htm.
- Yang, Dali L. 2004. *Remaking the Chinese Leviathan: Market Transition and the Politics of Governance in China*. Stanford: Stanford University Press.
- Yao, Lixia, and Youngho Chang. 2014. "Energy Security in China: A Quantitative Analysis and Policy Implications." *Energy Policy* 67: 595–604. doi:10.1016/j.enpol.2013.12.047.
- Yao, Lixia, and Youngho Chang. 2015. "Shaping China's Energy Security: The Impact of Domestic Reforms." *Energy Policy* 77: 131–39. doi:10.1016/j.enpol.2014.12.014.
- Yasuda, John Kojiro. 2015. "Why Food Safety Fails in China: The Politics of Scale." *The China Quarterly* 223: 745–69. doi:10.1017/S030574101500079X.
- Yeo, Yukyung. 2009. "Between Owner and Regulator: Governing the Business of China's Telecommunications Service Industry." *The China Quarterly* 200: 1013–32. doi:10.1017/S0305741009990609.
- Zhang, Jin. 2004. *Catch-Up and Competitiveness in China: The Case of Large Firms in the Oil Industry*. London: RoutledgeCurzon.
- Zhang, Lili. 2012. "Lin Boqiang: Meidianliandong Shi Dianli Gaige Guanjian [The Mechanism of the Coal-Electricity Price Linkage Is the Key to Power Reform]." *Sina Finance*, December 27. Accessed February 3, 2018. <http://info.electric.hc360.com/2012/12/270853496987.shtml>.
- Zhang, Yin-Fang. 2015. "The Regulatory Framework and Sustainable Development of China's Electricity Sector." *The China Quarterly* 222: 475–98. doi:10.1017/S0305741015000727.
- Zhu, Yue, Yi Li, and Tingzhen Li. 2013. "Shanxi Meigai Chuangyi [The Trap of the Reform of Coal Mining in Shanxi Province]." *Caijing Magazine* 374: 98–106.