

**CHINA'S EMERGING MARKET FOR PROPERTY RIGHTS:
THEORETICAL AND EMPIRICAL PERSPECTIVES***

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ABSTRACT

This paper contrasts state-directed and market-mediated reform of enterprise ownership rights in transition economies. We evaluate China's emerging market for enterprise ownership rights from the perspective of conditions underpinning the Coase Theorem: the assignment of property rights, the degree of competition, and the nature of transaction costs. China's recent experience suggests that policies designed to expand and support the scope of decentralized, market-based restructuring of ownership rights, even under conditions that deviate widely from the ideal assumptions underlying the Coase Theorem, may prove more beneficial than direct official intervention.

Key words: China, ownership, property rights, Coase Theorem, transition, merger, transaction costs

JEL classifications: G34, K11, L1, and P3

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INTRODUCTION

In all former socialist economies, reform programs include three broad elements: stabilization, liberalization, and institution building [Fischer and Gelb, 1991]. Because it reflects the particular legacy of each country and is also the most time dependent element of the transition process, institutional reform epitomizes the distinctive experience of the Eastern European economies, Russia, the Newly Independent States, and China. In each country, transition is fundamentally an account of ownership reform, the distinctive process of unbundling the property rights previously controlled by the state and reassigning them to individuals and groups who assume responsibility for managing the nation's productive assets.

After twenty years of rapid growth under gradual reform policies that sustained the dominant role of public ownership, China enters its third reform decade with a pledge – and critical need – to carry out deep ownership reform. China's efforts to advance enterprise restructuring confront a dichotomy. Should public officials directly manage enterprise restructuring? Or should government focus on building institutions that allow the market to serve as the central venue for ownership reform?

Our analysis focuses on a series of issues. We develop an analogy between two broad strategies of ownership reform – the state-managed and market-mediated approaches – and the debates between A.C. Pigou and Ronald Coase regarding the appropriate remedy for externalities arising from a common property resource. This contrast between Pigou and Coase, we believe, is particularly useful for examining the choices facing China's leadership in expanding and completing the reform process.

We see China's limited capacity for effective monitoring of enterprise assets as a fundamental cause of inefficiency. Chronic weakness in state-owned enterprises (SOEs) creates externalities in the form of crowding out, inflation, low returns to savings, and ultimately, vulnerability to financial crisis – that result from measures to recapitalize the banking system.

Economists have developed two approaches for remedying the distortions arising from externalities. Presuming that government could acquire all necessary information concerning the relevant marginal values, A.C. Pigou [1920] proposed that government directly intervene to eliminate gaps between private and social costs and benefits. Ronald Coase [1960] showed how official efforts to establish suitable market institutions can enable decentralized negotiation of efficiency-enhancing exchanges of rights linked to real or potential common property resources.

Previous research emphasizing the centrality of experimentation, bottom-up initiative, and competitive pressures in China's reform experience [Jefferson and Rawski, 1995] invites further inquiry into the applicability of Coase's perspective to the economics of transition. Even though China's circumstances remain distant from the ideal of well-specified property rights and zero transition costs, we find that Coase's analytic perspective can support an integrated analysis of important reform issues.

THEORETICAL PERSPECTIVE

Economists have long recognized the need for monitoring to maintain efficiency when production involves multiple individuals or organizations [Alchian and Demsetz

1972]. Effective monitoring is difficult even under private ownership, when control is divided between inside managers and outside owners [Jensen and Meckling 1976]. Ambiguous ownership rights blur incentives and erode monitoring capabilities, increasing the potential for rent seeking and inefficiency.

Jefferson [1998, 2001] pursues this theme. The Chinese term for SOEs, *quanmin suoyouzhi*, means “owned by all the people.” The vague nature of SOE property rights is not merely semantic. Multiple authority fragments external supervision and hobbles internal management. Even after decades of experience, there is no consensus on “how the agencies of state ownership can be established” [Wu Jinglian 1995, p. 89]. Similar difficulties arise in township and village enterprises (TVEs), which are typically organized as collectives under local government control.

Jefferson argues that the fragmentation of managerial control rights in China’s SOEs and the ensuing ineffective monitoring encourages opportunistic behavior by “workers, managers, and public officials, who extract value from the firm in excess of what they put in.” The firm’s inability to limit this overconsumption causes the state enterprise to function as a commons [1998, p. 428].

If China’s SOEs function like fisheries, why do they not disappear? The answer is that China’s banks, which are also state enterprises, are equally incapable of effective monitoring. Even when monitoring is intense, the absence of an effective bankruptcy system may lead bank managers to refinance delinquent debt [Jefferson 2001]. Bank deposits become non-performing loans, and thereby serve to partially or fully replenish the losses of the enterprise system. Such replenishment erodes the rivalrous nature of ownership, enabling weak firms and weak monitoring to survive.

Weak monitoring makes it difficult to exclude predatory individuals and organizations, both outsiders (e.g. revenue-hungry official agencies) and insiders, from over-consuming enterprise resources. Access to tax breaks, subsidies, soft bank lending, or other avenues of replenishing lost resources limits potential conflict between one party's depletion of enterprise assets and another party's access to the same stock of resources. These characteristics of non-excludability and non-rivalry are the key properties of public goods. A further parallel arises because the excess consumption associated with both SOEs and public goods generates negative externalities. In the SOE case, these externalities may include *crowding out*, which arises from public borrowing and/or taxation to recapitalize the banking system, *inflation*, which results from the need to monetize ongoing subsidies, and *low returns to savings*, a consequence of financial repression as governments seek to channel household assets into the banking system [Jefferson, 2001].

These mechanisms for replenishing SOE assets sustain soft budget constraints for the banks as well as their clients. By weakening the banks' incentive to monitor lending, recapitalization of the bank system through debt finance, money creation, or financial repression further promotes the accumulation of bad debt and the erosion of bank balance sheets. It is through this channel that we link inadequate monitoring in the enterprise system, which makes SOEs resemble public goods, with financial instability, which emerges as an externality associated with persistent overconsumption of SOE resources.

Economic theory offers two distinct approaches to the efficient use of common property resources. A.C. Pigou [1920] taught that governments can respond to externalities by imposing taxes or subsidies that eliminate gaps between private and

social cost or benefit. Much of development economics follows this tradition of emphasizing “problems of market failure and the need for informed official intervention” [McKinnon 1993, p. 1]. Strategies to exploit “the advantages of backwardness,” the “big push” of Rosenstein-Rodan [1943] and Murphy, Schleifer, and Vishny [1989], the practice of socialist central planning, and many types of regulation in today’s market economies share similar features. In every case, government must collect and process sufficient information to calibrate the social and private marginal costs and benefits needed to design detailed systems of taxation, subsidy, or regulation.

The work of Ronald Coase directs attention from informed official intervention toward government’s role in establishing institutions that permit decentralized bargaining to overcome difficulties in the efficient use of assets that embody the characteristics of public goods. The key is to encourage decentralized agreements that rearrange ownership and control of productive assets. In the absence of transaction costs or, alternatively, with perfect competition in the exchange of legal entitlements, the analysis now known as the Coase theorem shows how the delineation and protection of property rights permit interested parties to negotiate efficient solutions to market failures without direct state action [Coase 1960; Cooter 1987].

Like a Pigouvian tax, successful enterprise restructuring undertaken directly by public officials presupposes that the government can meter existing inefficiencies, construct quantitative measures of optimal interventions, and implement specific plans for efficient outcomes. Juxtaposing his approach to the problem of negative externalities with that of Pigou, Coase observes:

Pigou's conclusion...was that some kind of government action was required to restrain those whose actions had harmful effects on others....The significance to me of the Coase theorem is that it undermines the Pigouvian system." [1992, p. 717].

Like Coase, we anticipate that government efforts to create a vibrant market for property rights may deliver more effective remedies than direct intervention from public agencies.

In the Chinese context, there is a practical motive for emphasizing Coase's approach rather than Pigou's. China's eight million industrial enterprises provide an endless vista of resources in need of restructuring. China's governments possess neither the knowledge nor the power to organize these vast resources effectively. Expansion of financial losses, excess capacity, and unemployment have persuaded growing numbers of Chinese economists and policy-makers that a decentralized, market-based approach offers the best prospect for unlocking the productivity potential of China's industries.

But, is Coase's analysis applicable in the context of socialist transition? We begin with a brief survey of Chinese law and policy related to the exchange of property rights. We then review China's conformance with specific conditions underlying the Coase theorem. Next, we investigate the growth of China's market for ownership of industrial assets. We conclude by relating our findings to current policy issues.

CHINA'S MARKET FOR OWNERSHIP RIGHTS: BACKGROUND

The property rights literature typically distinguishes among three forms of property rights: control over the use of assets, control of the cash flow or residual, and the right of transfer or alienation. During the 1980s and 1990s, China's enterprise reform focused on the first and second aspects of ownership. This gradual reform of management control rights is widely understood [Jefferson and Rawski 1994; Naughton 1995]. Recent Chinese reforms focus on enterprise restructuring (*qiye gaizhi*), which is intended to sharpen the specification of ownership rights. We therefore concentrate our attention on the final measure of property rights: who can exercise the right of alienation in China's enterprise system?

Figure 1 highlights reform developments relevant to the emergence of a market for property rights. At the outset, there was no market for business property. "State-owned assets were like stagnant water, permanently immobile" [Gao and Chi 1997, p. 57]. Enterprise operations were tightly controlled; even modest expenditures required official consent. Well into the first reform decade, the scope for independent business strategies remained so slight that Komiya [1987] likened Chinese enterprise directors to plant supervisors in Japanese multi-plant companies.

Figure 1 goes here

Chinese reform gradually devolved strategic decision-making to the enterprise level. The first major initiative appeared in a 1984 decision of the Communist Party's Central Committee, which declared that "enterprises should truly be turned into independent economic entities...who operate their businesses on their own, assume sole responsibility for their profits and losses, (and) have the ability to transform and develop

themselves and become legal persons with certain rights and duties" [Gao and Chi 1997, pp. 22-23]. The 1992 "Operating Principles for State Industry" moved further, endowing managers with control over a wide range of actions, including asset transfers. The language is clear and specific: "Enterprises have the right to dispose of their fixed assets.... Enterprises have the right to operate jointly or to merge operations with other units" [FBIS 1992, p. 30].

Reform outcomes, however, emerge from the actualities of everyday business rather than from statements of policy and principle. Implementation is gradual and uneven. Resistance, backsliding, and delay weaken the impact of official pronouncements on corporate governance. Jefferson, Lu, and Zhao [1999] find wide variation in the devolution of specific decision rights both among state firms and within the rural enterprise sector. Control over property rights is one of several areas in which the empowerment of managers has lagged behind the decentralization of control over enterprise affairs [Wu Bo, 1997]. Chinese writers report that "enterprises lack the power to adjust their property structure," in part because "even today, government and enterprises are not separated" [Gao and Chi 1997, p. 47; Yang and An 1999, p. 34].

Our target is the reality of Chinese enterprise operation. We harness Coase's ideas to comprehend the evolution and prospect of reform. The concept of a common property resource provides an exact parallel between Coase's problem of social cost and China's problem of enterprise reform. In each case, markets for ownership rights offer opportunities for narrowing the gap between actual and potential output. We therefore examine the impact of Chinese reform on property rights, competition, and transaction

costs, specific factors that the Coase theorem pinpoints as crucial supports for vibrant markets in ownership rights.

PROPERTY RIGHTS: THE RIGHT OF ALIENATION

Clearly delineated and widely dispersed property rights create the possibility of decentralized bargaining over the rearrangement, sale, and exchange of ownership and control. Table 1 summarizes the legal and practical circumstances surrounding the sale of assets for major enterprise types as of 2000. We ask three questions, each corresponding to one column in the table: Does Chinese law or regulation formally assign the authority to alienate assets? Regardless of the legalities, do specific individuals or organizations possess real authority to dispose of enterprise assets? Who are the main participants in decisions surrounding asset disposal?

Table 1 goes here

For state enterprises, legal authority flows from Article 15 of the June 1992 “Regulations on Transforming State Firms,” which provides that enterprises have the right to dispose of their assets... [they] may make their own decision to lease . . . mortgage. . . or to transfer with compensation their general fixed assets. They may lease key facilities, whole sets of equipment, or major construction works to other units. With the approval of responsible government agencies...[assets] may also be mortgaged or transferred to other units with compensation [FBIS 1992, p. 30].

These provisions are ambiguous: can firms “make their own decision” to transfer assets or do transfers “require the approval of responsible government agencies”? Article 18 of the 1988 State Enterprise Law stipulates that “mergers and break-ups...shall be

approved by the government or by the government's supervisory agency (*zhuguan bumen*). Approval is typically required, but neither the 1988 law nor the 1992 regulations identify the agency in charge. There is no agreement about "who effectively exercises the right to sell the state-owned assets in an enterprise" [Jiang Qingrui 1995, p. 91]. This confusion is partly attributable to China's tradition of "dual guidance" (*tiaokuai*), under which state firms, while subject to central directives and ultimately "owned" by the central government, are primarily supervised by provincial and local governments [Donnithorne 1967, pp. 151-154; Gao and Chi 1997, pp. 66-72].

In principle, transfers of state assets appear to require authorization from the State Council or its designated agent. In reality, State Council involvement is typically limited to actions involving firms regarded as "key" (*zhongdian*) enterprises because of their scale or their position in strategic industries. Thus the March 2000 merger of two petroleum enterprises was "approved by the State Council [as]...part of a 3-year-old strategy to reformulate China's oil industry" [Zhao Shaoqin 2000, p.5]. While the State Council retains ultimate authority over key enterprises, effective control is typically shared among multiple agencies [Steinfeld 1998, pp. 90-93]. Overlapping supervision plus the involvement of the State Council means that decisions about property transactions involving key enterprises require complex and protracted negotiations. There are no clear lines of authority.

Conditions differ if transactions do not involve key firms. Despite the legal ambiguities, local governments can and do expedite asset transfers involving SOEs under their jurisdiction. This is evident from the response to the policy of "retaining large SOEs and freeing small state firms" (*zhuada fangxiao*), which cut the number of industrial

SOEs (including shareholding firms in which the state holds a controlling interest) from 118,000 to 53,489 between 1995 and 2000 [Yearbook 2000, p. 407; Yearbook 2001, p. 401]. This reduction reflects local efforts to dispose of loss-making enterprises via merger, acquisition, lease, sale, bankruptcy or other forms of asset restructuring. Complaints of precipitous action leave little doubt that local governments do have effective authority to alienate the assets of ordinary state enterprises [Sale, 1998].

China's rural collectives are governed by the 1996 Township Enterprise Law [Compendium 1997, pp. 263-272]. This statute does not assign explicit authority over transactions involving enterprise property. It does, however, specify that enterprise property belongs to the collective entity that established the firm (Article 10) and that firms should report mergers and similar transactions "to the administrative management department (*xingzheng guanli bumen*) for township enterprises" (Article 8).

Nonetheless, official oversight of township and village enterprise assets is not complete. Among firms situated in the public sphere, there is a perception of "ambiguous property rights...the property right belongs to the whole community, but no individual in particular" [Xi Mi 1994, p. 4]. Ambiguity invites opportunism: "spontaneous privatization" that illegally diverts collective funds to private individuals and businesses is "rampant in the country's more than 50,000 townships" [Wu Yunhe 1995].

To clarify ownership and stem the growing incidence of spontaneous privatization, local governments have increasingly converted TVEs to shareholding enterprises. By 1998, 80 percent of rural collectives had undergone restructuring [Liu Zhenyu 1999, p. 26]. Large and important local firms typically become shareholding

cooperatives, with local government agencies holding controlling interests. Restructuring of smaller firms involves numerous options, some resulting in private control.

Chinese law now permits public-sector enterprises to become “legal persons” (*faren*) capable of independently assuming civil obligations. State and collective enterprises can restructure themselves (*qiye gaizhi*) into shareholding corporations supervised by independent directors. Listings on Chinese or overseas stock exchanges now exceed one thousand, with further increases expected. Many unlisted firms issue non-tradable shares to government bodies, enterprises, or workers. By 1999, 3,441 of China’s 22,000 large and medium-size enterprises had registered as shareholding enterprises. Agencies charged with the management of state-owned shares and other state assets now exist at every level of government.

Legal authority for asset disposition by shareholding firms rests primarily with the shareholders. Article 182 of China’s Company Law states that “Merger or break-up of companies should be discussed and decided by the shareholders’ meeting.” However, the term “company” (*gongsi*) encompasses two separate institutions: the “limited company” (*youxian ziren gongsi*), a closely held firm with two to fifty shareholders (Article 20) and the more widely held “public shareholding company” (*gufen youxian gongsi*). Any merger or break-up of a public shareholding company “must be approved by the department authorized by the State Council or by the province-level People’s Government” [Company Law, Article 183]. The prevalence of government shareholding ensures the participation of official agencies in decisions surrounding asset dispositions even when, as in the case of limited companies, official approval is not formally required.

In the case of foreign-linked firms, which now participate in asset transactions as both purchasers and sellers, legal authority to conduct such exchanges rests with management and with boards of directors. However the 1986 statute governing foreign-linked firms stipulates that “when enterprises with foreign investment undergo spin-offs, mergers, or other important modifications, they should report to their supervisory and approval agency for approval” [Foreign-Invested Enterprise Law, Article 10]. Managers and directors are further constrained by internal checks and balances built into joint ventures and by the regulatory apparatus surrounding foreign-invested firms. These constraints may have weakened over time. During the 1980s, Communist Party branches were expected to establish a presence within joint ventures and sometimes challenged managerial prerogatives [Pearson 1991, pp. 186-191]. By 1995, however, “the Party was essentially absent from joint ventures” [Pearson 1997, p. 71].

Operations of private companies come under a 1999 statute. Article 17 stipulates that “an individual investor who has legal ownership over the assets of a solely-invested enterprise may, according to law, execute a transfer or inheritance” [Individual Wholly-Owned Enterprise Law, p. 7]. Although the right of alienation seems clear, Article 15 states that “if a solely-invested enterprise experiences changing circumstances during its operating life, it should, according to law, apply to the registration agency for a change in its registration within 15 days.” Registration is cumbersome: special rules for Beijing’s Haidian District issued in early 2000 aim at limiting the process “to one month, instead of the usual three and a half” [Xiao Lu 2000]. Since it is illegal for private enterprises to operate without formal registration (Article 13), the re-registration provision opens the door to informal regulation of mergers or asset transfers by private firms.

Summary

The right of alienation within China's property regime, summarized in Table 1, has evolved into a complex structure. While retaining substantial elements of the former socialist regime, two decades of reform have moved the system toward clarification of ownership rights over public and industrial property. A succession of new laws and regulations reveals a tendency to empower boards of directors and managers with the authority to initiate, if not always to conclude, transactions involving the acquisition, merger, and sale of enterprise assets. When asset transactions require official authorization, decision-making authority tends to gravitate to lower levels of government.

COMPETITION

Fierce competition for sales, managers and skilled workers, export contracts, and foreign connections has become an inescapable feature of everyday Chinese business. The shift from widespread shortage to a buyer's market is among the most widely remarked outcomes of China's economic reform. Competition in markets for industrial goods is a plausible but by no means perfect proxy for potential competition in the market for enterprise property rights. To evaluate the market for ownership rights, we review circumstances affecting the supply and demand of corporate assets.

Supply of Industrial Property Rights

Reform effectively dismantled most barriers to the entry of new industrial firms. The number of industrial enterprises rocketed from 3.5 million in 1978 to nearly 8

million in the late 1990s [Yearbook 1985, p. 305; Yearbook 2000, p. 407]. With entry concentrated among rural collectives, private entities, and foreign-linked firms, the output share of the initially dominant state sector plunged from more than three-fourths to barely one quarter during the same two decades [Yearbook 2000, p. 407].

We use two measures of ownership concentration to proxy the extent of potential competition among sellers in the market for corporate assets. Table 2 summarizes the distribution of firms by ownership type in 508 four-digit industries during 1996. The figures confirm the numerical preponderance of enterprises outside the state sector: SOEs account for more than 30 percent of the total number of firms in only 18 percent of the 508 industry classifications. In nearly two-thirds of the industries, SOEs account for no more than 20 percent of all firms.

Table 2 goes here

Table 2 shows that in most branches of industry, neither private firms nor state firms predominate. The largest numbers of firms appear in categories that combine some mix of private and public ownership: urban and rural collectives, domestic joint ventures, foreign-invested firms,¹ and shareholding enterprises.

Since state firms dominate the ranks of larger enterprises, state industry weighs more heavily in the ownership profile when we use assets rather than numbers of firms to index the distribution. Table 3 shows that in one-third of the industries, SOEs held the majority of assets in 1996. With few exceptions, private firms accounted for less than 10 percent of total branch assets. Despite the state sector's large asset share, Table 3 shows an uneven pattern of asset ownership, with much of the SOE asset total concentrated in a

relatively small group of branches. As a result, the 1996 data show SOEs controlling less than half of total assets in two-thirds of China's 4-digit industries.

Table 3 goes here

Table 4 identifies four-digit industries in which state and private firms held the smallest and largest asset shares. There is a large contrast between sectors like railway equipment and cigarette manufacture, which are essentially SOE monopolies, and branches included in the upper panel of Table 4, where the SOE asset share is less than four percent.

Table 4 goes here

Information on the ownership of the four largest firms in each branch, ranked by sales, reinforces this picture of limited SOE dominance. Data for 1996 compiled in Table 5 show that SOEs occupy all four of the top spots in only six percent of 508 branches. In one-third of all branches, no state firm appears among the four largest enterprises.

Table 5 goes here

This review finds an unexpectedly broad distribution of potential suppliers to the market for industrial property rights. SOE dominance is limited to a rather narrow segment of the industrial landscape. Outside the branches essentially reserved for the state sector, we find a striking diversity of ownership types.

Demand for Industrial Property Rights

In principle, the demand side of China's market for industrial property rights includes all domestic residents and foreign investors. More realistically, existing owners

of Chinese industrial property, including foreign entities active in China's domestic economy, are the main potential asset buyers.

An important limit to effective demand arises from the concentration of industrial assets in large enterprises. Partial data for 1997 show 7,198 large firms, mostly in the state sector, controlling 56.1 percent of all fixed assets. The combined fixed assets of the entire private sector, by contrast, are no larger than the assets of 40 average firms within the large-scale category [Industry Yearbook 1998, pp. 103-134].

Although this disparity makes it unlikely that small firms, including private companies, can purchase large enterprises, there is no legal barrier to tie-ups among large firms. Nor is there any legal obstacle to partial divestiture of assets or the formation of voluntary enterprise groups uniting domestic (and possibly offshore) businesses for the purpose of acquiring assets. The creation of asset management companies linked to China's four large commercial banks for the express purpose of working out bad debts presages an increase in debt-equity swaps and other asset transactions involving large and medium-sized state firms, which are the chief clients of these state-owned banks.

Since China's banks do not advance funds to support transactions involving enterprise property rights, buyers may be obliged to provide asset guarantees that match the value of newly acquired property without employing the target firm's assets as collateral [Wei Feng 1999, p. 10]. Such requirements favor the existing owners of China's largest enterprises. They also confer special opportunities on the tiny minority of firms that enjoy access to direct financing through domestic or offshore equity markets. Shareholding corporations, which accounted for only 5.5 percent of industrial assets in

1995, participated in 44.2 percent of the reported asset transfers in that year [Asset Yearbook 1996, p. 76; Yearbook 1996, p. 414].

Offshore investors constitute the most liquid and diverse source of demand for industrial assets. At the end of 1997, foreign and overseas Chinese wholly owned and joint-venture enterprises accounted for 17.5 percent of China's industrial assets.² By lowering barriers to the expansion of domestic operations by offshore firms, China's accession to the World Trade Organization (WTO) is surely increasing the effective demand from these firms. In particular, growing foreign participation in China's financial sector should enlarge the supply of financing for property rights transactions.

Summary

Disaggregated measures focused on numbers of firms and on assets reveal unexpectedly modest concentration of ownership in the state sector, which translates into an unexpectedly large potential supply of transferable assets. On the demand side, recent developments promise to increase the numbers and capabilities of potential asset buyers. These include rapid expansion of assets held by shareholding companies, debt-equity swaps involving asset management companies associated with China's large state banks, continuing development of China's stock and bond markets, new forms of ownership that allow for the transfer of equity to workers and managers,³ and the accelerated liberalization of trade and investment in accord with WTO standards. Although, as we shall see, the scale of transactions remains modest, ongoing reform has created a growing array of circumstances that can facilitate an increasingly active market for industrial property rights.

TRANSACTION COSTS

Transaction costs shape the locus of feasible arrangements. High transaction costs, like high costs of transportation, restrict the scope of exchange. The challenge of reform is to develop decentralized mechanisms to replace official decision-making. The ingredients include accounting and auditing standards, codification of fiscal regulations, markets for managerial talent, commercialized bank lending, enforcement of debt obligations, commercial law, economic courts, securities markets, credit ratings, and arbitration mechanisms.

Creating such arrangements is slow and expensive. No mature economy, let alone China's, approaches Coase's ideal of costless transactions. The practical question concerns the extent to which reform can expand the range of feasible resource combinations by reducing transaction costs. We examine three areas: the transparency of enterprise structures and operations, the adequacy of transaction resources, and bankruptcy procedures.

Transparency of the Enterprise

Transparent corporate structures permit outsiders to judge enterprise profits and prospects on the basis of public information. The pre-reform plan system provided little connection between financial outcomes and enterprise viability. By expanding the transparency of enterprise operations, reform has enhanced the feasibility of a market for corporate control. There are a number of significant developments.

The shift from plan to market has moved prices into closer alignment with domestic costs and international values. The reduction of price distortions means that profits and costs become increasingly useful as indicators of economic value.

Prior to reform, enterprise leaders frequently declined to answer specific inquiries, at times including even requests for their names. Today, China's ministries, provinces, cities, and counties issue statistical yearbooks crammed with information. Some firms publish their own yearbooks [e.g. Wuhan Steel, 1995]; many issue annual financial summaries,⁴ some certified by independent auditors. Beginning in 1993, The Ministry of Finance required state enterprises to implement accounting procedures intended to bring financial records into conformity with international standards.

Despite these important advances, difficulties abound. The shift from plan to market is not complete. While production plans are no longer important, governments at all levels continue to announce detailed prescriptions for investment spending, bank credits, output composition, export growth, and the organization of industry. Government intervention extends beyond what is customary even in highly regulated market systems like South Korea and Japan. The resulting uncertainty imposes substantial costs on incumbent managers and on outsiders seeking to gauge the financial prospects of China's industrial firms.

Access to information, while expanded, remains incomplete. Manipulation of accounts is commonplace [Zhang Wenkui 2001, pp. 45-46]. Firms remain enmeshed in opaque government-business ties, which create financial obligations and operational restrictions that are not visible to outsiders. Corporate groups often consist of former government offices and the enterprises previously attached to them. Secret laws and regulations that are enforced but not publicly announced remain inaccessible to both foreign firms and non-Chinese attorneys.

Transaction Resources

We use this term to designate institutions and capabilities that facilitate exchange by lowering the cost of planning, arranging and enforcing contracts. We divide transaction resources into two categories. Market transaction resources are arrangements and skills dispersed within the economy that support low transaction costs. Public transaction resources are official arrangements that reduce the cost of exchange.

Market transaction resources. This category includes skilled individuals, such as lawyers, appraisers, and accountants, as well as associations that establish and maintain professional standards. It also includes specialized economic organizations, such as banks, insurance companies, trust companies, credit cooperatives, credit rating agencies, clearing-houses, brokerages, securities markets, and commodity exchanges that generate financial information and facilitate property-rights transactions. International law firms, security houses, consultancies and investment banks have established Chinese offices that can assist in a growing range of property rights transfers.

In reviewing the development of market transaction resources, we find a combination of strenuous activity, significant progress, and major shortcomings. China has exerted remarkable efforts to expand institutions and skills that can reduce transaction costs. Week after week, month after month, we observe new markets, assets, and intermediaries, fresh attacks on anachronistic regulations, and novel programs to train cohorts of legal, financial and accounting specialists.

Despite the massive impact of these efforts, glaring weaknesses persist. China's banks push to establish and defend commercial lending standards even as officials compel them to extend non-commercial loans, mainly to SOEs. Soft lending diverts funds from profitable opportunities. Financial weakness arising from the accumulation of unrepayable debt obliges officials to limit competition from new financial institutions. These circumstances obstruct financial innovation, including lending in support of property rights transactions.

Public Transaction Resources. This category encompasses official agencies and government actions and resources that act to reduce the cost of exchanging property

rights. Beginning with Wuhan in 1988, both local and provincial governments and, more recently, private initiative, have established several hundred property rights transaction centers. The first set of regulations governing mergers and acquisitions appeared in 1989. In 1994, 18 municipalities (later increased to 50 and then to over 100) were selected as proving grounds for "capital structure optimization," a program designed to facilitate asset restructuring by means of bankruptcy, mergers, and acquisitions [Bankruptcy 1997, M&A 1997, Industry Development Report 1998, p. 106]. While these agencies have enlarged the scope and volume of property rights transfers, most involving SOEs, they tend to focus on local transactions. Despite the absence of formal restrictions, "interregional acquisitions are few; deals tend to unite firms in a single region" [Wei Feng 1999, p. 10]

Chinese law and regulation also limit the scope of property rights transactions. China's growing corpus of economic law remains far from complete. In addition, large gaps separate principle and practice. Courts are less than fully independent. Few judges and lawyers are familiar with the content and procedures of domestic and international economic law. Judgments, even if equitable, are difficult to enforce.

The weak legal system tilts business dealings toward relational contracting based on personal ties and go-betweens. While these methods often provide viable substitutes for arms-length transactions, their use restricts business opportunities, weakens competition, and limits the scope of feasible exchange of ownership rights.

In addition to the cost of negotiating and implementing agreements, some localities impose fees and taxes amounting to 15-30 percent of the value of property

being exchanged [Asset Yearbook 1996, p. 78]. Pervasive corruption imposes additional cost and risk.

The extent of corruption offers a rough comparative index of transaction costs. Transparency International's annual Corruption Perceptions Index typically places China well down in the rankings, but ahead of some other populous developing states. The results for 2001 place China (along with Argentina) 57th among 91 countries, behind South Korea (42), Mexico (51) and Egypt (54), but ahead of Thailand (61), India (71) and Indonesia (88) [<http://www.transparency.org/documents/cpi/2001/cpi2001.html>].

Bankruptcy

Laws and procedures for bankruptcy create rules for liquidating assets and restructuring weak firms. China passed an experimental Bankruptcy Law in 1986. Several factors have limited the application of this statute, which took effect in 1988. The 1986 law focuses on liquidation: only six of 43 articles touch on reorganization, and these offer no detailed provisions regarding debt-equity swaps or refinancing [Li and Li 1995, p. 9]. Prior to the development of unemployment insurance and the expansion of layoffs in the late 1990s, China's tradition of employee tenure hindered bankruptcy implementation. Another difficulty arises from the subservience of enterprises to administrative agencies, which in this instance is written into law: only "the bankrupt enterprise's supervisory agency (*zhuguan bumen*) can petition for reorganization. The enterprise has no power to initiate such a petition on its own" [Yang Bin 1998, p. 11].

Researchers associated with China's large state-owned banks, which are the principal creditors of enterprises facing bankruptcy, find that "standard" bankruptcy

procedures produce “reasonable” results, with creditors typically recouping approximately 30 percent of outstanding debts [Bankruptcy 1997]. But they complain that non-standard procedures often give short shrift to the interests of banks and other creditors. These include failure to enforce collateral agreements, exclusion of creditors from judicially-appointed workout committees, diversion of assets to benefit workers, excessive fees, and procedural manipulation by local government to allow debtors to evade financial obligations [e.g. Hubei 1996, Qi and Yang 1996, Zhang Hui 1996, Zhang Jing 1996, Bankruptcy 1997].

Despite these difficulties, which lead to complaints that bankruptcy procedures "bankrupt the banks," the number of cases filed and settled and the volume of assets involved in bankruptcy procedures has increased. Bankruptcies adjudicated by the People's Courts (*renmin fayuan*) rose sharply from 98 in 1989 to 478 in 1993, 4,400 in 1996, and over 5,000 in each subsequent year [Yi Jianjun 1996, p. 2; Law Yearbook, various issues]. During 1995/96, the Bank of Industry and Commerce (ICBC), one of China's four large state banks, was involved in 5,128 bankruptcy cases involving sums that accounted for 1.9 percent of the bank's total loan portfolio [Bankruptcy 1997].

Summary

Two impressions dominate our view of transaction costs surrounding China's market for industrial property rights. The reform process has brought gradual improvements that cumulate into massive cost reductions. Despite a flood of complaints about shifting and obscure rules, distorted accounts, and graft, overseas investment funds continue to arrive, new factories commence production, commerce grows. Long-term

expansion of the scale and variety of business activity -- the clearest possible sign of a declining ratio of transaction costs to the discounted value of commercial opportunities -- is an undeniable reality. But despite these gains, high transaction costs continue as a formidable obstacle to the expansion of China's market for property rights.

CHINA'S EMERGING MARKET FOR PROPERTY RIGHTS

While two decades of reform have expanded opportunities for property rights transactions, China's market for industrial assets remains far removed from the conditions of clearly specified ownership, competition, and low transaction costs underpinning the Coase theorem. To appraise the relevance of Coase's analysis to the transition environment, we review the scale and character of China's market for industrial ownership rights.

Volume of asset transactions

There are no comprehensive statistics of transactions in property rights. Partial information confirms that the scale of activity has increased rapidly from a tiny base. Mergers, virtually unknown under the pre-reform system of socialist planning, first appeared in 1984 [Wang Shouan 1998, p. 150]. Large-scale activity began in 1988. One source states that 6,900 firms with assets of RMB 8 billion were acquired during the 1980s [Asset Yearbook 1996, p. 355]. In the early 1990s, asset transfer agencies in Shanghai and four other cities assisted in transactions involving 2,900 firms and RMB 6 billion in assets [ibid.], suggesting nation-wide transactions volume of roughly RMB 8.3 billion per year in the urban sector.⁵

The central government's 1994 decision (Document #59) authorizing 18 cities (subsequently expanded to more than 100) to experiment with "optimization of capital structures" stimulated a sharp acceleration of mergers and also of bankruptcies, which in China are typically associated with mergers.⁶ The number of mergers reached 20,000 in 1996. The volume of assets involved in merger and bankruptcy transactions jumped to RMB160 billion in 1994 (mergers only) and to RMB 415.5 billion in 1997 [Wang Shouan 1998, pp. 150,152; Industrial Development Report 1998, pp. 4, 8].

These partial figures indicate that the annual volume of asset transactions rose 100-fold between the mid-1980s and 1997. Despite this growth, the proportion of assets drawn into the exchange process remains modest. In 1997, the volume of assets involved in mergers and bankruptcies throughout the economy amounted to 6.9 percent of the asset total for state-owned industry and 3.8 percent of the asset stock for all state enterprises [Asset Yearbook 1997, p. 402]. This amounts to approximately two percent of China's total reported industrial and commercial assets.

U.S. figures for 1996 show an annual value of mergers and acquisitions equivalent to roughly one-seventh of stock market capitalization; in East and Southeast Asia (excluding Japan) the comparable ratio is less than half of the U.S. figure [Granitsas, 2000, p. 67]. These crude comparisons indicate that China's rate of M&A activity during the mid- to late 1990s was considerably smaller than in other Asian developing nations.

During the 1980s, most mergers involved enterprises in the same trade, locality, and ownership system. More recently, these limitations have begun to erode [Wei Feng 1999, p. 10]. Mergers that link firms in different industries, regions, and ownership systems are no longer uncommon. The television producer Konka is one of many firms

that now operate plants in several provinces. Conglomerates like Capital Steel span diverse industries. Asset transfers involving state and collective firms, or state and private enterprises predate the recent policy of “retaining large state firms and releasing small ones,” which has vastly expanded the opportunities for transactions formerly viewed as unorthodox. Another novelty is the entry of foreign firms into China’s nascent property rights market. By the end of 1996, 10 of China’s 59 largest tire manufacturers, 12 of the 13 largest pharmaceutical firms, and 70 percent of the largest beer producers have come under the control of foreign firms [M&A 1997]. More recently, foreign firms have sold assets in the beer and food processing sectors to Chinese competitors [Landler 2000; Dai Yan 2001]

We also see a notable increase in the financial complexity of asset transfers. Initially, standard practice involved the acquiring firm gaining control of a target enterprise in exchange for full or partial absorption of the target’s workers, retirees, and financial obligations. Such transfers remain common, although policy shifts have repeatedly relaxed the financial requirements imposed on firms acquiring weak merger partners [Wei Xiangyun 1998, p. 40].

More recently, firms have begun to use capital markets to mobilize funds for corporate acquisitions. The Shenzhen-based Baoan group mounted China’s first corporate raid in 1993, launching a surprise share-buying campaign that enabled it to become the largest holder of shares in Shanghai-based Yanzhong Ltd. [Wang Shouan 1998, p. 150]. Konka, the television producer, has repeatedly used share issues to finance corporate takeovers [ibid, p. 160]. Although official approval is needed to access domestic or

overseas markets for shares or bonds, some firms have gained indirect capital-market access through the device of purchasing shell corporations.

Two forms of property rights transactions

Transactions in China's small but growing market for industrial property rights fall into two distinct categories: market-mediated exchange aimed at commercial objectives, and government-directed restructurings motivated by a mix of economic and political objectives. We begin with the latter.

Government-directed restructuring. Governments, including provincial and local as well as central agencies, stand out as the chief actors in China's emerging property rights market. Direct official intervention arises from two distinct motives: limiting instability arising from layoffs and other manifestations of enterprise failure; and building large and powerful firms and enterprise groups that can compete successfully in global markets.

Early experimentation with mergers and acquisitions, typically initiated by official agencies, focused on small firms. Non-commercial objectives predominated, as officials sought to escape the burden of supporting loss-making enterprises by merging them with stronger firms. Such policies persist. The 1998 merger between Shanghai's Baosteel and several floundering regional steel-makers, which saddled Baosteel with an enormously increased workforce, illustrates this sort of forced merger, which Chinese authors describe as "arranged marriage" (*lalangpei*). In the same spirit, share offerings on China's stock exchanges have become an instrument of state-mediated restructurings.

Enterprises that aspire to stock exchange listings “must merge with or purchase a loss-making enterprise before they are listed” [interview, May 1999].

Beginning in the late 1990s, a quite different motivation has come to the fore. Official intervention is increasingly based on the belief that expansion of China’s global economic role requires the development of large-scale enterprises that can match the financial power and technical strength of international giants like General Motors, Siemens, and Hitachi. Frequent reference to the small scale of even the largest Chinese firms, for example by Vice-Minister Jiang Qiangui of the State Economic and Trade Commission, captures this sentiment:

...in 1998, the average total assets and sales revenues of China’s top 500 industrial enterprises was. . . a mere 0.88 per cent and 1.74 per cent [of comparable figures for] the global top 500 companies. . . . Under such circumstances, many domestic enterprises have fallen subject to inadequate capital, limited market size, and inefficient technology [Zhu Qiwen 2000].

China’s government has responded by initiating a massive campaign of industrial consolidation. According to Sheng Huaren, Minister of the State Economic and Trade Commission, “China’s plan is to create up to 100 colossal SOEs and enterprise groups in the next three to five years in key economic sectors that would be capable of competing in the world market” [Zhao Huanxin 2000]. A vice-minister of the Planning Commission stated that consolidation in the automotive sector must “be accelerated to create several big groups with strong product development capability”; merger plans of Dongfeng

Motor Corp., one of China's three largest producers, are described as "part of the government's plans" [Gong Zhengzheng 2001]. Parallel developments are underway in other sectors, including coal, aluminum, and machine-building [Huo Yongzhe 2001; Xie Ye 2001; Gong Zhengzheng 2000]. One such government-mediated effort created the Aluminum Corporation of China, which emerged instantly as "the third largest alumina producer in the world" when "the State collected all its alumina assets to form a State-run integrated aluminum giant [Xie Ye 2001]. According to ACC's own website, "we encounter no competition from domestic alumina producers... The PRC government has set minimum annual capacity thresholds of 300,000-500,000 tonnes... which necessitates a considerable greenfield investment to enter into the Chinese alumina production market" [<http://www.ipo.com/ipoinfo/profile.asp?p=IPO&c=ACH>]

Recent Chinese experience necessitates a skeptical view of prospects for managed restructuring under official direction. New studies indicate strikingly weak productivity results for China's shareholding companies, most created by government-initiated restructuring efforts during the mid-1990s [JRWZ 2000; JHGY 2001]. We see no reason to anticipate that strategic promotion of officially-favored corporate groups will deliver better outcomes in China than in Japan or Korea, particularly since China's economy is already burdened with dangerous quantities of the bad debts and under-performing assets that such policies seem likely to create. Chinese economists have issued stinging criticism of corporate groups for weak financial controls and lagging technology [Shen et al 1996; Wang Shouan 1998, p. 82; Shen Bao 2001, p. 10]. They also attack the uneconomic tendencies associated with government-led restructuring, insisting "size is neither the only objective nor the main objective," questioning government's

commitment to “respect the basic principle of building profit along with scale,” and pointing to neglect of cost reduction and quality control [Summary 2000]. A recent review of government strategy in the automobile and auto components, aerospace, pharmaceutical, and electric power equipment sectors found that none of the officially sponsored companies had established an international presence and concluded that “...China’s leading firms are further behind global leaders than they were when the industrial policies began almost two decades ago” [Nolan, 2002].

Market-mediated restructuring. Market-mediated restructurings also seem poised to expand, partly because of the accumulated impact of reforms – especially the ongoing privatization of small firms, partly as a result of liberalization measures linked to China’s WTO accession, but particularly because massive debt-equity swaps have quickly established China’s four bank asset management firms as major players in the commercial segment of China’s market for industrial property rights.

Since their creation in 1999, these firms, each associated with one of China’s four large state banks, have quickly acquired vast corporate equity as part of debt-equity swaps with their banking partners. The holdings of the four firms match the combined December 2000 market capitalization – RMB 4.18 trillion -- of China’s two stock exchanges [<http://www.tdctrade.com/econforum/citi/001101.htm>]. The four firms, while fully state-owned, appear focused on commercial objectives. They have waded into asset markets with great vigor, hawking assets to domestic and overseas buyers, forming alliances with international financial firms, and filing lawsuits against recalcitrant debtors [e.g. <http://news.muzi.com/ll/english/64333.shtml>; [ibid. 66325.shtml](http://news.muzi.com/ll/english/66325.shtml); Wang Ying 2000]. Commercial behavior is also visible in some province-level agencies created to manage

the state's industrial and commercial holdings. [Lu Zhongyuan 1999; Gilley 2001].

Market-mediated asset restructuring faces two difficulties. Transaction costs associated with market-based reorganization efforts rise steeply with enterprise scale. The multiplicity of stakeholders associated with large firms, the involvement of overlapping bureaucracies, and the small size of financial markets makes the assets of many large firms almost impervious to market pressures. Equally important are limitations imposed by China's unfinished reforms and incomplete institutional structure. Gaps in economic law and judicial enforcement, widespread debt evasion, inadequate supervision of financial reporting, rampant insider trading and many other forms of business malpractice exert large downward pressure on the supply as well as the demand for industrial property rights [e.g. Xu Binglan 2001; Zhang Wenkui 2001].

China's current policy mix includes a wide array of initiatives aimed at further reducing these transaction costs. The legal and regulatory consequences of China's entry into WTO will accelerate these efforts. Key items on this agenda include a "second reform" intended to grant companies the full independence promised but not implemented during the 1990s; expansion of bank ownership and bank lending outside the state sector; stronger incentives for enterprise managers, including stock options and performance bonuses; efforts to commercialize the listing process and clean up China's stock exchanges; continued erosion of barriers obstructing the formation and growth of private businesses; and initial steps toward abolishing the system of requiring enterprises to seek official approval (*pizhun*) for all significant actions [e.g. Linbo 2000; Private Banks 2001; Huo Yongzhe 2000, Mu jin 2001; More Freedom 2001].

These reforms, however, are on a collision course with the recentralizing tendencies surrounding official efforts to “create 100 colossal state enterprises.” Direct government management of enterprise restructuring seem likely to stimulate more rather than less officially-mandated bank lending, to increase rather than reduce government control over access to financial markets, and to expand rather than curtail murky relationships between official bureaucracies and favored corporations. This tension is evident in the revival of China’s State Development Planning Commission, which threatens to roll back moves toward allocating investment funds through market mechanisms, and in efforts by the Ministry of Finance to assert sweeping authority over firms with full or partial state ownership, which undercut plans to separate enterprises from official supervision [Geng Hong 2001; Rawski 2001]. Measures that favor government-managed restructuring tend to crowd out opportunities for market-mediated restructuring by curtailing available financial resources and by setting up administrative barriers to would-be market entrants, as we see in the case of alumina.

This conflict between government-directed and market-mediated restructuring creates an important strategic choice. The issue is not one of “free markets versus planning.” Official involvement in these matters is unavoidable, indeed essential. But what kind of government action will best enhance efficient utilization of China’s industrial resources in the coming years? Our approach, which frames this choice in terms of the contrasting analyses of A.C. Pigou and of Ronald Coase, fits exactly with current thinking among Chinese policy analysts:

With regard to the readjustment of economic structure, we can assert the following: its main purpose is not to have government use social resources to implement a more rational economic structure, but rather it is to use reform, readjustment, and system construction to establish a system that is appropriate for an economic structure that is continuously self adjusting. The basic attitude of the government toward economic structure adjustment should shift from the traditional perspective of ‘the state induces development’ to ‘improve the functioning of the market’ [Project Group 2000].

We share these authors’ view of officially-managed restructuring as a lineal descendent of China’s socialist past that reflects the “traditional perspective” of economic planning and is likely to produce the same unwanted outcomes that sparked China’s original decision to initiate a process of market-directed reform. The central point, however, is the recognition that state-induced development, represented by the plan to “create 100 colossal state enterprises,” is incompatible with efforts to develop “an economic structure that is continuously self-adjusting” because state-induced development necessitates direct official action that continuously and massively violates market fundamentals.

CONCLUSION

This paper begins and ends with the contrasting views of government’s economic role that emerge from the work of A.C. Pigou and Ronald Coase. We show how weak monitoring drives the operation of China’s state enterprises toward the same outcomes

observed in the case of common property resources. This suggests the relevance of the Coase theorem to the study of transition from plan to market.

Accordingly, we examine China's emerging markets for industrial property rights against the benchmark of well-specified ownership, competitive exchange of property rights, and minimal transaction costs underlying Coase's theoretical analysis. Our review of actual market conditions, which may represent the first quantitative assessment of China's market for mergers and acquisitions, shows rapid growth of the volume and variety of transactions from a tiny base. Yet, we find that, even after two decades of reform, Chinese conditions do not approach either theoretical requirements or circumstances observed in the United States and other market economies. Despite extensive effort and considerable progress, high transaction costs continue to limit the scope for market-mediated exchange of industrial property rights.

Official efforts to spur economic development by direct intervention, encapsulated in the plan to "create 100 colossal state enterprises" to foster China's international competitive strength, create a sharp policy conflict. Large-scale efforts directed toward managed restructuring threaten to halt or even reverse the development of emergent markets for property rights. Our concern is that by absorbing scarce financial resources and creating incentives for administrative action to protect these "colossal state enterprises," state-directed restructuring serves to elevate transaction costs and impede the process of market-mediated restructuring.

China faces an important choice between fundamentally different approaches to economic reform and development. One strategy would focus official policy on manufacturing comparative advantage through planned development of giant state

enterprises. The alternative would direct official energies toward expanding and deepening the institutional underpinnings of a vibrant market system. The latter approach, focused on stimulating market-based restructuring of property rights, might contemplate breaking up large state entities, as has already occurred in parts of the petroleum, electricity, banking, insurance, and telecommunications industries, rather than expanding large state firms.

We recognize that the superiority of market-based restructuring under costless transacting need not apply in a world in which substantial transaction costs complicate the evaluation of policy options that focus on direct interventions or, alternatively, on building market supporting institutions. As Ronald Coase acknowledges, his analysis

. . . does not imply, when transaction costs are positive, that government actions . . . could not produce a better result than relying on negotiations between individuals in the market. Whether this would be so could be discovered not by studying imaginary governments but what real governments actually do. My conclusion: let us study the world of positive transaction costs [Coase, 1992, p. 717].

Our analysis pursues this agenda by exploring the relevance of ideas about the efficiency of decentralized transactions in the context of China's semi-market economy, a setting far removed from the circumstances that inspired the analysis underlying the Coase theorem.

The conclusions emerging from our effort to apply Coase's ideas to China's nascent market for industrial property rights are suggestive rather than precise. We

cannot specify a tipping point beyond which rising transaction costs may permit direct government intervention to surpass the efficiency of market-mediated alternatives. Nor can we predict the outcome of current debates among Chinese economists and policy-makers over the relative merit of alternative paths to restructuring. Although we cannot expect to see a pure strategy that embodies either a full market orientation or a wholly interventionist alternative, the choice confronting China's leaders is clear. Will the chief impetus to future growth come from firms like Haier, which used marketing, innovation, and quality control to power its rise from obscurity to international prominence in the household appliance industry? Or will China's leading businesses resemble The Aluminum Corporation of China, a "state-run integrated aluminum giant" that achieved instant prominence upon being granted a virtual monopoly in China's domestic market? The choice of strategies will powerfully influence China's economic prospects. The analysis of issues surrounding this choice can beneficially build on the contrasting visions of economic policy-making arising from the scholarship of A.C. Pigou and Ronald Coase.

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Table 1
Control Rights Over Alienation of Industrial Property, 2000

Type of Firm	Locus of Formal Authority	Does Clear Authority Exist?	Main Actors in Alienation of Property
Key State-owned firms	Management & Supervisory Agencies	No	State Council Supervisory Agencies Management
Other State-owned firms	Management & Supervisory Agencies	Frequently	Local Government Supervisory Agencies Management
Collective firms	The “collective entity” Management	Frequently	Local Government Management
Foreign-linked firms	Board of Directors	Sometimes	Management Official Partners Local Government Supervisory Agencies
Shareholding firms	Shareholders or Shareholders & Supervisory Agency (or Provincial Govt)	Sometimes	Management Supervisory Agency Official shareholders
Private (wholly-owned) firms	Private owners	Usually	Private owners

Note: Supervisory Agency refers to the *zhuguan bumen*.

Table 2
 Distribution of Firm Ownership: Share of State
 (SOE) and Private (PRI) Enterprises in 508 Four-Digit Industries, 1996
 (percent)

Share of firms that are SOEs or PRIs.	Share of 4-digit industries in which SOE firms account for....percent of firms	Share of 4-digit industries in which PRI firms account for....percent of firms
0—10 %	22.24%	69.29%
10--20	41.14	0
20--30	18.70	0.20
30--40	8.07	0
40--50	4.33	0
50--60	1.77	0
60--70	0.98	0
70--80	0.98	0.20
80--90	0.39	0
90--100	0.39	0
Missing or "0"	0.98	30.31
Total	100.00	100.00

Source: *China Markets Yearbook 1996*.

Table 3
 Distribution of Asset Ownership Among State
 (SOE) and Private (PRI) Enterprises in 508 Four-Digit Industries, 1996
 (percent)

Percent of assets owned by SOEs or PRIs.	Share of 4-digit industries in which SOE assets account for ...percent of total assets	Share of 4-digit industries in which PRI assets account for ...percent of total assets
0—10 %	10.83 %	67.13
10--20	13.39	0.2
20--30	16.34	0
30--40	12.79	0
40--50	12.20	0
50--60	10.83	0
60--70	9.25	0
70--80	5.71	0
80--90	4.33	0
90--100	3.35	0
Missing or "0"	9.84	32.68
Total	100.00	100.00

Source: *China Markets Yearbook 1996*.

Table 4
Sectors with Highest and Lowest Concentrations
of State and Private Asset Ownership, 508 Four-Digit Industries, 1996

	Industry name	share of assets held by SOE firms	Industry name	share of assets held by PRI firms
Bottom10	Household Rubber Products	0.997	Wool Washing	0.062
	Iron Farm Tools	2.062	Mechanized Farm Tools	0.063
	Other Fishing Tackle	2.273	Household Glass Products	0.089
	Plastic Furniture	2.439	Forest Chemical Products	0.096
	Motorcycle Repair	2.721	Household Ceramics	0.111
	Fish and Fish Products	2.857	Beer	0.135
	Other Artistic Products	2.961	Book, Newspaper and Magazine Printing	0.144
	Wool Printing and Dyeing	3.205	Pastry	0.158
	Leather Bags	3.341	Other Electricity Transmission, Distribution and Control Equipment	0.162
	Other Leather Products	3.861	Silk Reeling	0.164
Top10	Nitrogenous Fertilizer	91.348	Pumps	73.269
	Beet Sugar	91.089	Hydraulic Turbines	27.907
	Aircraft Repair	83.333	Wool Spinning	8.430
	Tobacco Stemming and Redrying	82.000	Slide Projectors	6.667
	Cane Sugar	79.318	Wool Printing and Dyeing	5.769
	Cigarettes	77.132	Construction Glass	5.373
	Hydraulic Turbines	72.093	Instruments & Meters for Farming, Forestry, Husbandry and Fishing	5.263
	Photographic and Film Equipment	71.429	Fishing Tackle Rope	4.348
	Passenger Rolling Stock	71.429	Steel Smelting	3.338
	Locomotives	66.667	Meat By-products	3.175

Source: *China Markets Yearbook 1996*.

Table 5
Share of 508 Four-Digit Industries in which 0-4
of the Largest Enterprises are State-owned
(based on 1996 sales)

Number of SOE firms among Four Largest Enterprises	Share of 506 Four-Digit Industries (percent)
0	33.46
1	27.17
2	21.65
3	11.61
4	6.10
Total	100.00

Source: *China Markets Yearbook 1996*.

Figure 1
Major Developments Related to the Emergence of China's
Market for Industrial Property Rights

Policies Directly Affecting Nature And Exchange Of Property Rights		Major Policy Initiatives	Implementation Of New Laws And Regulations
Experimental profit sharing	1978		
Expand Sichuan reform model; Encourage TVE growth	1979	Accelerate reform in 2 southern provinces	
	1980	Special Economic Zones; Fiscal contracting	
	1981		
	1982		
Separate firm and party leaders	1983	Specialized Banks emerge	
Delink SOE ownership & operation More SOE autonomy	1984	Dual price system; Coastal open cities	Large private firms permitted
	1985		
Contract Responsibility System	1986	Reform labor & wage systems	Foreign-Invested Firm Bankruptcy
Labor optimization	1987		
Property Rights Centers	1988		SOE Law
	1989		M&A Regulations
	1990	Shanghai Stock Exchange	
	1991	Shenzhen Stock Exchange	
Regulations on SOE operation	1992	Socialist Market Economy Goal	
"State to own, not operate SOEs"	1993	Large-scale SOE layoffs begin	Enterprise Accounting
Optimize Capital Structures	1994		Company Law
	1995		Central Bank Law
	1996		TVE Law
TVE privatization accelerates	1997		
"Keep large, release small SOEs"	1998	Central Government Reorganization	
	1999	Bank Asset Management Companies established	Constitutional support of private firms
3-year SOE reform ends	2000	Government support for private sector	Individual wholly-invested enterprise law takes effect
	2001	China enters WTO; Communist Party open to private entrepreneurs	

ENDNOTES:

¹ Foreign direct investment initially took the form of joint venture partnerships linking offshore businesses with Chinese entities, typically in the public sector. Although wholly-owned foreign entities are now permitted, joint ventures continue to absorb large amounts of foreign investment.

² Data for 2000, which are limited to state-owned firms and non-state firms with annual sales above RMB5 million, show that foreign-linked firms controlled 20.4 percent of industrial assets [Yearbook 2001, pp. 416, 431].

³ See, Cao, Qian, and Weingast [1999].

⁴ For example, Tsinghua Tongfang Co. Ltd., a publicly-listed shareholding company with Tsinghua University as its major shareholder, posts annual company reports on its web site <http://www.thtf.com.cn/>.

⁵ Since the five cities held 14.6 percent of industrial assets in 1995, we can roughly estimate the annual volume of urban asset transfers at $[6/0.146] * 0.2$ or RMB 8.3 billion, assuming that the transactions volume covers five years, 1990-1994. Asset data (for independent accounting units) are from Urban Yearbook 1996, pp. 243-257.

⁶ Local governments generally select a firm or entity to take over an insolvent enterprise prior to declaring bankruptcy. Courts often view such action as prerequisite to hearing bankruptcy cases.