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Going (More) Public: Ownership Reform among Chinese Firms

Abstract

In a fundamental and long-awaited reform, Chinese publicly traded firms began to convert non-tradable shares, which constituted two-thirds of total shares outstanding and which were held largely by the state, into shares that could trade on domestic exchanges. To facilitate this reform, tradable shareholders were compensated, usually with stock grants from non-tradable shareholders. State regulators impelled ownership reform but did not dictate the price of reform – the amount of compensation paid to tradable shareholders. Instead, compensation was negotiated between the two groups of owners. Non-tradable shareholders preferred to offer less compensation, tradable shareholders preferred to receive more compensation, and corporate executives, who brokered these deals, wanted the reform succeed at almost any price. When owners were better able to monitor corporate executives and other agents, compensation was set closer to owners’ preferences. Net of conflicts between shareholders and their agents, imitation of other firms strongly affected compensation. Our analysis enriches institutionalist research on organizational change and isomorphism by concretely incorporating the power and interests of all parties – regulators, owners, and owners’ agents – and by trying to distinguish between normative, coercive, and mimetic isomorphism.
Emerging economies, especially those making the transition from socialism to capitalism, undergo many distinct transitions – not just economic, but also political and cultural. As a result, firms operating in these economies must also undergo many adjustments. To understand these economic and organizational changes, we can apply insights gleaned from the study of Western firms (e.g., Guthrie, 1999; Bandelj, 2008). China is the largest emerging economy, and one of the fastest-growing: over the past three decades, GDP growth averaged almost 10% per year, and by 2007 it was ranked second in nominal GDP, below only the United States (International Monetary Fund, 2010). This tremendous growth has been fuelled by a gradual shift from state socialism toward market capitalism. This transition has involved many different events, but all are centered on two aspects of political economy (Naughton, 2007). First, ownership of industrial enterprises has slowly shifted away from central state control (“China Inc.”) toward a combination of local state and non-state control, and institutions that create and safeguard property rights have been developed to foster private ownership. Second, economic transactions have increasingly been conducted through markets rather than central state planning and redistribution.

One stage in China’s economic transition involved selling shares in industrial enterprises that trade freely among individual and institutional investors. By 2005, over 1,300 formerly state-owned enterprises had conducted initial public offerings to become publicly held and traded companies. But these firms were only partially publicly held, as much of their stock was held by the state, and only partially publicly traded, as two-thirds of their stock traded not on the stock exchanges, but only through state-sanctioned auctions or negotiations. These firms had two main kinds of shares: tradable shares owned by domestic or foreign investors and non-tradable shares [fei liutung] owned by the state or non-state institutional investors.

In April 2005, the China Securities Regulatory Commission (CSRC) – equivalent to the American SEC – announced a plan to convert non-tradable shares into tradable shares. Thus, publicly traded Chinese firms were to go more public. Many viewed this as a way to eliminate conflicts of interest between tradable and non-tradable shareholders, focus attention on economic rather than political goals, reduce stock-price volatility, promote effective corporate governance, and raise stock prices (Green, 2003; Wang and Chen, 2006). But it presented tradable shareholders with a problem: unless managed carefully, a flood of new shares – on average, trebling the number of tradable shares – would depress prices. Recognizing this
problem, the CSRC suggested that non-tradable shareholders compensate tradable shareholders for their expected losses. The form and amount of compensation was left open to negotiation between the two groups of shareholders. Non-tradable shareholders preferred to offer less compensation, tradable shareholders preferred to receive more compensation, and firm executives, who brokered these deals, wanted the reform succeed at almost any price.¹ For most firms, compensation involved grants of about three new tradable shares for every ten tradable shares outstanding. Notwithstanding this general isomorphism, compensation ranged broadly, from two-tenths to seven shares for every ten tradable shares.

This reform involves the largest firms in China, which dominate most industries. It tests the institution of property rights, which is critical to this transition. The property rights of tradable shareholders were not well understood, much less accepted as permanent, and the property rights of non-state owners of non-tradable shares were only slightly less tenuous (Putterman, 1995; Oi and Walder, 1999); hence, this reform was highly uncertain. This reform exemplifies the continuing transition from state-mandated to market-mediated pricing, as the price of reform – the compensation paid to tradable shareholders by non-tradable shareholders – was to be set through a negotiated exchange between the two groups of owners.

We contribute to organizational theory by examining the power and interests of all parties involved in this reform. Our analysis, which is based on both quantitative analysis of financial data and qualitative analysis of interview data, advances previous efforts to introduce power and agency into institutional analysis because it is based on two very general and complementary models – resource-dependence theory (Emerson, 1962; Pfeffer and Salancik, 1978) and agency theory (Jensen and Meckling, 1976; Fama, 1980). Moreover, we try to distinguish between coercion, norms, and imitation (DiMaggio and Powell, 1983), which have often been conflated in previous research (Mizruchi and Fein, 1999).

We contribute to research on transition economies by showing that, although the Chinese state continues to coerce firms (regulators determined the reform process and impelled virtually all firms to participate), it was exchanges between owners, not state authorities, that set the price of reform. Our findings dovetail with arguments that the Chinese central state is withdrawing from price-setting while continuing to

¹ Note that executives owned, on average, a tiny fraction of shares in the firms they managed (0.002%), due to regulation. So they were more purely agents than are American executives, who often own sizable stakes in their firms.
set the rules by which markets function (Yusuf \textit{et al.}, 2006), that the central state’s monitoring and sanctioning capacity has declined due to the shift from a centrally planned economy to a market-mediated one (Walder, 1994; Zhao, 1997), and that dependence on the central state has declined with the development of external advisors (lawyers and investment bankers) and external sources of funding (the domestic and foreign stock markets) (Walder, 1994; Keister, 2004).

We proceed as follows. Since many organizational scholars are unfamiliar with this reform, we first describe it, to ground our analysis firmly in this important context. We then develop hypotheses predicting compensation paid to tradable shareholders. These hypotheses are based on general sociological and economic theories; on previous research on firms in China; and on interviews the second author conducted with seven Chinese investment bankers, four officials at the CSRC, and one officer of the Shanghai Stock Exchange. After describing our methods and presenting our empirical results, we conclude by considering the implications of our study for organizational theory and for explanations of China’s transition toward a market-based economy with a mix of state and private ownership.

\textbf{Taking Chinese Enterprises Public}

Starting in 1979, China’s central government ceded control of many state-owned enterprises (SOEs) to provincial and local governments. In addition, the central government created a “dual-track” system that sent more tax revenues to local governments. This kept locally owned SOEs oriented toward the central government’s economic plan, but also gave them incentives to generate extra income by selling in local markets anything they produced above the plan. At the same time, the central state opened most industrial sectors to new entrants and many start-ups rushed in. In 1984, the planned portion of the economy was fixed and expected to decline relative to the market portion; ten years later, the plan had become such a small component of the economy that it was abandoned entirely. (See Naughton [2007] for more details.)

This gradual two-dimensional shift – from central state ownership of productive enterprises toward local state and non-state ownership, and from a state-managed economy toward market-mediated transactions – was supported by the aggressive creation of a rule-of-law infrastructure in the 1980s and 1990s (for a review, see the \textit{China Quarterly} [September 2007]). This transition was further bolstered by the opening
of the Shanghai and Shenzhen stock exchanges in 1990 and 1991. The number of initial public offerings of
stock (IPOs) rose from eight in 1990 to 1,483 in 2006, while the number and value of shares issued in IPOs
soared from 0.048 billion shares valued at 0.081 billion RMB (renminbi) in 1990 to 130.1 billion shares valued
at 681.4 billion RMB in 2006 (GTA, 2007) – equivalent to $85.4 billion, which easily outstripped the $49.9
billion raised by the 236 US IPOs floated that year (PriceWaterhouseCoopers, 2007).

In the process of going public, SOEs’ assets were appraised by certified public assessor or
accountant. This valuation was divided into state shares [guojia gu], which represented the state’s prior
investments in the enterprise and which were valued at 1 RMB each. Early on, state shares were held and
managed by the state or by enterprises wholly owned by the state; starting in 2003, they were managed by
State-owned Assets Supervision and Administration Commissions (SASACs). The central SASAC reports to
the State Council; local SASACs report to provincial- and municipal-level authorities.

These new firms raised additional capital by offering shares non-state investors – three kinds of
shares for three kinds of investors. Institutional shares [faren gu], also known as legal-person shares, were
offered to domestic institutions (mostly investment companies) and firms that had at least one non-state
owner. Trading in institutional shares was highly restricted; they could be purchased only through negotiation
or auction and only with state approval; as a result, these shares traded at a discount of 73% relative to A
shares. Individual shares [geren gu], also called A shares, were sold to mainland Chinese investors, both
individuals and institutions. These traded freely on the domestic exchanges. Foreign (B, N, and H) shares
were offered to foreign individuals and institutions. B shares are traded on the mainland Chinese exchanges
in a separate market from A shares.² Initial offering prices for tradable individual and foreign shares were
based on estimates of the firm’s future earnings and its assets, and were set to produce price-earnings ratios
approximating international standards. Because of extraordinary demand, A-share prices generally rose
quickly after IPO (Green, 2003).

² On the Shanghai Stock Exchange, B shares are denominated in U.S. dollars; on the Shenzhen Stock Exchange, they are
denominated in Hong Kong dollars. H and N shares are traded on the Hong Kong and New York exchanges, and
denominated in local dollars.
Because in most publicly-traded firms, the majority of shares were held by wholly state-owned institutions, state bureaus retained control over most firms. Before the reform we study unfolded, non-tradable shares constituted almost two-thirds of all shares in publicly traded firms; of these, about two-thirds were state shares and one-third were institutional shares (Wang, 2004). Many institutional shares were held by domestic investment companies controlled by private interests, but some were held by ostensibly non-state institutions that were nonetheless state-controlled. Tradable shares constituted about one-third of all shares; of these, three-quarters were individual (A) shares and one-quarter were foreign (B, N, or H) shares.

Notwithstanding the large overall percentage of state ownership, there was great variation in ownership structure. Among the 1,325 firms listed on the domestic exchanges between 1995 and 2004, state shares ranged from zero to 85% of total shares outstanding, institutional shares zero to 80%, A shares 9% to 91%, and foreign shares zero to 62% (Eun and Huang, 2007: 458).

This system of split ownership (part state, part non-state) was established to enable enterprises to raise capital while maintaining state control, similar to the situation in France (Fligstein and Zhang, 2009). But it created problems that many argued could be solved only by erasing differences between classes of shares and decreasing state ownership (Green, 2003; Wang and Chen, 2006). Most obviously, when the state was the controlling shareholder, political priorities (maintaining employment, providing social welfare benefits like housing and healthcare, and controlling sensitive industries) often displaced profit-seeking. Moreover, controlling shareholders could manipulate firms’ accounts and siphon off assets and profits. Because tradable shareholders were usually in the minority, they usually had no say in corporate governance. And because most shares were not traded, the stock market was thin and therefore vulnerable to manipulation.

**Going More Public: Converting Non-tradable Shares to Tradable Shares**

After opening the domestic stock exchanges, Chinese officials struggled with the question of how to convert non-tradable shares into tradable ones. Several reform attempts failed utterly. In 1992, when

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3 Others predicted that decreasing state ownership would reduce state assistance (e.g., Calomiris, Fisman, and Wang, 2009). This would impair performance if benefits lost from weakening the state’s “helping hand” outweighed benefits gained from weakening its “grabbing hand.” A net performance loss is especially likely because China has no strong institutions to rein in managerial corruption.
officials suggested that institutional shares be allowed to trade on domestic markets, prices of A shares dropped because supply was expected to swamp demand. The same thing happened in 1999, when officials announced that state-owned shares of two firms would be made tradable. In 2001, the CSRC announced that it would accelerate privatization by requiring the conversion of some non-tradable shares (10% of total shares outstanding) to tradable status at A-share prices. Although only 17 firms participated in this reform, the stock markets plunged 30% in three months. Pressure from investors and securities firms forced the cancellation of this reform four months later (Walter and Howie, 2006). Due to this aborted reform and to expectations that other reforms might be in the offing, as well as to generally poor firm performance and widespread fraud, the stock-market crash continued for four years. By 2005, stock-market capitalization had declined by over 50%, despite efforts by the State Council to prop up the stock markets.

These failed reform attempts made it clear that ownership reform would succeed only if the central state recognized the right of tradable shareholders to be compensated for the losses they expected to incur when non-tradable shares became tradable and flooded the market. Such a compensation policy is the centerpiece of the reform we study, which the CSRC unveiled in April 2005. The CSRC encouraged non-tradable shareholders to compensate tradable shareholders, which would ensure that ownership rights were upheld. Because firms had to obtain approval for reform from both non-tradable shareholders and tradable A shareholders, reform required a serious negotiation between the two groups of owners (Walter and Howie, 2006; Wang and Chen, 2006). But the CSRC did not specify how or how much firms should compensate tradable shareholders; it left that to be negotiated (Inoue, 2005). The Directive of April 29 stated that companies should “decide for themselves how they will sell non-tradable shares” (CSRC, 2005a). Guidance notes released August 23 declared that the CSRC’s aim was “independent decision making with respect to specific share reform scheme to suit circumstances” (CSRC, 2005b). At a press conference held September 4, the CSRC reinforced this stance, stating that “the principle approach and operating principle for the reform” was “flexible decision making to suit different circumstances under centralized co-ordination” (CSRC, 2005c). As a result, legal scholars characterized the reform as “a privatized bargaining process between non-tradable and tradable shareholders” (Wang and Chen, 2006: 341).
Two other aspects of this reform helped it succeed. First, it was rolled out in stages. Four firms served as a pilot project; after their ownership reform was completed, 42 large firms, which together accounted for 10% of the overall domestic stock-market valuation, undertook reform; only after they finished did other firms proceed. Second, the CSRC mandated a one-year lock-up period for formerly non-tradable shares. After the lock-up period, owners with over 5% of outstanding shares could sell no more than 5% in the next 12 months and no more than 10% in the following 24 months. This would reduce the volume of shares entering the market and signal state intentions to retain sizeable ownership stakes in many firms.

Ownership reform began with a vote by non-tradable shareholders; a two-thirds majority was required to initiate reform. After developing and announcing a reform plan, the board of directors announced dates for shareholders’ meetings to vote on the plan, and all trading in the firm’s stock was halted. During negotiations between tradable and non-tradable shareholders, the plan could be revised. After the plan was finalized, it was announced to the public and trading was resumed. Trading was suspended a second time before shareholders met to vote. Non-tradable and tradable shareholders met separately. The plan had to be approved by a two-thirds majority vote of participants in both meetings. If reform passed in both meetings, the result was announced the next day and the stock resumed trading. The formerly non-tradable shares were reclassified G shares, for gugai, meaning share reform.

This reform effort was hugely successful. Within one year, 803 firms, 62% of the 1,321 that had to reform their ownership, had finished reform; within two years, 1,234 (93%) had finished. Analysis of firms reforming by March 2006 showed that, after adjusting for the compensation of tradable shareholders, share prices increased by 8% (Beltratti and Bortolotti, 2006).

**What Price Reform?**

The first “pilot” firms’ ownership reforms involved grants of extra equity to tradable shareholders, paid by non-tradable shareholders. To determine compensation ratios appropriate for their situations, these

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4 This is typical of Chinese economic reforms, where the state reveals policy through the actions of model firms, whose experience often prompts adjustments before reforms are applied more broadly. This is captured in the aphorism mo zhe shi tou guo he, which translates as “crossing the river by feeling the stones.” When there is no obvious model, reformers have to advance step by step and frequently reassess the route.
firms estimated the share price after reform and offered tradable shareholders enough shares so that the market value of the shares they owned would be the same as before reform. The method used to estimate the share price after reform differed across firms (Inoue, 2005: 10). The first based its calculation on the price-earnings (P/E) ratios of international competitors whose shares were all tradable. The second did not explain how it estimated the post-reform P/E ratio. The third estimated the firm’s total market capitalization, based on the net asset value for non-tradable shares and the average share price in the 30 days before reform for tradable shares, and divided this by the total number of shares (tradable and non-tradable). The compensation ratios for these firms – the number of new shares offered for every ten existing tradable shares – were set at 0.3501, 0.25, and 0.30, respectively. Soon after, 42 more firms announced reforms. By July 18, 2007, 1,238 of 1,321 firms that had to reform their ownership (94%) had finished. Of these, 1,086 (88%) compensated tradable shareholders with stock grants. The other 152 used incommensurate means of levelling the playing field: offering call or put warrants, guaranteeing stock buy-backs at pre-set prices, or cancelling a fraction of non-tradable shares. Figure 1 plots compensation ratios: the cumulative distribution function in the top half, compensation ratios over time in the bottom half. Most firms set compensation ratios close to 0.3: the median was 0.306, and the inter-quartile range ran from 14% below the median to 13% above the median. Notwithstanding this isomorphism, the distribution ranged widely, from 0.02 to 0.700334. There is no obvious time trend.

Theory: Setting Compensation Ratios

The state, professions, and interorganizational relations all promote isomorphism – similarity in structure or behavior (DiMaggio and Powell, 1983). Isomorphism brings legitimacy, which improves access to resources and acceptance and so contributes to survival, even though it may not be efficient (Meyer and Rowan, 1977). Organizations become isomorphic in three ways (DiMaggio and Powell, 1983). Coercion works through cultural expectations and entities on which the focal organization depends. State laws and

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5 The fourth pilot firm’s reform failed when less than two-thirds of tradable shareholders approved. No rationale was given for the compensation ratio (0.356) and the way the reform was described “looked suspiciously like an attempt to make the number of shares offered to tradable shareholders appear greater than it really was” (Inoue, 2005: 11).
administrative guidelines that constitute the basic rules governing transactions are exemplary agents of coercive isomorphic pressures. Norms work through “expert” sources of information about fields, values (what is important and good), and expectations (how things should be done). Professions and other collective actors are major sources of normative isomorphic pressures. Imitation works through observation and stems from responses to uncertainty. Copying others is an efficient solution to ambiguous causes and unclear solutions. This theory has typically been used to explain the behavior of organizations in Western capitalist economies. But it offers great promise to explain organizations in Asian transition economies. For instance, Westney’s (1987) analysis of the transfer of Western organizational structures in Meiji-Era Japan revealed coercive, normative, and mimetic effects. More germane is Guthrie’s (1999) analysis of how Shanghai firms in the mid 1990s created Western-style bureaucracies, driven by state mandates, normative pressures from foreign investors, and uncertainty-prompted imitation of “market-savvy” Chinese firms.

We extend previous research incorporating power and agency into isomorphism theory (e.g., Dobbin, 1992; Fligstein, 1996; Ocasio, 1999). This work generally focused on the power and interests of a select few actors: how and why labor unions and employers negotiated health and pension plans, corporate executives maintained market stability, or corporate boards managed executive succession. In contrast, we draw on resource-dependence and agency theories to ensure that we consider all involved parties.

Resource-dependence theory holds that power inheres in relationships, not in social actors (Emerson, 1962). The power of any actor increases with the extent to which other actors depend on it and is used to settle conflicts when actors have different goals and beliefs about how to achieve those goals, when the resources necessary to achieve goals are scarce, and when goals are important (Pfeffer, 1981). Actors seek to minimize such dependencies to reduce uncertainty and increase autonomy (Pfeffer and Salancik, 1978). Given the longstanding importance of social relations – guanxi – to facilitate the exchange of favors between people in China, it is clear that resource-dependence theory can explain the behavior of Chinese firms. For example, in the 1980s, former SOEs sought autonomy from the state by borrowing capital, first from domestic banks, later from other domestic firms and foreign entities (Keister, 2004). Similarly, in the 1990s, relationships Chinese managers forged with managers in other firms and with state officials improved firm performance, especially for non-state-owned firms (Peng and Luo, 2000).
Agency theory focuses on relationships between principals and agents (Jensen and Meckling, 1976; Fama, 1980). Principals hire agents to perform services and delegate decision making authority to them; for instance, owners hire executives to run corporations and executives hire investment banks to advise them. Conflicts abound between principals and agents because agents’ interests are seldom identical to principals’ and because principals and agents have different information: principals cannot know precisely how hard agents are working, or even whether agents are working at the right tasks, so agents often do things principals don’t want them to do. To prevent this, principals must install monitoring and reward systems to align agents’ interests with their own or to make it harder for agents to do the wrong things. Like resource-dependence theory, agency theory has great power to explain the behavior of Chinese firms. For example, the separation of ownership and control causes Chinese enterprises to suffer from the same agency problems as Western firms (Lin et al., 1998). In the same vein, the varying ability of state authorities at different levels to monitor the enterprises they own – stronger for provincial and municipal authorities and weaker for central authorities – accounts for differences in enterprise performance (Walder, 1995).

Because of its great importance in China, our analysis begins by discussing coercion by the central state. We then discuss other coercive forces before turning to consider imitation and norms.

Coercive Forces

The central state as regulator. The CSRC is a powerful coercive force. Publicly traded Chinese firms require CSRC approval for equity offerings and loans, while private firms require CSRC approval to become publicly traded. It is clear that the CSRC coerced publicly traded firms into reforming their ownership. The CSRC and the central SASAC issued a joint statement stressing the importance of the ownership reform program and stating that all those involved should give it their support. In addition, the CSRC offered priority to reformed companies seeking to raise capital by borrowing from state-controlled banks, floating new equity issues, or offering new rights issues. The CSRC also determined who could participate in the reform and designed the reform process. Yet, the coercive power of the central state was limited. Three previous reform attempts had to be abandoned in the face of resistance from shareholders and securities firms. The central state depended on non-state investors for the infusions of capital that former SOEs
needed to modernize and become competitive (Walter and Howie, 2006), so it co-opted those investors by inviting suggestions for the 2005 reform; it received over 4,000 and adopted many of them, including actively encouraging firms to design compensation schemes appropriate for their particular situations (Inoue, 2005; Walter and Howie, 2006; Wang and Chen, 2006). In interviews, Chinese investment bankers revealed a widespread belief that firms had leeway to design idiosyncratic compensation schemes. In sum, the historical record, the business press, and interviews with Chinese investment bankers lead us to conclude that compensation amounts were not coerced by the central state. To explain them, we must look for state coercion within firms, specifically, at the state as owner.

The state as owner. As non-tradable shareholders, the state played a direct role in negotiations with tradable shareholders. The interests of the two groups of owners were opposed: all non-tradable shareholders, including the state, preferred to offer less compensation, while all tradable shareholders preferred to receive more compensation. The situation was complicated by the fact that state owners of non-tradable shares had more complex goals than their non-state counterparts. State owners sought not only to maximize their own economic interests, but also to enhance political goals, such as maintaining employment, providing social welfare benefits like housing and healthcare, and controlling sensitive industries (Green, 2003; Wang and Chen, 2006; Naughton, 2007). Because of their mixed interests, state owners were more likely than non-state owners to accept higher compensation ratios to ensure reform succeeded.

This reform involved complex calculations. Although gains to non-tradable share prices could be calculated using an asset-pricing model (Kahl et al., 2003; Wu and Wang, 2005), declines in tradable share prices could not be calculated precisely because no model existed. Thus compensation ratios were observable but not verifiable, observable because they were divulged, but not verifiable because claims of optimality could not be checked by objective calculation (Bolton and Dewatripont, 2005). As a result, negotiations between the two groups of owners offered many opportunities for self-interested manipulation, especially by the corporate executives who brokered these negotiations. Since no-one knew how much compensation was reasonable, corporate executives could be held accountable only for the verifiable outcome of successful reform, not for the unverifiable outcome of the compensation amount.
Executives wanted reform to succeed so they would be viewed favorably by the CSRC and their firms would receive preferential terms on loans and future equity offerings. Executives were concerned with getting reform done at almost any price, not some optimal price.\(^6\) The probability of reform succeeding, which hinged on a two-thirds majority vote by tradable shareholders, increased with the compensation offered. Executives’ preferences for reform at almost any price put them at odds with non-tradable shareholders’ preference for reform at the lowest price. Executives were offered few, if any, incentives to do what owners wanted (Wang and Chen, 2006; Walter and Howie, 2006): executives were appointed for only a few years, they usually did not hold shares in the firms they managed, and their performance evaluations occurred annually and at the end of their terms in office, so they pursued short-term gains at the expense of long-term risks. Moreover, non-tradable shareholders, not executives, paid the price of reform.

Among non-tradable shareholders, state owners had mixed interests (political and economic), as well as limited capacity to monitor executives. State ownership interests were handled by SASACs, which appointed directors, approved major operating decisions, and reported on firm performance to state owners. Because each SASAC represented ownership interests in many firms, SASACs had limited ability to monitor any particular firm (Sun and Tong, 2003; Naughton, 2007). In contrast, most non-state non-tradable shareholders owned large stakes in only a few firms, so they were both better able and more motivated to monitor and coerce executives than SASACs (Xu and Wang, 1999; Green, 2003). As a result, state owners of non-tradable shares had less effective oversight than non-state owners. SASACs were beset by internal agency problems (Wang and Chen, 2006): their managers held short-term appointments and their performance was evaluated annually, so they were motivated to pursue short-term goals at the expense of the long-term interests of state owners. SASAC managers were told repeatedly that this reform was important, so they may have been tempted to suggest high compensation ratios to ensure that tradable shareholders voted for reform. In the end, SASACs exerted little coercive power: although they had to approve reform plans, they seldom demanded any changes.

\(^6\) Executives owned very few shares in these firms: on average, 0.002\% of shares. Only 10 firms had CEOs as controlling shareholders. When we included a dummy for CEO controlling shareholder, it had a non-significant effect. When we dropped these 10 firms from the analysis, the results were the same as those reported below.
Given these facts – among non-tradable shareholders, state owners were less motivated by pure economic interests than non-state owners, state bureaucrats and SASAC managers were less capable than agents of non-state owners of monitoring publicly traded firms, and the interests of SASAC managers were mixed – state owners should have been less likely and less able than non-state owners to push for low compensation ratios. If so, firms where higher fractions of non-tradable shares were owned by the state would have higher compensation ratios:

**Hypothesis 1**: The higher the fraction of non-tradable shares held by state owners (rather than non-state owners), the higher the compensation ratio.

*Conflict or co-operation between non-tradable shareholders?* The Chinese state is not a monolithic entity: there are 33 province-level units, over 600 cities, and almost 3,000 counties. Because “the state” consists of many different entities, we must consider not just aggregate coercive effects of state ownership but also whether state owners acted in concert or clashed (Walter and Howie, 2006; Naughton, 2007). Firms varied greatly in the extent to which state ownership was concentrated in the hands of a few entities, and therefore in the extent to which state owners were a cohesive force.

The issue of owner cohesion extends to all non-tradable shareholders, state and non-state alike. Two-thirds of all non-tradable shareholders had to agree on how much compensation to offer tradable shareholders. The more concentrated the ownership of non-tradable shares, the less free-riding limited their shareholders’ ability to agree on and offer low levels of compensation (Darley and Latané, 1968; Jensen and Meckling, 1976). The less free-riding, the more likely the negotiation was to reflect the preferences of non-tradable shareholders rather than those of tradable shareholders, and the lower the compensation the two groups would agree on. Moreover, when ownership of non-tradable shares was concentrated, large shareholders had sufficient power to ensure that their agents worked toward their interests. Because large shareholders capture large gains from monitoring agents, they are more likely than small shareholders to do so (Shleifer and Vishny, 1986). This is especially important in China, where corruption of executives and local officials is rampant (Ding, 2000a, 2000b). The more concentrated non-tradable shareholding was, the easier it was for non-tradable shareholders to spot and stop corruption (Walder, 1995; Guthrie et al., 2011);
specifically, to ensure that their own employees, the executives of the firms they owned, and investment bankers all pushed for lower compensation ratios. Thus we predict:

Hypothesis 2: The more concentrated ownership of non-tradable shares, the lower the compensation ratio.

 Tradable shareholders. Reforming firms faced a second source of coercive pressure: tradable shareholders. When non-tradable shareholders calculated how much to offer tradable shareholders, they took into account tradable shareholders’ power. The more power tradable shareholders had, the more compensation would be offered. And the more concentrated tradable shareholding was, the less free-riding limited tradable shareholders’ ability to agree on and demand high levels of compensation.

But the interests of tradable shareholders may have conflicted with those of their own agents. Ownership of tradable shares was generally concentrated when mutual funds owned large stakes. This introduces a new player, mutual-fund managers, who often had different interests than mutual-fund investors. Specifically, mutual-fund managers could be bribed to persuade them to accept, on behalf of their investors, less compensation than they would otherwise demand. Such bribery was possible because compensation schemes were not verifiable outcomes, so investors could not hold mutual-fund managers accountable for compensation levels. It was likely because in China, corruption is rampant (Ding, 2000a, 2000b). Interviews at two leading investment banks, CITIC and Guosen, confirmed that such side payments occurred. Therefore, concentration of tradable shareholding should result in low compensation, since bribery of mutual-fund managers was more likely when mutual-fund managers voted large blocks of shares. Thus:

Hypothesis 3: The more concentrated ownership of tradable shares, the lower the compensation ratio.

Mimetic Forces

General imitation. This reform was a very uncertain proposition because several earlier efforts failed, the rights of tradable shareholders were recent social inventions, and there was no way to objectively calculate the “correct” level of compensation. Faced with such uncertainty, both tradable and non-tradable shareholders – and their agents – would look for clues about what to do in the actions of other firms that had previously gone through this reform (DiMaggio and Powell, 1983). Thus we propose:
Hypothesis 4a: The higher the compensation ratios set by other firms that had previously reformed their ownership, the higher the compensation ratio set by the focal firm.

**Targeted imitation of role-equivalent and cohesive firms.** Imitation in the face of uncertainty should not be indiscriminant; instead, it should be seen primarily within sets of organizations that play similar roles or that are tied directly to each other (DiMaggio and Powell, 1983: 148). We consider both types of imitation targets in turn. Decision making relies on the cognitive categories people construct as they label and make sense of the environment. Decision makers attend to the actions of firms in their own industry more than other industries because the segregating mechanisms (Hannan and Freeman, 1989: 45-65) that create and maintain industry boundaries also focus attention. Because firms in the same industry are viewed as more salient than firm in other industries, decision makers monitor the actions of firms in the same industry more closely than the actions of firms in other industries; for example, executives and shareholders evaluate firm performance relative to other firms in their industry (Murphy, 1999). Assuming industry boundaries shaped decision making, we expect that firms imitated other firms in the same industry:

**Hypothesis 4b:** The higher the compensation ratios set by firms in the same industry that previously reformed their ownership, the higher the compensation ratio set by the focal firm.

Location also mattered. Decision makers can more easily observe the actions of organizations nearby than those far away. Investors and executives talk with each other in social settings like clubs and religious gatherings (Hong et al., 2004) where they discuss important issues – like ownership reform. This suggests that decision makers most closely observe firms in the same region. Region is important in China, whose landmass is 2% larger than the US, with mountains that divide regions from one another and engender strong regional cultures. To the extent that decision makers’ cognitive maps conformed to regional boundaries, they would focus on the actions of firms in their own region and ignore the actions of firms in other regions. Accordingly, we expect imitation within regional boundaries:

**Hypothesis 4c:** The higher the compensation ratios set by firms in the same region that previously reformed their ownership, the higher the compensation ratio set by the focal firm.

Now consider imitation of organizations tied to the focal firm. Director interlocks are important sources of information for decision makers in Chinese firms, just as they are in Western ones. CSRC guidelines entrusted boards of directors to oversee ownership reform. Directors typically discussed all issues
related to this reform, including compensation of tradable shareholders. Conversations with directors of other firms that succeeded at this complex and uncertain reform would offer vivid examples that were likely to influence directors' decisions and actions. Such vivid, case-based information is more influential than pallid, abstract statistics (Nisbett and Ross, 1980). Therefore, we predict that compensation set by firms with which the focal firm was interlocked influenced decisions in the focal firm:

**Hypothesis 4d**: The higher the compensation ratios set by firms with which the focal firm is interlocked, the higher the compensation ratio set by the focal firm.

*Increased imitation under uncertainty*. The influence of role-model organizations is more intense in situations of greater uncertainty (DiMaggio and Powell, 1983; Haunschild, 1994). When faced with uncertainty, decision makers economize on search costs (Cyert and March, 1963) and imitate the actions of other organizations, substituting institutional rules for technical ones (Meyer, Scott, and Deal, 1983). The greater the uncertainty about what to do, more likely Chinese decision makers would have attended to information gained from salient others. Thus we propose:

**Hypothesis 4e**: The impact of all imitation targets was stronger where and when uncertainty was greater.

*Normative Forces*

Investment banks counsel firms on complex financial transactions, so they are a salient sources of professional norms. For their part, investment bankers look to their own past experience to determine what advice to give clients. Investment banks were likely to advise Chinese firms to set compensation ratios close to the levels set by their previous clients. But any relationship between the focal firm's compensation ratio and those set by other clients of its investment bank may have been due to spurious causation (Haunschild, 1994), as some unobserved factor may have influenced all investment banks or all Chinese firms. For instance, all Chinese firms may have shared some norm. Such a norm could arise if, in addition to looking at its own experience, each investment bank looked at the actions of other investment banks, especially prestigious ones. Interviews with Chinese investment bankers confirmed this tendency: they read reports from top domestic banks, such as the China International Capital Corporation (CICC), a joint venture of the China Construction Bank and Morgan Stanley, and some foreign investment banks, but they paid little
attention to what less-prestigious domestic investment banks did. The actions of other investment banks were salient normative forces because most investment banks advising Chinese firms on this reform were small. Some prestigious investment banks advised only a handful of firms; for example, CICC advised just four firms. Small investment banks had shallow pools of talent and so faced great uncertainty about what compensation was appropriate. This uncertainty was likely to prompt them to imitate what other investment banks did to avoid an awkward situation: they simply didn’t know what to advise their clients.

But investment banks act as agents of executives because they are hired by executives. Many banks advising Chinese firms on this reform were much smaller than their clients, which made it unlikely that investment banks exerted much influence on executives. Instead, executives may have exerted great influence on investment banks, pushing them to suggest compensation levels that fit executives’ preferences. In other words, investment banks may have been “beards” for executive preferences rather than normative influences. This claim is supported by our interview with a banker in a small Chinese investment bank who said:

Our main task is to communicate between the firm (the CEO) and the non-tradable shareholders. When we actually made a presentation about what compensation ratio the firm should set, it turned out we were shadows of the firm. You must know “Shuanghuang” show? Then you see what I mean, right? Those CEOs really think that they can manage everything by themselves and that they are the real controllers of their firms who can decide on everything… Why do they hire us? Oh, do you think the tradable shareholders would believe that compensation ratio is fair and acceptable if they are told that the CEO sets it? After all, we’re called financial intermediaries.

This indicates that investment banks told owners what executives wanted them to hear. Executives’ ability to use investment banks to transmit their desired messages depended on ownership structure, specifically the percentage of non-tradable shares owned by the state and the concentration of non-tradable shareholding. Because agency problems may have eliminated any normative influence of investment banks, net of the effects of ownership structure, we expect that net of the effects of owners and other decision makers, there was no effect of investment banks on compensation ratios.

Research Design

We analyzed data on all completed reforms by Chinese firms between June 12, 2005, when the first

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Shuanghuang is a traditional show with two players – one stands before the audience while the second hides. It looks like the first player is “talking,” but actually he just moving his mouth and the second player is doing the talking.
reform was announced, and July 18, 2007. The study period includes 94% of the 1,321 publicly traded firms subject to this reform. Late-reforming firms excluded from our analysis either had complex ownership structures (B, H, or N shares in addition to A shares and non-tradable shares) or performed poorly (“Special Treatment” firms). We analyzed 88% of reforming firms (1,086): those that offered stock grants (or stock plus cash) because the compensation schemes of the remaining 12% (which involved call or put warrants, stock buy-backs, or cancellation of non-tradable shares) were simply incommensurate.8

Data and Measures

Our main sources of data were the Guo Tai An Information Technology Company (GTA), a Hong-Kong-based firm that develops databases for academic and industry research, and Wind Information Corporation, a Shanghai-based provider of financial data used by most investment banks in China. Because they provided similar information, we could cross-check their databases for consistency and completeness. The second author’s reading of over 400 ownership reform plans indicated that Wind provided more detailed ownership data than GTA, so we gathered data on compensation ratios, details of reform plans, the reform’s completion date (if successful), director names, investment bank names, ownership of all non-tradable shareholders, region, and industry from Wind; we gathered data on firms’ assets, financial performance, beta, and the ownership stakes of the ten largest tradable shareholders from GTA.

Measuring the dependent variable. Our dependent variable is the compensation ratio, the ratio of shares granted to tradable shares held before ownership reform. For instance, if an investor held ten shares of tradable stock and was granted three new shares, the compensation ratio would be 3:10, or 0.30. A few plans (5% of those we study) also included cash grants; for these, we translated cash into shares using the closing stock price the day before the compensation scheme was announced.

Measuring independent variables. To measure coercion due to state ownership, we calculated the percentage of non-tradable shares that were state-owned. To measure coercive pressure due to cohesion among non-tradable

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8 In results not shown here, we estimated logit models of offering stock grants vs. other compensation. Firms offering stock grants had larger market caps, greater stock-price volatility, and higher betas, and simpler ownership structures (no B, N, or H shares). The analysis shown below controls for all of these factors.
shareholders, we calculated the concentration of ownership of non-tradable shares using the Herfindahl index. For the coercive pressure from tradable shareholders, we calculated concentration among the top ten tradable shareholders.

Most studies of mimetic isomorphism focused on the diffusion of particular types of practices or structures – binary variables – so researchers counted the number of organizations within some reference group that adopted the innovation in question. But our dependent variable is continuous (cf. Haunschild, 1994): firms could set compensation ratios at an infinite number of levels, so we measured mimetic isomorphism targets as the mean compensation ratio set by firms in a reference group. The mean of any distribution captures its central tendency (what the typical firm did) so the mean compensation ratio in a firm’s reference group is its benchmark (the most typical member of the group). This measurement strategy accords with research showing that people use averages to assess how typical entities are of their group (Barsalou, 1985).

We considered four reference groups. First, we assessed general imitation by including in the reference group all firms that finished reform before the focal firm began. Next, we included only prior reformers in the same industry as the focal firm, and then only prior reformers headquartered in the same province, thereby capturing imitation through role similarity. Finally, we included only prior reformers with which the focal firm was interlocked, thereby capturing imitation through direct ties. Firms that began ownership reform before anyone in their reference group finished had no reference group and dropped out of the analysis when we included reference-group variables. And firms with no board interlocks dropped out of the analysis when we included the interlock reference-group variable.

Measuring the moderator. Uncertainty is due to the lack of information about how to make a decision (Duncan, 1972). Since decision makers often rely on information about what role-model organizations do, their uncertainty is reduced when those role models do the same thing, and increased when they do different things. Accordingly, we measured uncertainty as the standard deviation of the compensation ratio among firms in each reference group. The greater the standard deviation, the greater the variety of answers to the question about what was “right” with regard to ownership reform, and thus the greater the uncertainty facing decision maker who relied on prior reformers’ actions to guide their own. We created four uncertainty measures, one for each reference group: general, industry, province, and interlock. All uncertainty measures are firm-specific.
We could not calculate standard deviations for reference groups containing only one firm; therefore, such firms dropped out of the analysis when we included these measures.

For each reference group, we created interaction terms by multiplying the standard deviation (uncertainty) and the mean (imitation target). Interaction terms are often highly correlated with their components, causing multicollinearity. Coefficients on collinear variables are poorly estimated, so small measurement errors can have large effects. To avoid these problems, we subtracted both interaction components from their sample means before multiplying them together to create mean-centered interactions.

Measuring control variables. Our statistical models include several other factors that might influence compensation ratios. First, we controlled for firm size in terms of market value, measured just before reform began. The shares of large firms were more likely to trade often and in large quantities than the shares of small firms. If so, tradable shareholders in large firms would be less affected by the conversion of formerly non-tradable shares than those in small firms (Field and Hanka, 2001; Brav and Gompers, 2003). Therefore, tradable shareholders in large firms were likely to demand less compensation. We also controlled for the focal firm’s stock-price performance using the mean return over the twelve months before that firm began reform. The higher the return, the more tradable shareholders had already benefitted from increases in the stock price and the less potential there was for future increases. So the higher the return, the less incentive non-tradable shareholders had to initiate ownership reform, and the less compensation they were likely to offer to tradable shareholders. We gathered data on returns from Sinofin, a financial-market database created by the Center for China Economic Research at Beijing University, which was devised to conform to the standards of the University of Chicago’s Center for Research in Securities Prices.

We controlled for three variables that finance theory (Kahl et al., 2003; Wu and Wang, 2005) predicts would affect compensation ratios. First, we controlled for stock-price volatility using the standard deviation of the firm’s stock price over the twelve-month period before its reform process began. The more volatile the stock returns, the lower the implied value of non-tradable shares (controlling for the level of past stock returns) and the more removing trading restrictions increased their value. The larger potential windfalls for non-tradable shareholders, the more compensation they were willing to offer tradable shareholders. Some firms were recently listed and so lacked a full year’s track record, so we could not calculate stock-price volatility. These
firms dropped out of our analysis. Our second financial control is beta, the association between the focal firm’s stock-price return and overall market return. Net of prior-year returns, the higher the beta, the riskier the stock and the less non-tradable shareholders would be likely to offer tradable shareholders. We measured beta over the twelve months before each firm’s ownership-reform process began. Some firms were highly illiquid: their stock did not trade at all in the year before they undertook reform, so we lacked the data needed to calculate beta. These firms dropped out of the analysis. Our third financial control is the ratio of non-tradable to tradable shares, measured on the day before the focal firm’s ownership-reform process began. The higher this ratio, the more reform would flood the market with newly tradable shares, so the more non-tradable shareholders would have to compensate tradable shareholders.

Finally, although we hypothesized that Chinese firms would not be subject to normative pressures from investment banks, net of coercion from various owners and their agents, we controlled for this possibility anyway, using the mean compensation ratio set by clients of the focal firm’s investment bank and the mean compensation ratio set by clients of other investment banks. Since the actions of top-ranked investment banks mattered more than the actions of other investment banks, we weighted data for investment banks ranked higher than the focal firm’s at 0.7 and weighted data for lower-ranked banks at 0.3. (Our results are robust to weights of 0.8:0.2 and 0.6:0.4.) Investment-bank rankings came from the Securities Association of China. We used 2006 rankings, which were based on net profits per worker and so capture worker ability. Because these rankings did not change much from year to year, a static measure for 2006 is reasonably accurate.

Methods of Analysis

Our data are cross-sectional and our dependent variable is continuous, so we estimated linear regressions. Firms varied greatly in size and performance, so we tested and corrected for heteroskedasticity.

Triangulation with interviews. We augmented our statistical analysis with interviews the second author conducted in 2006 with seven Chinese investment bankers, four officials at the CSRC, and one officer of the Shanghai Stock Exchange. We selected these interview subjects because they were well positioned to provide insiders’ views of the reform process, and because in combination they offered a holistic view of this process.
These interviews ensured that our analysis included the power and interests of all relevant actors and that our measures were reasonable; they also helped us make sense of our results.

**Results**

Table 1 presents descriptive statistics on all variables used in our analysis. Table 2 presents the results of our multivariate analysis. Model 1 includes only control variables. Model 2 includes all main effects. Model 3 tests for the possibility of normative pressures from investment banks. Models 4 to 6 test interactions between each imitation target and uncertainty.

In Model 1, four control variables have effects in the expected direction. Firms with larger market capitalizations and better financial performance (returns to stock price) set significantly lower compensation ratios than smaller and worse-performing firms because the former were better bets for tradable shareholders. Firms with higher ratios of non-tradable to tradable shares set significantly higher compensation ratios than firms with lower ratios. Stock-price volatility has the expected positive effect, but it is sometimes non-significant. The effect of beta is unexpectedly positive and non-significant.

In Model 2, the percentage of non-tradable shares owned by state shareholders has a positive and statistically significant effect, which supports hypothesis 1. This result indicates that state owners’ political interests, their limited capacity to monitor corporate executives, and agency problems within SASACs reduced state owners’ interest in offering and ability to offer low compensation ratios, relative to the interests and abilities of non-state owners. Concentration of non-tradable shareholding has a negative and statistically significant effect, which supports hypothesis 2. This indicates that the more non-tradable share ownership was concentrated among a few owners, the more bargaining power non-tradable shareholders had over tradable shareholders, and the more monitoring power they had over agents (Walder, 1995; Guthrie et al., 2011), so compensation ratios were set lower (as preferred by non-tradable shareholders), not higher (as preferred by tradable shareholders, corporate executives, and SASAC managers). Concentration of tradable shareholding, which captures the coercive power of those owners, has a negative and statistically significant. This result supports hypothesis 3. It indicates that tradable shareholders had severe agency problems. Recall
that concentration of tradable shares was often due to mutual funds owning large stakes. As confirmed by our interviews, high concentration of tradable shares led to low compensation ratios because mutual-fund managers were bribed.

Three of the four variables capturing the effects of reference groups that might have served as imitation targets (all firms, same industry, and same province) are statistically significant. These results support hypotheses 4a, 4b, and 4c. The coefficient on the reference group encompassing all firms is eight times the same-industry effect and five times the same-province effect. The non-significant effect of interlocked firms fails to support hypothesis 4d. These results indicate that Chinese firms attended to the actions of all firms that had previously undergone reform, as well as firms in their industry and region; however, after taking into account these imitation targets, Chinese firms did not attend to the actions of interlock partners.

Model 3 adds two variables to capture the possibility of normative pressure from investment banks. Both have non-significant effects. This suggests that for Chinese firms, investment banks were agents of executives and served mostly as sources of information about what other firms were doing. This conclusion is bolstered by interviews with Chinese investment bankers, who told us that when they presented research in the course of advising executives on ownership reform, the most common index of “reasonable” behavior they used was the average compensation ratio set by other firms. For example, a report written by the prominent investment bank CICC highlighted the average compensation ratio set by other firms.

Finally, models 4 through 6 test for the moderating effect of uncertainty, using the three reference groups that had significant main effects in Model 2. In all three models, the main effects of the reference groups remain positive and statistically significant and the interactions with uncertainty (measured relative to each reference group) are positive and statistically significant. Together, these results support hypothesis 4e.

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9 In results not shown here, we estimated a model that contained the mean compensation ratios set by the focal firm’s investment bank’s previous clients and by other firms’ investment banks’ clients, but without the imitation targets. In that model, both investment-bank variables had positive and statistically significant effects. This indicates that the effects of role models (imitation targets) fully mediate the effects of investment banks’ normative power.
Robustness Checks

We conducted several ancillary analyses to assess the robustness of these results. First, we measured financial performance using earnings per share, we logged size (market capitalization), and we measured size using assets. All three sets of alternative results were similar to those shown here. Second, we created an alternative measure of coercive pressures from state owners of non-tradable shares: a binary indicator set to one when the controlling shareholder was a state authority and zero otherwise. Starting in 2004, each listed firm has been required to disclose its ultimate controlling shareholder in its annual report. From the Shanghai and Shenzhen Stock Exchange websites, we downloaded annual reports filed the year before each firm undertook ownership reform. Results using this alternative measure of coercion due to state ownership did not differ materially from those shown here. Third, we distinguished between state shares (owned directly by the state) and state institutional shares (owned indirectly by the state through other state-owned firms). The percentage of shares held by both types of state owners had similar effects, which indicates that direct and indirect state ownership were similarly beset by agency problems.

Fourth, we checked whether results were driven by outliers by dropping firms whose compensation ratios were outside the [5%, 95%] interval. Our results are robust to trimming the sample. Fifth, we probed whether the results may have been skewed by the fact that 75 firms had only one non-tradable shareholder. When we dropped these firms from the analysis, all variables, including concentration of non-tradable shares, had effects of similar size and significance. Finally, we dealt with the fact that the ratio of non-tradable to tradable shares was highly skewed, with a mean of 2.2 and a small number of very large values (maximum 28). When we dropped 59 firms for which this variable was one standard deviation above the mean, all variables had effects of similar size and significance. The effect of the ratio of non-tradable to tradable shares increased greatly, which suggests that including outliers obscured the true power of this factor.

The Impact of Reference Groups: Coercion, Norms, or Mimesis?

So far, we have assumed that coercion came from owners, norms from professional advisors, and mimetic influences from reference groups. But imitation of reference groups can also be due to coercion and norms (Mizruchi and Fein, 1999). Each reference group’s benchmark may set a floor (a lower bound on what
is considered acceptable), rather than a ceiling (an upper bound on what is considered acceptable) because of asymmetries in decision making. Non-tradable shareholders and agents stood to gain from this reform; tradable shareholders stood to lose. To all decision makers, losses loom larger than gains (Kahneman and Tversky, 1979), so this reform was more salient to tradable shareholders than to non-tradable shareholders and agents. It is not surprising, then, that opposition by tradable shareholders caused earlier reform attempts to fail (Walter and Howie, 2006). Moreover, reform efforts were initiated by non-tradable shareholders and compensation plans were developed by them and their agents; only then did they seek agreement from tradable shareholders. This made tradable shareholders’ vote the sticking point: either agents viewed the behavior of other firms as a culturally valued norm that set a floor for their own reform, or owners viewed it as a norm and coerced agents into adhering to it. Note that because of the great uncertainty surrounding this reform, the imitation target was a “soft” rather than “hard” floor, so compensation ratios would tend to be as high as, if not higher than, this floor. In the aggregate, the distribution of compensation ratios would center on some point above the average of the salient reference group. But if agents simply imitated the behavior of other firms because they didn’t know what else to do, if they did not valorize that behavior and did not feel pressure from owners to conform to it, we would expect compensation ratios to be neither higher nor lower than this floor, but rather about the same. Such behavior would, in the aggregate, yield a distribution centered on the average of the salient reference group.

To test these predictions, we performed Wilcoxon rank tests on the compensation ratio set by the focal firm minus the mean compensation ratio of its reference group. We focused on the three reference groups that had significant effects in Model 2 of Table 2. Table 3 shows these results. For all three reference groups, the compensation ratio set by the focal firm was far more likely to be lower than the group mean that it was to be higher than the group mean. We therefore conclude that firms were neither coerced by other firms’ behavior, nor did they interpret other firms’ behavior as instantiating cultural values; instead, they imitated other firms as a way out of uncertainty. The fact that compensation ratios were lower than the average of any salient reference group, rather than about equal to the reference-group average, occurred because tradable shareholders’ fears that reform would cause big drops in share prices were assuaged by
experience: among firms reforming before March 2006, share prices increased by 8%, after adjusting for the compensation of tradable shareholders (Beltratti and Bortolotti, 2006).

[Table 3 about here]

To continue probing the issue of coercion or norms vs. imitation, we conducted a multivariate analysis of the difference between each firm’s compensation ratio and its reference group’s mean compensation ratio, to investigate how the bargaining power of different shareholders pushed compensation ratios above or below reference-group means. We were most interested in testing three predictions concerning principal-agent conflicts that were extensions of our original analysis. Extending the logic of hypothesis 1, we expect that firms controlled by state owners would offer more compensation, relative to their reference group, than firms controlled by non-state owners. Extending the logic of hypothesis 2, we expect that concentrated non-tradable shareholding made firms more likely to offer less compensation than reference groups. Finally, extending the logic of hypothesis 3, we expect that concentrated tradable shareholding made firms offer less compensation than reference groups.

The results of this analysis, shown in Table 4, are consistent across the three reference groups. Better-performing firms (those with larger market capitalizations and higher stock returns) set lower compensation ratios than their reference group, which suggests that tradable shareholders in better-performing firms were willing to settle for less than those in poorly performing firms. Firms with more volatile stock prices set higher compensation ratios than their reference groups, which suggests when potential windfalls for non-tradable shareholders larger were larger, the more compensation they were willing to offer. In addition, firms with more non-tradable shares, which were more likely to see demand for tradable shares swamped by excess supply, set higher compensation ratios than their reference group. Firms with more state ownership set compensation ratios higher than their reference group, which supports the extension of hypothesis 1. Concentrated ownership in both non-tradable and tradable shares reduced compensation ratios relative to the reference group, which support the extensions of hypotheses 2 and 3.

[Table 4 about here]
Discussion and Conclusion

In this paper, we explained the outcome of a recent reform by publicly traded firms in China’s transition economy that converted non-tradable shares (about two-thirds of shares outstanding) into tradable shares. This reform was enthusiastically supported by non-tradable shareholders because the prices of their shares would rise sharply, so they would earn windfall profits. But tradable shareholders had in the past resisted similar reforms because they expected that a flood of new shares onto the domestic exchanges would cause their share prices to drop dramatically. The central state structured ownership reform to ensure that the interests of both sets of owners were met. Each set of owners had to agree to the reform by a two-thirds majority. And non-tradable shareholders were encouraged to win the agreement of tradable shareholders by compensating tradable shareholders for expected losses, financed out of non-tradable shareholders’ windfall gains. Given the structure of this reform, the central issue was how much compensation non-tradable shareholders had to offer tradable shareholders for the reform to succeed.

This reform boiled down to a negotiation between non-tradable and tradable shareholders (Walter and Howie, 2006; Wang and Chen, 2006). Their interests were opposed: non-tradable shareholders preferred to offer less compensation, while tradable shareholders preferred to receive more compensation. This negotiation took place in a fog of uncertainty, stemming from two facts: tradable shareholders’ property rights were neither longstanding nor well understood (Putterman, 1995; Oi and Walder, 1999) and it was not possible to calculate the appropriate level of compensation (Kahl et al., 2003; Wu and Wang, 2005). As a result, the reform offered many opportunities for self-interested manipulation by agents, especially corporate executives. Executives’ interests lay in having ownership reform succeed at any almost price, and they managed exchanges between the two groups of owners to make this happen.

Most reforming firms offered compensation in the form of grants of shares to tradable shareholders – about three new shares for every ten existing shares. Our empirical analysis showed that two isomorphic forces – coercive and mimetic – explained observed patterns of compensation, but there was no evidence of normative isomorphic forces, net of coercion and imitation.

Coercive effects. As a regulator, the central state impelled the vast majority of publicly traded firms in China to reform their ownership between 2005 and 2007. But its power was not unlimited: three previous
reform attempts failed due to push-back from investors, and this fourth attempt succeeded because in part it incorporated suggestions from the public. Importantly, the state did not dictate the form or amount of compensation for tradable shareholders, which accords with arguments that the central state is withdrawing from price-setting while continuing to set the rules by which markets function (Yusuf et al., 2006), that central state monitoring and sanctioning has declined due to the shift from a centrally planned economy to a market-mediated one (Walder, 1994; Zhao, 1997), and that dependence on the central state has declined with the development of external advisors and external funding sources (Walder, 1994; Keister, 2004).

Our analysis also revealed that owners had varied capacity to monitor executives. Among non-tradable shareholders, non-state owners were better monitors than the SASACs that managed state-owned shares, for three reasons: state owners were less motivated by pure economic interests than non-state owners, state owners were less competent monitors than non-state owners, and the interests of SASAC employees were not fully aligned with those of state owners (Wang and Chen, 2006; Naughton, 2007). Compensation ratios were higher when a larger fraction of non-tradable shares were owned by the state. Skeptics might argue that coercion works through channels other than state ownership; for example, through pressure on investment banks to advise their clients to conform to state preferences. But the effects of investment banks disappeared after we took into account the impact of ownership structure and imitation targets, most likely due to agency problems. So even if investment banks channeled state coercion, they were not powerful. Our analysis also showed that non-tradable shareholders, both state and non-state, could sometimes band together to monitor and control reforming firms’ executives and investment bankers, and demand low compensation ratios. This happened when non-tradable shareholding was highly concentrated and non-tradable shareholders had sufficient power to ensure that their agents worked toward their interests.

We also investigated the power of tradable shareholders to push for high compensation, proxied again by ownership concentration. We found instead that when tradable shareholding was concentrated, compensation ratios were low. We attributed this result to two facts: concentration of tradable shareholding was due to mutual funds holding large blocks of shares, and mutual-fund managers were bribed by non-tradable shareholders to accept low compensation levels.
Mimetic effects. We found evidence of three distinct imitation targets – all firms, firms in the same industry as the focal firm, and firms in the same region as the focal firm. These findings suggest that great uncertainty drove firms to imitate the actions of others, rather than to follow the advice of investment banks. Replicating previous research (Haunschild, 1994), we found that imitation of all three reference groups was more pronounced when uncertainty was greater.

Future research. While combining institutionalism with resource-dependence and agency theories gave us new insights into firm behavior, we are left with several puzzles. Theoretically, we have much work to do to fully integrate power and agency into institutional analysis. Studying Chinese publicly traded firms, with their unique ownership structures, gave us a chance to study clear and persistent conflicts between different types of owners, which went beyond previous research on majority and minority owners. But these firms’ complex ownership structure, characterized by cross-shareholding and multiple-layer business groups, makes it difficult to precisely measure the power of different interest groups: the state, non-state institutions, and individual investors (Guthrie et al., 2011). Untangling power and interests is difficult because detailed data on non-tradable shareholders are simply not available.

Future research could try to disentangle the four causal mechanisms we described to link local state ownership to firm behavior: state owners’ conflicting political and economic interests, their limited attention and capability to monitor the executives of publicly traded firms, and agency problems within SASACs. One way to do this would be to assess cross-sectional variation in state owners’ ability to monitor managerial behavior; specifically, publicly traded firms located far from Beijing are less likely to be monitored by the central SASAC than those located in special economic zones. Another way would be to investigate managers’ political connections; specifically, we might expect that politically connected executives to be monitored less closely by SASACs. Third, we can leverage cross-sectional differences in the value placed by local governments on economic vs. social-welfare goals. It is likely that economic goals will dominate state decision making when there are no pressing social-welfare issues. For example, if unemployment is low in a province or municipality, economic interests may overshadow social-welfare concerns, but if unemployment is high, economic interests may take a back seat to social-welfare concerns.
References


Figure 1a: The Cumulative Distribution of Compensation Ratios

Notes: This figure plots data on all 1,086 publicly traded Chinese firms that reformed their ownership structure and compensated tradable shareholders with grants of new tradable shares between May 1, 2005, when the first plan was announced, and July 18, 2007. For 54 plans that included cash grants, we translated cash into an equivalent number of shares using the closing stock price the day before reform was announced. Each point on the graph represents one firm’s compensation ratio. For example, the median firm’s compensation ratio was 0.306, meaning that the median firm’s tradable shareholders were granted 3.06 shares for every 10 shares they held before reform.
Figure 1b: The Distribution of Compensation Ratios Over Time

Note: This figure plots the same data on compensation ratios as shown in Figure 1a, this time plotted against calendar time
Table 1: Descriptive Statistics

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<td>.314</td>
<td>.318</td>
<td>.316</td>
<td>.315</td>
<td>.311</td>
<td>.069</td>
<td>2.85</td>
<td>-0.015</td>
<td>.022</td>
<td>1.03</td>
<td>2.18</td>
</tr>
<tr>
<td>Standard deviation</td>
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<td>26.8</td>
<td>.274</td>
<td>.030</td>
<td>.031</td>
<td>.030</td>
<td>.012</td>
<td>.032</td>
<td>.027</td>
<td>.049</td>
<td>.007</td>
<td>12.1</td>
<td>.0022</td>
<td>.048</td>
<td>.204</td>
<td>2.06</td>
</tr>
<tr>
<td>Minimum</td>
<td>.020</td>
<td>0</td>
<td>.049</td>
<td>.000</td>
<td>.100</td>
<td>0</td>
<td>.300</td>
<td>.100</td>
<td>.200</td>
<td>.100</td>
<td>0</td>
<td>.272</td>
<td>-.06</td>
<td>.0075</td>
<td>.075</td>
<td>.268</td>
</tr>
<tr>
<td>Maximum</td>
<td>.700</td>
<td>85.0</td>
<td>1.00</td>
<td>.786</td>
<td>.500</td>
<td>.375</td>
<td>.364</td>
<td>.474</td>
<td>.500</td>
<td>.594</td>
<td>.089</td>
<td>370</td>
<td>.011</td>
<td>.053</td>
<td>1.57</td>
<td>27.3</td>
</tr>
<tr>
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<td>1086</td>
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<td>1077</td>
<td>1077</td>
<td>1076</td>
<td>1086</td>
<td>1085</td>
</tr>
</tbody>
</table>

1 Compensation ratio
2 % State-owned shares | .303 |
3 Concentration[NT shares] | .028 | .431 |
4 Concentration[T shares] | -.105 | .026 | .029 |
5 Mean CR[same investment bank] | .055 | .024 | .133 | .041 |
6 Mean CR[other investment banks] | .076 | -.018 | .035 | .013 | .083 |
7 Mean CR[all firms] | .165 | -.008 | .121 | -.022 | .382 | .417 |
8 Mean CR[same industry] | .152 | .007 | .005 | -.009 | .135 | .043 | .304 |
9 Mean CR[same province] | .152 | -.031 | .043 | -.033 | .171 | .225 | .398 | .154 |
10 Mean CR[interlocked firms] | .064 | .025 | .057 | -.041 | .070 | .110 | .192 | .142 | .166 |
11 Std Dev CR[all firms] | -.175 | -.087 | -.178 | .028 | -.276 | -.329 | -.771 | -.234 | -.313 | -.184 |
12 Market capitalization/10^9 | -.007 | .105 | .075 | -.002 | -.042 | .018 | -.009 | -.090 | .031 | -.001 | -.003 |
13 Mean stock-price return | -.171 | .074 | .095 | .078 | .105 | .065 | .193 | -.055 | .059 | .060 | -.201 | .064 |
14 Stock price volatility | .148 | -.057 | -.093 | .066 | -.055 | -.028 | -.060 | .098 | -.033 | .030 | .108 | -.107 | -.353 |
15 Beta | .166 | .016 | -.042 | -.047 | .021 | -.019 | .038 | .156 | .037 | .036 | .012 | .018 | -.407 | .575 |
16 # NT shares/# T shares | .324 | .183 | .056 | -.023 | .049 | .019 | .032 | .005 | .081 | -.005 | -.051 | .432 | .024 | -.001 | -.012 |

Notes: This table is based on 1,086 observations of publicly traded Chinese firms’ ownership reform plans that were completed between May 1, 2005 and July 18, 2007, and that offered compensation as grants of stock or cash. We converted cash grants into stock equivalents. Mean and std dev CR[ ] refer to the mean and standard deviation of the compensation ratios set by the reference group named in the square brackets. NT and T stand for non-tradable and tradable shares, respectively. To save space, we show only standard deviations of compensation ratios for the general reference group, which includes all firms.
Table 2: Linear Regression Analysis of Compensation Ratios

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market capitalization/10^{12}</td>
<td>-1.07***</td>
<td>-0.916***</td>
<td>-0.911***</td>
<td>-0.997***</td>
<td>-1.04***</td>
<td>-1.04***</td>
</tr>
<tr>
<td></td>
<td>(-5.26)</td>
<td>(-3.68)</td>
<td>(-3.31)</td>
<td>(-3.65)</td>
<td>(-4.46)</td>
<td>(-4.56)</td>
</tr>
<tr>
<td>Mean stock-price return</td>
<td>-5.39**</td>
<td>-10.50***</td>
<td>-10.82***</td>
<td>-9.67***</td>
<td>-6.86***</td>
<td>-7.27***</td>
</tr>
<tr>
<td></td>
<td>(-2.88)</td>
<td>(-5.01)</td>
<td>(-4.98)</td>
<td>(-5.10)</td>
<td>(-3.61)</td>
<td>(-3.89)</td>
</tr>
<tr>
<td>Stock price volatility</td>
<td>0.746</td>
<td>1.05</td>
<td>1.22</td>
<td>1.40*</td>
<td>1.30*</td>
<td>1.12*</td>
</tr>
<tr>
<td></td>
<td>(1.24)</td>
<td>(1.63)</td>
<td>(1.82)</td>
<td>(2.37)</td>
<td>(2.14)</td>
<td>(1.96)</td>
</tr>
<tr>
<td>Beta</td>
<td>0.031*</td>
<td>0.018</td>
<td>0.015</td>
<td>0.007</td>
<td>0.011</td>
<td>0.019</td>
</tr>
<tr>
<td></td>
<td>(2.06)</td>
<td>(1.06)</td>
<td>(0.86)</td>
<td>(0.49)</td>
<td>(0.70)</td>
<td>(1.27)</td>
</tr>
<tr>
<td>#NT shares/# T shares</td>
<td>0.015***</td>
<td>0.012***</td>
<td>0.012***</td>
<td>0.013***</td>
<td>0.012***</td>
<td>0.013***</td>
</tr>
<tr>
<td></td>
<td>(6.06)</td>
<td>(4.97)</td>
<td>(4.90)</td>
<td>(5.40)</td>
<td>(5.44)</td>
<td>(5.44)</td>
</tr>
<tr>
<td>%State-owned NT shares</td>
<td>1.05***</td>
<td>1.08***</td>
<td>0.789***</td>
<td>0.818***</td>
<td>0.813***</td>
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</tr>
<tr>
<td></td>
<td>(8.86)</td>
<td>(8.84)</td>
<td>(6.83)</td>
<td>(6.16)</td>
<td>(6.26)</td>
<td></td>
</tr>
<tr>
<td>Concentration[NT shares]</td>
<td>-0.037***</td>
<td>-0.037***</td>
<td>-0.032***</td>
<td>-0.026**</td>
<td>-0.026**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-3.60)</td>
<td>(-3.53)</td>
<td>(-3.67)</td>
<td>(-2.74)</td>
<td>(-2.84)</td>
<td></td>
</tr>
<tr>
<td>Concentration[T shares]</td>
<td>-0.203***</td>
<td>-0.206***</td>
<td>-0.216***</td>
<td>-0.232***</td>
<td>-0.218***</td>
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</tr>
<tr>
<td></td>
<td>(-5.87)</td>
<td>(-5.64)</td>
<td>(-5.27)</td>
<td>(-6.58)</td>
<td>(-5.42)</td>
<td></td>
</tr>
<tr>
<td>Mean CR[all firms]</td>
<td>1.48***</td>
<td>1.59***</td>
<td>1.27***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.11)</td>
<td>(3.64)</td>
<td>(5.83)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean CR[same industry]</td>
<td>0.185*</td>
<td>0.185*</td>
<td>0.382***</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.07)</td>
<td>(1.92)</td>
<td>(4.71)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean CR[same province]</td>
<td>0.295**</td>
<td>0.308**</td>
<td>0.465***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.56)</td>
<td>(2.60)</td>
<td>(5.26)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean CR[interlocked firms]</td>
<td>0.043</td>
<td>0.028</td>
<td>0.028</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>(0.890)</td>
<td>(0.571)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Mean CR[same investment bank]</td>
<td>-0.061</td>
<td>-0.061</td>
<td>0.049</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.22)</td>
<td>(-0.22)</td>
<td>(0.283)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Mean CR[other investment banks]</td>
<td>0.049</td>
<td>0.049</td>
<td>0.049</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.283)</td>
<td>(0.283)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Std Dev CR[reference group]</td>
<td>-1.03*</td>
<td>-2.32**</td>
<td>-0.114</td>
<td></td>
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<tr>
<td></td>
<td>(-2.56)</td>
<td>(-2.70)</td>
<td>(-1.31)</td>
<td></td>
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<td></td>
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<tr>
<td>Mean CR[reference group] × Std Dev CR[reference group]</td>
<td>71.5***</td>
<td>4.80*</td>
<td>4.47*</td>
<td></td>
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<tr>
<td></td>
<td>(3.76)</td>
<td>(2.19)</td>
<td>(2.17)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># Observations</td>
<td>1,075</td>
<td>789</td>
<td>764</td>
<td>1,074</td>
<td>1,005</td>
<td>1,044</td>
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<tr>
<td>R²</td>
<td>0.15</td>
<td>0.31</td>
<td>0.31</td>
<td>0.27</td>
<td>0.25</td>
<td>0.24</td>
</tr>
</tbody>
</table>

Notes: This table presents OLS regressions of compensation ratios set by all 1,086 publicly traded Chinese firms that were completed between May 1, 2005 and July 18, 2007, and that offered compensation in the form of grants of stock or cash. We converted cash grants into stock equivalents. NT and T stand for non-tradable and tradable shares, respectively. Mean CR and Std Dev CR[ ] refer to the mean and standard deviation, respectively, of the compensation ratios set by the reference group named in the square brackets. Robust t statistics are in parentheses below parameter estimates. * indicates p<.05, ** p<.01 and ***p<.001, two-tailed t tests. Coefficients on the constant are omitted to save space.
Table 3: Testing For Normative or Coercive Pressure from Reference Groups: The Difference Between the Focal Firm’s Compensation Ratio and the Reference Group’s Average Compensation Ratio

<table>
<thead>
<tr>
<th>Reference Group</th>
<th>All Firms</th>
<th>Firms in the Same Industry</th>
<th>Firms in the Same Province</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference Positive</td>
<td>471 (43%)</td>
<td>451 (44%)</td>
<td>465 (44%)</td>
</tr>
<tr>
<td>Difference Negative</td>
<td>614 (57%)</td>
<td>559 (55%)</td>
<td>590 (56%)</td>
</tr>
<tr>
<td>Difference = 0</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Total Sample Size</td>
<td>1,085</td>
<td>1,014</td>
<td>1,055</td>
</tr>
</tbody>
</table>

**Wilcoxon Test**

<table>
<thead>
<tr>
<th>Difference</th>
<th>All Firms</th>
<th>Firms in the Same Industry</th>
<th>Firms in the Same Province</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference Positive</td>
<td>Pr(#positive ≥ 471) = Binomial(n = 1,085, x ≥ 471, p = 0.5) = 0.0000</td>
<td>Pr(#positive ≥ 451) = Binomial(n = 1,014, x ≥ 451, p = 0.5) = 0.0004</td>
<td>Pr(#positive ≥ 465) = Binomial(n = 1,055, x ≥ 465, p = 0.5) = 0.0001</td>
</tr>
<tr>
<td>Difference Negative</td>
<td>Pr(#negative ≥ 614) = Binomial(n = 1,085, x ≥ 614, p = 0.5) = 0.0000</td>
<td>Pr(#negative ≥ 559) = Binomial(n = 1,010, x ≥ 559, p = 0.5) = 0.0004</td>
<td>Pr(#negative ≥ 590) = Binomial(n = 1,055, x ≥ 590, p = 0.5) = 0.0001</td>
</tr>
</tbody>
</table>

**Conclusion**

Focal-firm CR < Mean CR[all firms] Focal-firm CR < Mean CR[same industry] Focal-firm CR < Mean CR[same province]

**Notes:** This table is based on 1,086 observations on publicly traded Chinese firms’ ownership reform plans that were completed between May 1, 2005 and July 18, 2007, and that offered compensation in the form of grants of stock or cash. We converted cash grants into stock equivalents.
Table 4: Linear Regression Analysis of the Difference Between the Focal Firm’s Compensation Ratio and its Reference-Group Average Compensation Ratio

<table>
<thead>
<tr>
<th>Reference Group</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All Firms</td>
<td>Firms in the Same Industry</td>
<td>Firms in the Same Province</td>
</tr>
<tr>
<td>Market capitalization/10^{12}</td>
<td>-1.03***</td>
<td>-.789***</td>
<td>-.997***</td>
</tr>
<tr>
<td></td>
<td>(-4.25)</td>
<td>(-3.29)</td>
<td>(-4.45)</td>
</tr>
<tr>
<td>Mean stock-price return</td>
<td>-.773***</td>
<td>-6.91***</td>
<td>-8.34***</td>
</tr>
<tr>
<td></td>
<td>(-4.22)</td>
<td>(-3.45)</td>
<td>(-4.29)</td>
</tr>
<tr>
<td>Stock price volatility</td>
<td>1.27*</td>
<td>1.20</td>
<td>1.16*</td>
</tr>
<tr>
<td></td>
<td>(2.17)</td>
<td>(1.85)</td>
<td>(2.02)</td>
</tr>
<tr>
<td>Beta</td>
<td>.014</td>
<td>-.003</td>
<td>.017</td>
</tr>
<tr>
<td></td>
<td>(1.00)</td>
<td>(-0.20)</td>
<td>(1.14)</td>
</tr>
<tr>
<td>#NT shares/# T shares</td>
<td>.013***</td>
<td>.012***</td>
<td>.012***</td>
</tr>
<tr>
<td></td>
<td>(5.56)</td>
<td>(5.12)</td>
<td>(5.26)</td>
</tr>
<tr>
<td>% State-owned shares/10^{3}</td>
<td>.797***</td>
<td>.866***</td>
<td>.859***</td>
</tr>
<tr>
<td></td>
<td>(8.12)</td>
<td>(8.03)</td>
<td>(8.35)</td>
</tr>
<tr>
<td>Concentration[NT shares]</td>
<td>-.027**</td>
<td>-.026**</td>
<td>-.030***</td>
</tr>
<tr>
<td></td>
<td>(-3.10)</td>
<td>(-2.74)</td>
<td>(-3.34)</td>
</tr>
<tr>
<td>Concentration[T shares]</td>
<td>-.230***</td>
<td>-.236***</td>
<td>-.216***</td>
</tr>
<tr>
<td></td>
<td>(-5.56)</td>
<td>(-7.05)</td>
<td>(-4.89)</td>
</tr>
<tr>
<td># Observations</td>
<td>1074</td>
<td>1005</td>
<td>1044</td>
</tr>
<tr>
<td>R^2</td>
<td>0.22</td>
<td>0.19</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Notes: This table presents OLS regressions of compensation ratios set by 1,086 publicly traded Chinese firms that were completed between May 1, 2005 and July 18, 2007, and that offered compensation in the form of grants of stock or cash. We converted cash grants into stock equivalents. NT and T stand for non-tradable and tradable shares, respectively. Robust t statistics are in parentheses below parameter estimates. * indicates p<.05, ** p<.01 and ***p<.001, two-tailed t tests. Coefficients on the constant are omitted to save space.