

Corruption in Chinese Privatizations

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We document evidence of corruption in Chinese state asset sales. These sales involved stakes in partially privatized firms, providing a benchmark—the price of publicly traded shares—to measure underpricing. Underpricing is correlated with deal attributes associated with misgovernance and corruption. Sales by “disguised” owners that misrepresent their state ownership to elude regulatory scrutiny are discounted 5–7 percentage points more than sales by other owners; related party transactions are similarly discounted. Analysis of subsequent operating performance provides suggestive evidence that aggregate ownership transfers improve profitability, though not in cases where the transfers themselves were corrupted. (*JEL* D73, G30, L33).

1. Introduction

Governments around the world have sold state assets over the past few decades with the twin rationales of raising revenues and improving operating efficiency. The broad consensus among economists is that the net effect has been positive: post-privatization, companies increase sales, invest more, and earn higher profits (see Megginson and Netter 2001, for the most recent survey).

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Yet privatization's history is hardly unblemished. Notoriously, corruption in Russian voucher privatizations led to the theft of state assets on a very large scale, undermining in large part the revenue generation rationale for shedding state assets, and at the same time resulted in increased ownership concentration. Further, the subsequent performance of privatized companies in Russia has been mixed. Although Russian government ownership was inefficient, there were widespread reports of asset stripping and mismanagement of privatized firms. For example, Gazprom, a partially privatized gas and oil company, had a market valuation of \$0.05 per barrel of hydrocarbon reserves in 2000 (Exxon Mobil's value was \$13.68 per barrel), implying an astronomical rate of inefficiency and misgovernance (MacMillan and Twiss 2002). This post-privatization underperformance is, on some level, unsurprising: A buyer that is willing and able to pay off officials in state-run companies in exchange for share price discounts may also have the means and inclination to subsequently tunnel value out of companies at the expense of minority shareholders. Understanding the causes and consequences of corruption in state asset sales can improve our understanding of privatization in the face of weak public and private sector governance, and may thus also help to guide policy for future privatizations.

We study these issues in the context of Chinese asset transfers by examining the correlates of underpricing of state assets, as well as operating performance of firms following asset transfers. A number of aspects of the Chinese setting are useful for analyzing these issues. First, at least on an anecdotal level there have been widespread concerns of corruption and self-dealing in Chinese privatizations. Wedeman (2012), for example, recounts instances of steeply discounted sales of state assets to connected parties, along with details of the subsequent exploitation of privatized companies by their new owners.

The particular structure of Chinese privatization also lends itself to our analysis. Many Chinese companies were partially privatized in the early 1990s through share issue privatizations, yet the government maintained very substantial (usually majority) holdings in most firms via unlisted state-owned firms. For the most part, government shares of publicly listed firms were nontradable, and could change hands only through privately negotiated sales subject to regulatory approval. Since shares with the same cash flow rights as these government holdings were freely traded in parallel in the stock market, we have a credible benchmark to assess the extent of underpricing. We examine these block transfers where nontradable shares in a publicly traded company are transferred via private sale, from the block owner—generally an unlisted firm or government entity—to a buyer, also generally an unlisted firm.

We begin by documenting extent of transfer underpricing. We find that negotiated transfers of nontraded shares occur at very steep discounts (73% on average) relative to the benchmark of the publicly traded share price. We argue that part of this discount can be explained by a principal-agent problem where insiders at the selling firm (*not* the listed

firm itself but rather an unlisted state company that owns the nontradable shares) do not bear the cost of transferring shares at a discount, and may potentially do so in exchange for a side payment or benefits to friends and family.

Of course, discounted transfers may occur for many reasons. For example, prior research has also found that governments may choose to sell their holdings quickly and cheaply because of immediate revenue needs or to signal a commitment to market reforms.¹ In our case, nontradable shares may also be underpriced as a result of a liquidity discount, as has been shown in [Chen and Xiong \(2001\)](#), [Chen et al. \(2008\)](#) and [Huang and Xu \(2009\)](#), among many others.²

We therefore provide evidence on the correlates of underpricing that have no obvious connection to either liquidity or government objectives, by distinguishing sellers that we identify as likely engaging in underpriced sales as a means of transferring value. We focus on sellers where the underlying owner is a state-owned firm that has chosen to identify itself as a private company in transfer disclosure documents, referred to hereafter as *disguised* transfers. Since sales by government firms faced greater regulatory scrutiny, misrepresentation of ownership may be a means of avoiding regulators' attention. We thus argue that insiders wishing to put through underpriced sales "on the sly" may choose to misdeclare ownership in this way.

We find that these disguised transfers are associated with an incremental 5–7 percentage point discount relative to transfers by SOEs where underlying ownership is not obscured by the seller. Although a 5 or 7 percentage point increment is small relative to the overall discount, much of the total discount is likely the result of illiquidity, and the further impact of disguised transfers is large when compared to other correlates of asset value. In particular, we report a parallel set of results for private sellers of nontraded shares where we show that the transfer discount for related party transactions (RPT)—a well-documented source of misgovernance in developing countries—is comparable to that of disguised transfers. We do not claim that disguised transfers and RPT were the *only* means by which negotiated transfers were corrupted; rather, they serve as observable markers that we may exploit to document underpricing that is plausibly tied to corruption.

Our estimate of the effect of disguised transfers on share price discounts is robust to controlling for firm fixed effects, and also time-varying measures of liquidity considerations, profitability, and other factors.³

1. See, for example, Morgan [Stanley \(1997\)](#), for evidence on underpriced transfers in Europe.

2. The illiquidity discount is one common explanation for underpricing in the finance literature. [Silber \(1991\)](#) documented a 30% discount on restricted stocks that are less liquid, whereas [Kahl et al. \(2003\)](#) provides a theoretical model justifying such large discounts.

3. Also, [Perotti \(1995\)](#) and [Biais and Perotti \(2002\)](#) argue that underpricing could signal commitment to privatization, or may help build public support for privatization (see [Dewenter and Malatesta \(1997\)](#) and [Jones et al. \(1999\)](#) for empirical support). This is unlikely

We also find that disguised transfers are concentrated in the early years of our sample, before regulatory reforms in 2002 that increased disclosure requirements for transfers. Also consistent with ownership misrepresentation as a means of eluding regulatory oversight, disguised transfers are smaller than other government sales—as we explain below, larger transfer size triggers greater regulatory scrutiny.

We also assess the impact of these negotiated transfers on firm performance and valuation. Post-privatization performance may be adversely affected by subsequent asset stripping and misgovernance. On the other hand, private ownership may nonetheless improve performance: despite the low prices at which Russian oligarchs obtained state companies, Shleifer and Treisman (2005) argue that privatization nonetheless benefited the Russian economy because of the operational improvements and higher investment that came with private ownership (the case of Gazprom notwithstanding).

We find significant profit improvements for listed firms where ownership transfers have taken place. This is consistent with efficiency benefits derived from privatizations overall, despite the high level of underpricing that we document. However, when we disaggregate transfer history by seller type, we find that disguised sales are not associated with increased profitability (though the difference in impact of disguised versus nondisguised transfers on operating profits is imprecisely measured). We also find that disguised sales are followed by an increase in RPT, a proxy for tunneling by insiders.

We cannot fully rule out alternative explanations—after all, the decision to misrepresent ownership is an endogenous one, a point we return to below. Nonetheless, we argue that our findings are most readily reconciled with the existence of underpricing of asset transfers as a means of private gain at the expense of state revenues. This corruption-based view provides the clearest explanation for the underpricing of disguised sales and RPT, and also the small size of disguised transfers relative to other deals. Our further results on post-transfer profitability indicate that, despite highly discounted transfer prices overall, transfers are associated with improved performance. However, the lack of improved profitability for disguised transfers indicates that there may be a class of transfer participants for which privatization does not yield any benefit. When combined with the particularly steep discounts for disguised transfers—our analyses provide tentative evidence that attributes of the transacting parties matter for the success of privatizations in terms of both revenue generation and subsequent performance.

Our article relates most directly to earlier work on state asset sales, which has focused primarily on the governance improvements (and accompanying increases in firm value) as a result of increased private

to account for the discounts we observe here, since we focus on negotiated sales of state assets to specific buyers rather than the public at large.

ownership (see, e.g., Gupta (2005) and La Porta and Lopes-de-Silanes (1999); for studies focused on China, see Allen et al. (2005), Cull and Xu (2005), Deng et al. (2008), Fan et al. (2007), Sun and Tong (2003), Tian (2000), and Qian and Huyghebaert (2009)). In contrast to earlier work, we assess both the corruptibility of asset sales and its relationship to operating performance in a unified framework. Our work also relates to the ever-expanding literature on measuring corruption and assessing its causes, most closely related to the strand of this research that looks at corruption and firm valuation in the context of publicly traded companies (e.g., Fisman 2001; Goldman et al. 2009).

Our work also contributes to a pair of research streams focused on Chinese capital markets. The block transfers we consider in this article were used by Chen et al. (2008) and Huang and Xu (2009), though for the very different purpose of estimating block control premia. Our article also complements the literature that examines financial fraud in Chinese capital markets (see Chen et al. (2006), Chen et al. (2010), Cheung et al. (2006), Fan et al. (2010), Jiang et al. (2010), Liu and Lu (2007) and Peng et al. (2011) among many others for references), though none of this earlier work addresses the presence or effects of corruption in privatization.

The rest of this article is organized as follows: In Section 2, we provide background on relevant Chinese capital market attributes and institutions; Section 3 provides a description and overview of the data; Section 4 presents our results, and Section 5 concludes.

2. Background

State asset sales in China began in the early 1990s, with the partial privatization of some state-owned enterprises through Share Issue Privatization (henceforth SIP), which made shares available to the general public. This created many publicly traded firms where governments—both national and provincial—continued to hold substantial stakes. In addition, millions of former state-owned firms were gradually sold to the private sector, again with governments keeping significant holdings. In the latter case, ownership transfer took place through block sales to specific firms or individuals rather than the general public. These sales reached a peak during 1998–2002 as a result of the central government’s widely noted policy of *Guo Tui, Min Jin* (“state-owned firms out and private-owned firms in”).⁴

The government wished nonetheless to maintain levers of control in the firms that were privatized through SIP. As a result, more than two-thirds of the outstanding shares were not permitted to trade in the stock market,

4. Data on this latter set of government asset sales are very sparse. In any event, since no tradable shares exist for companies without a SIP, we do not have a benchmark value to compare the price set for asset transfers.

which we refer to as nontradable shares. These tend to be of three types. First, some were held by state-owned firms that were themselves owned by provincial or city governments; we refer to their holdings as *state owned enterprise shares*, or *SOE shares*. Second, nontradable shares were directly held by the central government through its State-owned Asset Supervision and Administration Commission of the State Council (henceforth SASAC) or directly by local governments; we refer to these holdings as *direct state shares*.⁵ Finally, some nontradable shares were held by (generally well-connected) private firms; these holdings are referred to as *private shares*.⁶

Although these shares did not trade on an exchange, ownership could be transferred through private negotiation. Any such transaction involves three firms: (1) the seller, itself an unlisted firm or government entity that owns a nontradable block of shares in the listed firm; (2) the buyer, which is an unlisted firm; and (3) the listed firm. In the case of direct state and SOE shares, that is, when the ultimate owner of the shares is the government, a sale required approval by regulators since the transaction involved the sale of a state asset.⁷ When a transfer was made, the shares' classification changed according to the identity of its new owner. For example, if a provincial SOE sold a block of shares to a private company, the shares' classification would shift from SOE to private.

These "negotiated transfers" created the potential for rent-seeking: The managers of state-owned enterprises, which possessed large nontradable holdings in many publicly traded firms, were responsible for negotiating the prices of share transfers, while the firm (i.e., not the manager) suffered the resultant cost of a low price. This created the possibility for prospective buyers to bribe managers to set low transfer prices in exchange for private payments.

This principal-agent problem is a function of the extent of monitoring and oversight of negotiated transfer deals. Direct state and SOE sellers faced greater scrutiny than private sellers because of the need for government approval. However, many SOE sellers were reportedly able to avoid greater oversight by registering their shareholdings in transfer documents as private shares, thus misrepresenting their true ownership. As a result, the seller identity simply showed up as a private entity in the deal documents. We refer to these companies—state-owned entities with holdings registered as private shares—as *disguised* sellers. This misrepresentation of

5. Shares held by central government SOEs (*Zhongyang Qiye*) like SINOPEC are also defined as "direct state shares."

6. These private nontradable shares originate through two channels: (1) in a privately controlled firm, the stake of a majority shareholder also cannot trade; (2) some private buyers obtained shares earlier from state sellers through private negotiations. See [Jian and Wong \(2003\)](#) for a discussion of related party transactions and misgovernance in the Chinese context.

7. See <http://preview.fec2.mofcom.gov.cn/aarticle/laws/200512/20051201243609.html> for details on regulatory statutes.

corporate ownership is documented in Li (2006), Shao (2007), and Zuo (2006), among others. We contrast these companies with those truthfully revealing their SOE status, which we refer to as *face-value SOE* firms.

Li (2006), in particular, describes the disguised transfer process in detail and references a number of instances of securities enforcement actions as a result of attempted disguised transfers. Despite an increase in enforcement scrutiny in 2002, disguised transfers continued to take place, albeit on a more limited scale. The enforcement database managed by the Peking University Law School lists, for example, several cases in 2010 and 2011 in the Puyang city court of Henan province where state officials were prosecuted for corruption as a result of proposed asset sales that involved disguised transfers.⁸ In one case, the defendant Jixuan Li was sentenced to jail for 11 years for stealing state assets worth 1 million RMB (about 130,000 US dollars).

On an anecdotal level, problems with disguised sales sometimes continued after transfers took place. For example, in the Puyang city example, the case also described subsequent asset stripping by the buyer, Caihong Yan, who sold assets in the listed company at a 50% discount via a RPT.

Given that it is possible, in most cases, to disentangle the ultimate ownership of disguised shares (as we have done for this article), one might expect more enforcement cases. However, regulators had various motives for turning a blind eye to disguised transfers. First, since 1997 the SASAC, which is charged with oversight of negotiated transfers, has focused its attention on regulating large state-owned firms (the so-called *zhua da, fang xiao* policy, which translates roughly as “focus on large state-owned firms, let small state-owned firms go”), which can help to explain why in virtually all cases disguised transfers took place in relatively small firms controlled by local governments. Further, there is likely willful ignorance of disguised share transfers—local SASAC regulators may wish to avoid conflict with local government officials, or may be personally enriched in exchange for turning a blind eye, as suggested by Zuo (2006) and the cases noted above.⁹

Why, then, do buyers and sellers not mislead regulators on other attributes, most obviously the price or quantity of shares? This turns out to be much more difficult, since transfers take place through the stock exchange itself where price and quantity of shares sold are directly

8. The database may be accessed at pkulaw.cn.

9. There have also been enforcement actions for asset sales that do not involve disguised transfers. For example, a literature search of the China Newspaper Full-text Database and the Juling Financial Information System, which covers Chinese financial news uncovered 74 cases where negotiated transfers resulted in prosecutions of SOE managers for underpricing state asset sales. In our data, we do not find a correlation between prosecution and our measure of transfer discount. This is unsurprising given the extreme selection bias involved—prosecutions are a function of the political ties of managers, which also likely impact the extent of underpricing.

observable.¹⁰ In contrast, disguising ownership is the choice of the seller—an unlisted firm—not the listed firm itself.

2.1 Rules Governing Negotiated Transfers

All direct state and SOE sales were required to be reported to government regulators. In addition, details on deals above certain size cutoffs were reported publicly. These public reporting requirements applied equally to government and private sellers, and our data are derived from these public disclosures.

According to Rule 47 in the *Temporary rules on stock issuance and trading administration* (henceforth *Trading Rules*) of the State Council of the People's Republic of China in May, 1993, once a nontradable shareholder directly or indirectly holds 5% of outstanding shares of a listed firm, it must disclose this holding information publicly within three working days. Once this 5% threshold has been reached, the owner of the shares must also disclose its holdings whenever it directly or indirectly buys or sells 2% or more of shares outstanding of the listed firm.¹¹

Direct state and SOE sellers faced an additional layer of scrutiny. On May 15, 1996, the government issued a “notification on standardizing the administration of state-owned shares in limited liability companies.” This put in place a requirement that any transfer of SOE shares obtain approval from local government agencies. When the transfer involved direct state shares, central government approval was required in addition to the approval of provincial regulatory agencies. In the latter case, stricter oversight and disclosure requirements prevented companies from eluding regulation,¹² which may account for the fact that we observe no disguised deals for direct state sellers.

The extent of oversight increased over the course of our sample period. In particular, on December 6, 2001, the CSRC (the Chinese SEC-equivalent) circulated a discussion draft on improving the “administrative method on information disclosure of shareholder changes in listed firms.” This evolved into a final set of guidelines enacted on December 1, 2002. According to the new rules, for each negotiated transfer both

10. See *A notice on regulating negotiated transfer of nontradable shares* issued by the CSRC (the SEC equivalence in China) on September 30, 2001. Also see <http://edu.sse.com.cn/cs/zhs/xxfw/flgz/html/t0036.htm> for the full text of this notice.

11. Thus, some deals by either owners with relatively small stakes or transfers of relatively modest size will not appear in our data. For example, if a firm held 4% of outstanding shares as nontradable shares and sold any proportion of its holdings through private negotiation, no public disclosure would have been required; instead it needed only to register this deal with the appropriate stock exchange. If the owner held more than 5% of a listed firm, but sold only 1.99%, again no public disclosure would be necessary. On December 29, 1998, the 2% cutoff was increased to 5%. This regulatory change took effect on July 1, 1999.

12. Although China is gradually selling off firms held by local governments, it is simultaneously strengthening its control over firms owned by the central government. The latter are generally very large business groups, which may account for the very strict oversight.

seller and buyer would be required to disclose the ownership chain tracing back to the ultimate owner. Although this does not rule out possible ownership misrepresentation, it arguably made it riskier for the parties involved (Li 2002).

3. Data Sources and Summary Statistics

The original deal-level data are from the “Negotiated transfer dataset” obtained through CCERDATA, a data provider affiliated with the China Center for Economic Research (CCER) at Peking University. This dataset covers all announced negotiated transfer deals from February 8, 1995 to September 26, 2007. For each deal, the data include the date when the transaction was first announced; the names of the buyer and seller; the stock code and name of the company whose shares were to be transferred; the price per share; and the total number of shares transferred.

We delete all deals that involve the reallocation of state assets within a state enterprise, where the state simply reshuffles its assets within a business group with transfer price equal to zero. We keep transfers between different state-owned firms where the transfer price is nonzero. We also omit the 17 deals executed by so-called “Special Treatment” firms—generally those in financial distress—where we cannot obtain firm-level financial information. This yields a final sample of 2121 deals involving 649 firms.

Based on the transfer price, we construct our key dependent variable, *Value loss*, which is defined as 1 minus the ratio of the transfer price to the average price of the corresponding tradable shares during the month prior to the announcement date. This reflects the extent of underpricing relative to the benchmark of the tradable share price. As a measure of deal size, we define the ratio of transferred shares over total shares (tradable and nontradable) as *fraction transferred*.

We obtain annual data on financials such as stock turnover, sales revenue, and other balance sheet information, and data on the ownership structure of listed firms from CSMAR, a database on Chinese capital markets. (Much of this database is now also available through Wharton Research Data Services.) Where necessary, these are supplemented with more detailed data from Resset (www.resset.cn), a widely used database provided and maintained by Tsinghua University. These yearly data are matched to each deal since there may be multiple deals in a year for a given firm. We also obtain the pre-deal monthly stock trading information from CSMAR. These data are used to construct control variables, including *turnover* (the average daily trading volume over total shares in the year preceding a deal); $\log(\text{Assets})$; *leverage* (total borrowing divided by total assets of the listed firm), *MktValue* (market value of equity), *dividends* (total dividends divided by mean price in the year prior to the deal), *ROA* (return on assets), and *non-tradable* (fraction of total shares that are not freely tradable).

The CSMAR data are used to calculate abnormal returns for dates around each sale. We calculate returns for a range of windows up to one month prior to the transfer announcement to allow for preannouncement information leakage about impending transfers—since the deal is the result of buyer-seller negotiation, at least some leakage is likely to occur. This is particularly likely in the case of government sales, since regulators must give approval before the transfer is announced. As we will see in the next section, there is clear evidence of pre-event information leakage in the data.

Finally, these data are also used in our later examination of post-deal operating performance. For these analyses, we focus on growth in *assets* (book value of assets), *ROA* (return on assets), *investment* (ratio of investment to book value of physical assets), *leverage* (total borrowing divided by total assets of the listed firm), *wages* (total wage bill), and *employment* (total number of employees). Owing to the *ROA* data's very long tails, we winsorize those data at the 1% and 99% levels (we obtain slightly stronger results if we use more conservative cutoffs of 0.5% and 99.5%). Finally, starting in 1998 all listed firms were required to report all RPT. As a measure of the potential scale of asset stripping (or tunneling), we define *RPT_ratio* as the ratio of RPT to total assets.

A critical covariate for our analysis is *disguised*, an indicator variable denoting whether the negotiated transfer seller is a SOE that has registered its holdings in deal documents as private. To construct *disguised*, we manually recorded the registered identities of sellers' transferred shares using the original deal disclosure documents, which can be found in the China Financial Newspapers Database (henceforth CFND), provided by the Shenzhen-based Juling Information Company. In each case, the disclosure documents list the company name and also whether the shares are declared as SOE-owned, directly state-owned, or privately held.

For each transfer, to determine whether the seller had identified itself truthfully, we begin by looking at the listed company's IPO documents and all the annual reports that predate the transfer. At these earlier dates, there was no strong incentive for misrepresentation, so we expect relatively honest disclosure. One potential concern is that the originally state-owned firm itself may have been privatized before the negotiated transfer date. However, this would itself show up as a change in ownership and reported to the stock exchange, and hence observed by us.¹³

13. In cases where the seller is not listed in IPO reports or earlier annual reports, we search the "Business Information System database" (henceforth BISD), which provides a list of large Chinese firms by city of incorporation, along with their subsidiary companies' ownership status (private or state). Again, we are able to identify firms where there exists a mismatch in state versus private ownership declarations. Finally, for smaller firms not listed in BISD, we performed an internet search using the seller's name and the keywords "Guoyou Qiye" or "Guoyou Konggu Qiye" (meaning state-owned or state-controlled). For example, on some local governments' homepages, firms controlled by the local government are listed. One example of a *disguised* firm thus uncovered is the China Beijing Corporation For

Based on the registered and “true” identities of sellers, we classify them into four categories: *direct state* sellers that registered their shares as owned by the central government; *face-value SOE* sellers that registered their holdings as state legal person shares; *private* sellers that registered their holdings as private, and where true ownership is determined to be private on the basis of earlier documents; and *disguised* sellers, where holdings are registered as private, but we determine that the ultimate owner is a state-owned entity. Both *face-value SOE* and *disguised* sellers are owned by SOEs, but *disguised* sellers have chosen to list ownership (incorrectly) as private in negotiated transfer deal documents.

On the buyer side, we do not observe any differences between registered ownership and true underlying ownership.¹⁴ We define *private buyer* to denote buyers with privately registered holdings.

Private sellers may also have scope for extracting value through transfer deals. In particular, private sellers for the most part have dispersed ownership. Thus, insiders in these selling firms may wish to transfer shares at a discount to other entities where they possess greater cash flow rights. Any transaction between related parties must be publicly disclosed,¹⁵ and we use this information to define an indicator variable, *RPT*, which denotes negotiated transfers that involved sale to a related party.

When we examine post-transfer firm attributes, it is important to keep in mind that transfers result in a permanent shift in the firm’s ownership composition and as a result, we wish to assess performance as a function of the *stock* of transfers that has occurred up to that point in time rather than the flow of yearly transfers. To account for the history of transfers for each firm, we calculate *prior transfers* up to year *Y* as

$$\text{Prior transfers}_{fY} = \sum_{y \leq Y} \text{Fraction transferred}_{fdy}$$

that is, as the sum of transfers by firm *f* in years *y* up to and including *Y*. We may further disaggregate this measure by transfer type, to allow for a distinct effect by type of transfer (i.e., *disguised*, *face-value SOE*, *direct state*, and *private*).

International Economic Cooperation (CBCIEC) that registered itself as private when it sold 8,400,000 shares of Zhongyan Fangzhi (stock code: 600763) in July 17, 2001 to Xinjiang D-Long Group which is a privately controlled business group held by the Tang Brothers. However, according to the Beijing city web site (www.beijing.gov.cn), CBCIEC is a state-owned firm.

14. There is little incentive for such misrepresentation on the buyer side. If a state company has cash available for a stock purchase, it is likely easier for company officials to tunnel out the cash rather than converting it into overpriced share purchases in exchange for kickbacks or favors. As noted, in practice we found no such transactions in our data.

15. Paralleling our discussion around the *disguised* classification, there may be concerns that some sellers choose not to reveal that the buyer is a related party. If this is the case, we are likely underestimating the discount of related party transactions.

3.1 Summary Statistics

Before proceeding to our econometric analyses, we present an overview and summary of the broad patterns in our data.

In Panel A of [Table 1](#), we present summary statistics for the full sample of negotiated transfers. The mean of *Value loss* (1 minus the ratio of the negotiated transfer price of nontradable shares to the average stock price of corresponding tradable shares in the month prior to the deal) is 0.73. The distribution of *Value loss* is shown in [Figure 1](#), disaggregated by seller type. Although there are many reasons that governments sell ownership stakes at a lower price, in many cases the discount is extreme: for more than 10% of transfers, *Value loss* exceeds 0.9, and as shown in the table, the maximum is 0.99. More importantly, one can see that *Value loss* is strongly related to deal attributes that serve as markers for self-dealing—the distribution of *Value loss* for *Disguised* transfers is notably skewed to the right relative to other ownership types.

The mean of *fraction transferred* is 0.13. Although this is a sizeable fraction of shares outstanding, there are relatively few control deals—only 22% of negotiated transfers result in a change in the controlling shareholder. This is indicative of the very high level of ownership concentration in publicly traded Chinese firms.

Private buyer has a mean value of 0.69, that is, in nearly 70% of transfers the purchaser is a private company. In contrast, *private seller* has a mean of 0.32, so nearly 70% of transfers involve some form of state entity as the seller. Thus, overall state sellers and private buyers dominate the share transfer market. *Disguised* sellers account for 23% of all sales, or a third of all state-seller deals, whereas *face-value SOE* deals account for 32% of transactions.

Finally, we observe that the mean of *dividend* is 0.4%. Since both liquidity and dividends could potentially affect transfer prices, it will be important to account for any differences between tradable and nontradable shares in these two variables.

In Panel B, we present company-year level statistics for firms that had at least one negotiated transfer during our sample period. We will use these data to assess the effects of transfers on subsequent operating performance in Section 4.4 below. In Panel C of [Table 1](#), we present summary statistics to contrast the attributes of *disguised* and *face-value SOE* transactions. Recall that the underlying ownership in both cases is a state-owned enterprise, but in the case of *disguised* sellers, ownership is misdeclared as private in deal documents. As already suggested by the patterns in [Figure 1](#) above, the mean value of *Value loss* for *disguised* sales is 0.80, versus 0.73 for *face-value SOE* sales, significant at the 1% level. A number of other attributes are significantly correlated with seller ownership, but as we will see in the results section below, controlling for these deal characteristics does not affect our estimates of the effect of *disguised* (or *RPT*) sales on *Value Loss*.

Table 1. Summary Statistics

Panel A: Negotiated Transfer Deal-Level Statistics					
	Mean	Std Dev	Min	Max	Observations
Value loss	0.73	0.21	-2.17	0.99	2121
Fraction Transferred	0.13	0.12	0.00	0.75	2121
Nontradable	0.64	0.11	0.24	0.96	2121
Log(Assets)	20.43	0.85	12.31	24.15	2121
Leverage	0.25	0.17	0.00	0.97	2121
ROA	0.004	0.11	-0.63	0.16	2121
Log(MKT value)	21.29	0.68	19.03	24.20	2121
Dividend ratio ($\times 100$)	0.40	0.85	0.00	8.24	2121
Turnover	4.18	2.56	0.39	17.77	2121
Private	0.32	0.47	0.00	1.00	2121
Face-value SOE	0.32	0.47	0.00	1.00	2121
Direct state	0.14	0.34	0.00	1.00	2121
Disguised	0.23	0.42	0.00	1.00	2121
RPT	0.078	0.268	0.00	1.00	2121
Private buyer	0.69	0.46	0.00	1.00	2121

Notes: *Value loss* is equal to 1 minus the ratio of the negotiated transfer price of nontradable shares to the average stock price of corresponding tradable shares in the month prior to the deal; *Fraction Transferred* is the ratio of shares transferred in this deal to all outstanding shares; *Log(Assets)* is the log value of total sales of the listed firm in the last year; *Nontradable* is the ratio of nontradable shares to total shares; *log(Mkt value)* is the log value of market value of the firm; *Leverage* is the ratio of total borrowings to total assets of the listed firm; *Dividend Ratio* is the ratio of dividends over price in the year prior to the deal; *Turnover* is average daily turnover in the past year; *Private* is a dummy variable indicating whether the seller is a private firm; *Face-value SOE* is a dummy variable indicating a SOE seller that has honestly represented its ownership in deal documents; *Direct State* is a dummy denoting the seller is a state entity; *Disguised* is a dummy variable denoting a state-owned entity selling shares where the holdings are registered as private in deal documents; *RPT* is a dummy variable indicating whether the seller and the buyer are related parties according to China accounting rules; *Private Buyer* is a dummy indicating the buyer is a private firm.

Panel B: Listed Firm Level Variables					
	Mean	Std Dev	Min	Max	Observations
Prior Transfers	0.201	0.271	0.000	1.934	5499
Prior Transfers: Disguised	0.041	0.107	0.000	1.026	5499
Prior Transfers: Face-value SOE	0.076	0.167	0.000	1.814	5499
Prior Transfers: Direct State	0.043	0.122	0.000	1.004	5499
Prior Transfers: Private	0.041	0.108	0.000	1.170	5499
Private legal person ownership	0.343	0.240	0.000	0.910	5455
State legal person ownership	0.121	0.208	0.000	0.850	5455
State ownership	0.147	0.213	0.000	0.886	5455
Log(Tobin's Q)	0.879	0.537	-0.555	4.185	5469
Log(Sales)	19.716	1.318	7.950	24.672	5351
Employees_F1	6.987	1.342	1.792	11.090	3365

(continued)

Table 1. Continued

Panel B: Listed Firm Level Variables

	Mean	Std Dev	Min	Max	Observations
ROA_F1	0.014	0.086	-0.348	0.173	4772
RPT_Ratio_F1	0.147	0.204	0.000	0.740	4644
Investment Ratio_F1	0.053	0.064	-0.038	0.749	4045
Leverage_F1	0.259	0.196	0.000	6.334	4899

Notes: *Prior Transfers* is the cumulative transfers, which is further disaggregated into four types: *Disguised*, *Face-value SOE*, *Direct State and Private transfers*; *Private legal person ownership* is the ratio of total legal person shares owned by nonstate firms to total outstanding shares; *State legal person ownership* is the ratio of total state legal person shares, owned by state-owned enterprises, to total outstanding shares; *State ownership* is the ratio of total state shares, owned directly by the central government through its SASAC or the local government, to total outstanding shares; *Log(Sales)* is the log value of total sales; *ROA* which is defined as the ratio of net profits (after tax) over total assets, *RPT_Ratio* is the ratio of total related party transactions to total assets, *Investment Ratio* is the ratio of investment over total assets, *Leverage* is the ratio of total borrowings to total assets of the listed firm; *Employees* is the log value of total employees; *F1* denotes these variables are in year $t + 1$; all above variables are defined at the listed firm level and all accounting ratios are trimmed at 1% and 99% quantile to avoid extreme values. We restrict our sample to firms that have at least one transfer in its entire history.

Panel C: Comparison of *Face-value SOE* and *Disguised Transfers*

	<i>Face-value SOE</i> = 1	<i>Disguised</i> = 1	Difference	<i>p</i> value
Value loss	0.730	0.801	-0.071	0.000
Fraction Transferred	0.156	0.099	0.057	0.000
log(Sales)	19.494	19.191	0.304	0.000
Dividend ratio ($\times 100$)	0.398	0.314	0.084	0.064
Turnover	4.149	4.554	-0.406	0.009
Observations	674	480		

Notes: *Value loss* is equal to 1 minus the ratio of the negotiated transfer price of nontradable shares to the average stock price of corresponding tradable shares in the month prior to the deal; *Fraction Transferred* is the ratio of shares transferred in this deal to all outstanding shares; *Log(sales)* is the log value of total sales of the listed firm in the last year; *Dividend Ratio* is the ratio of dividends over price in the year prior to the deal; *Turnover* is average daily turnover in the past year; *Private Seller* is a dummy variable indicating whether the seller is actually a private firm instead of a state firm; *Face-value SOE* is a dummy variable indicating the state seller honestly states his shareholdings as state-owned shares in the deal document; *Disguised* is a dummy variable denoting whether the negotiated transfer seller is a state legal person that has registered its holdings in deal documents as general legal person shares.

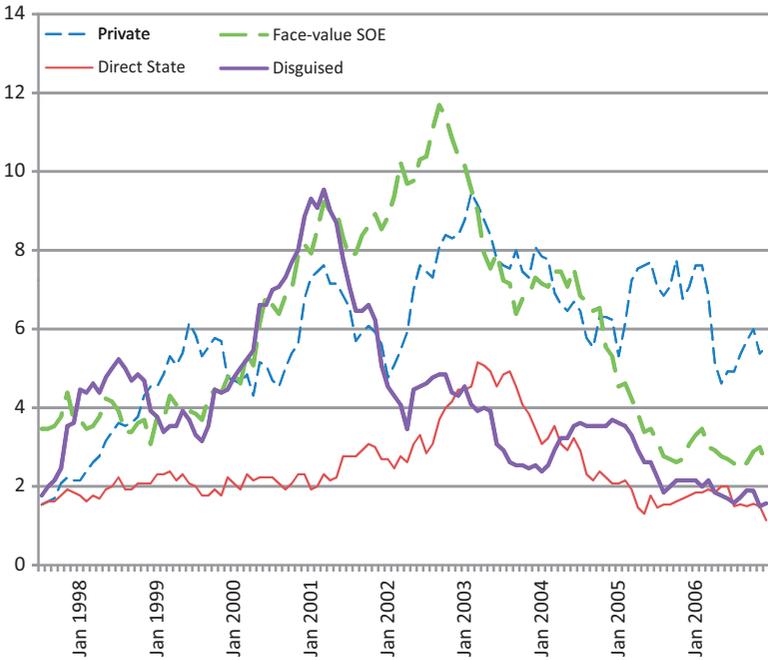


Figure 2. Number of negotiated transfer deals by type of seller, [-6,+6] month moving average. Notes: The graph shows the (weighted average) distribution of negotiated transfer deals during 1997–2007. *Disguised* sellers are state-owned entities selling shares where the holdings are registered as private in deal documents; *Direct state* sellers are state entities; *Face-value SOE* sellers are state-owned entities that have honestly represented their ownership in deal documents; *Private* sellers are private firms.

4. Results

4.1 Value Loss and Disguised Transfers

We begin by assessing the cross-sectional correlates of *Value loss*. Our main specifications are of the form:

$$\begin{aligned}
 \text{Value loss}_{fdy} = & \beta_1 \text{Disguised}_{fdy} + \beta_2 \text{Private}_{fdy} + \beta_3 \text{Directstate}_{fdy} \\
 & + \beta_4 \text{State buyer}_{fdy} + \beta_5 \log(\text{Assets}_{fy}) + \beta_6 \text{Turnover}_{fy} \\
 & + \beta_7 \text{Dividend}_{fy} + \beta_8 \text{FLeverage}_{fy} + \beta_9 \log(\text{Mkt Value})_{fy} \quad (1) \\
 & + \beta_{10} \text{ROA}_{fy} + \beta_{11} \text{Fraction transferred}_{fdy} \\
 & + \beta_{12} \text{Non-Tradable}_{fdy} + \text{Fixed effects} + \varepsilon_{fdy}
 \end{aligned}$$

for negotiated transfer *d* of the shares of firm *f* in year *y* (note that in many cases there are multiple transfers for a single firm in a given year). For seller ownership, the omitted variable is *face-value SOE*. In all cases, we use robust standard errors clustered at the level of the listed firm. We report these results in Table 2. In the first column, we include only the ownership variables, *disguised*, *direct state*, *private*, and *private buyer*. The

Table 2. Effect of Seller Type on Value Loss

	(1)	(2)	(3)	(4)	(5)	(6)
Disguised	0.072*** (0.013)	0.054*** (0.011)	0.047*** (0.010)	0.047*** (0.010)	0.029*** (0.011)	0.042*** (0.010)
Direct State	-0.029 (0.017)	-0.014 (0.014)	-0.002 (0.012)	0.001 (0.012)	-0.020 (0.019)	-0.002 (0.012)
Private	-0.031** (0.015)	0.009 (0.012)	0.011 (0.010)	0.014 (0.010)	-0.007 (0.013)	0.000 (0.000)
Private Buyer	0.002 (0.013)	0.004 (0.010)	-0.002 (0.009)	-0.001 (0.010)	-0.012 (0.015)	
Dividend Ratio			-1.440** (0.723)	-1.670** (0.720)	-1.004 (1.104)	-1.890*** (0.723)
Turnover			0.005*** (0.002)	0.004* (0.002)	0.000 (0.003)	0.001 (0.002)
Fraction Transferred			-0.042 (0.034)	-0.057 (0.036)	-0.067 (0.049)	-0.032 (0.033)
Nontradable			0.157*** (0.050)	0.151*** (0.053)	0.300 (0.197)	0.088** (0.040)
Log(Assets)			-0.10*** (0.012)	-0.11*** (0.013)	-0.064 (0.050)	-0.135*** (0.011)
Leverage			0.034 (0.047)	0.031 (0.049)	0.100 (0.071)	0.237*** (0.037)
ROA			0.009 (0.012)	0.008 (0.012)	0.025 (0.018)	0.005 (0.021)
log(Mkt value)			0.108*** (0.013)	0.118*** (0.013)	0.125*** (0.026)	0.137*** (0.011)
Sample	Full	Full	Full	Full	Full	State sellers
Fixed Effects	No	Year	Year	Ind and Year	Firm and Year	Ind and Year
Observations	2121	2121	2121	2121	2121	1439
R ²	0.035	0.350	0.457	0.470	0.697	0.571

Notes: The dependent variable in all specifications is *Value Loss*, equal to 1 minus the ratio of the negotiated transfer price of nontradable shares to the average stock price of corresponding tradable shares in the month prior to the deal; *Disguised* is a dummy variable denoting whether the negotiated transfer seller is a state legal person that has registered its holdings in deal documents as general legal person shares; *Direct State* is a dummy denoting the seller is selling state shares; *Private* is a dummy variable indicating whether the seller is actually a private firm instead of a state firm; *Face-value SOE* (the omitted category) is a dummy variable indicating the state seller honestly states his shareholdings as state-owned shares in the deal document; *Private Buyer* is a dummy indicating the buyer in this deal is a private firm instead of a state firm; *Dividend Ratio* is the ratio of dividends over price in the year prior to the deal; *Turnover* is average daily turnover in the past year; *Log(Assets)* is the log value of total assets of the listed firm in the last year; *Fraction Transferred* is the ratio of shares transferred in this deal to all outstanding shares; *Nontradable* is the ratio of nontradable shares to total shares; *log(Mkt value)* is the log value of market value of the firm; *Leverage* is the ratio of total borrowings to total assets of the listed firm. In all cases, the columns report the results of a linear regression with standard errors clustered at the firm level included in parentheses. In specifications with industry fixed effects, the industry is defined at the two-digit SIC level. *Significant at 10%; **significant at 5%; ***significant at 1%.

coefficient on *disguised* is 0.072, significant at the 1% level. When we add year fixed effects in column (2), the coefficient on *disguised* drops to 0.054, significant at the 1% level, although no other seller or buyer ownership coefficient is significant at conventional levels.

The impact of including year dummies is not surprising, given the patterns observed in Figure 2—disguised transfers are concentrated in the

earlier years of our sample, when transfer discounts were also highest. Adding the year effects absorbs these compositional differences in the timing of deals. If disguised deals took place in the earlier part of the sample period precisely *because* oversight was lax and hence underpricing opportunities greatest, then controlling for time period may understate the impact of disguised ownership on *Value loss*.

In column (3) we add controls, including $\log(\text{Assets})$, *turnover*, *dividends*, *ROA*, *non-tradable*, $\log(\text{Mkt Value})$, and *fraction transferred*. The coefficient on *disguised* is largely unaffected (as are the coefficients on other ownership variables). In column (4), we add two-digit SIC industry fixed effects; again, the results are largely unchanged. When we add firm fixed effects in column (5), the point estimate on *disguised* falls to 0.029 (though still significant at the 1% level). Finally, in column (6) we omit *Private* sellers; the results are comparable to those obtained in comparable specifications with the full sample.

4.2 *Value Loss* and RPT

We have argued that disguised transactions are likely a means of regulatory evasion to transfer value through underpriced asset sales. The underpricing results from principal-agent problems in state-owned enterprises. A related mismatch of incentives exists for private sellers—an insider at a selling firm may wish to transfer shares at a discount to a separate entity where he holds greater cash flow rights. We therefore look at the impact of RPT on *Value loss* in Table 3 (see, e.g., Bertrand et al. (2002), for a discussion on the tunneling incentives among related parties). The first five columns parallel those of Table 2, but with *RPT* included as a regressor. Consistent with negotiated transfers as a means of tunneling value by private firms, *RPT* takes on a positive coefficient, and in most specifications its size is comparable to that of *disguised*, though somewhat smaller in magnitude (in the range of 0.019–0.037), and in some specifications it is not statistically significant. (In the firm fixed effects specification, the *RPT* effect disappears as a result of the relative rarity of *RPT* transactions—there were only 71 such transfers among private sellers.) Finally, in column (6), we limit the sample to private sellers, the set of firms where RPT would be an effective means of tunneling value. The coefficient in this specification increases to 0.066; in contrast, for the sample of state sellers the coefficient on *RPT* is only 0.004 (see column (7)), and is statistically indistinguishable from zero.

Our findings on RPT are useful in benchmarking the magnitude of the *disguised* coefficient, which we measure to be in the range of 0.029–0.072. Although this is small relative to the mean level of *Value loss* (0.73 in the case of *Face-value SOE* sellers), it also indicates that for *disguised* transfers, up to an additional quarter of the *remaining* transfer value is erased. Further, the effect of *disguised* transfers is consistently measured as greater than that of RPT which are accepted as a common source of tunneling in emerging markets.

Table 3. Effect of RPT on Value loss

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Disguised	0.071*** (0.013)	0.053*** (0.011)	0.046*** (0.010)	0.046*** (0.010)	0.028*** (0.011)		0.042*** (0.010)
Direct State	-0.028 (0.018)	-0.014 (0.014)	-0.001 (0.012)	0.002 (0.012)	-0.019 (0.019)		-0.002 (0.012)
Private	-0.032** (0.015)	0.008 (0.012)	0.009 (0.010)	0.012 (0.010)	-0.008 (0.013)		
Private Buyer	0.001 (0.013)	0.004 (0.010)	-0.003 (0.009)	-0.002 (0.010)	-0.013 (0.015)	0.005 (0.023)	-0.004 (0.010)
Dividend Ratio			-1.496** (0.709)	-1.736** (0.712)	-0.954 (1.113)	-0.584 (1.118)	-1.878*** (0.725)
Turnover			0.005*** (0.002)	0.004* (0.002)	0.000 (0.003)	0.003 (0.005)	0.001 (0.002)
Fraction Transferred			-0.047 (0.035)	-0.063* (0.037)	-0.069 (0.049)	-0.149 (0.107)	-0.033 (0.034)
Nontradable			0.156*** (0.050)	0.148*** (0.053)	0.305 (0.196)	0.257* (0.151)	0.087** (0.040)
Log(Assets)			-0.10*** (0.012)	-0.11*** (0.013)	-0.064 (0.050)	-0.104*** (0.038)	-0.135*** (0.010)
Leverage			0.033 (0.047)	0.030 (0.049)	0.097 (0.071)	-0.026 (0.024)	0.236*** (0.037)
ROA			0.009 (0.012)	0.008 (0.012)	0.025 (0.018)	-0.006 (0.006)	0.005 (0.021)
log(Mkt value)			0.107*** (0.013)	0.116*** (0.013)	0.125*** (0.026)	0.121*** (0.029)	0.136*** (0.012)
RPT	0.037* (0.020)	0.019 (0.020)	0.032* (0.017)	0.034* (0.017)	0.025 (0.019)	0.066*** (0.024)	0.004 (0.022)
Sample	Full	Full	Full	Full	Full	Private Seller	State Seller
Fixed Effects	No	Year	Year	Ind and Year	Firm and Year	Ind and Year	Ind and Year
Observations	2121	2121	2121	2121	2121	682	1439
R ²	0.037	0.350	0.459	0.471	0.697	0.407	0.570

Notes: The dependent variable in all specifications is *Value Loss*, equal to 1 minus the ratio of the negotiated transfer price of nontradable shares to the average stock price of corresponding tradable shares in the month prior to the deal; *RPT* is a dummy variable indicating whether the seller and the buyer are related parties according to China accounting rules; *Disguised* is a dummy variable denoting whether the negotiated transfer seller is a state legal person that has registered its holdings in deal documents as general legal person shares; *Direct State* is a dummy denoting the seller is selling state shares; *Private* is a dummy variable indicating whether the seller is actually a private firm instead of a state firm; *Face-value SOE* (the omitted category) is a dummy variable indicating the state seller honestly states his shareholdings as state-owned shares in the deal document; *Private Buyer* is a dummy indicating the buyer in this deal is a private firm instead of a state firm; *Dividend Ratio* is the ratio of dividends over price in the year prior to the deal; *Turnover* is average daily turnover in the past year; *Log(Assets)* is the log value of total assets of the listed firm in the last year; *Fraction Transferred* is the ratio of shares transferred in this deal to all outstanding shares; *Nontradable* is the ratio of nontradable shares to total shares; *log(Mkt value)* is the log value of market value of the firm; *Leverage*, the ratio of total borrowings to total assets of the listed firm. In all cases, the columns report the results of a linear regression with standard errors clustered at the firm level included in parentheses. In specifications with industry fixed effects, the industry is defined at the two-digit SIC level. *Significant at 10%; **significant at 5%; ***significant at 1%.

4.3 The Characteristics of *Disguised* Transfers

The hypothesis that *disguised* sellers underprice their transfers as a means of eluding scrutiny has a further prediction. As noted in Section 2, larger transfers trigger greater public disclosure. More importantly, larger transfers increase the likelihood of regulatory scrutiny, given the attention that such deals attract in the media. Thus, we expect *disguised* transactions—to the extent that this is a marker for greater underpricing—to be smaller relative to *face-value SOE* transactions. We examine this additional prediction in Table 4, using specifications that parallel those of equation (1), but with *fraction transferred* as the outcome variable. As before, the omitted ownership variable is *face-value SOE*.

In columns (1) and (2), the coefficient on *disguised* is about -0.05 , significant at the 1% level, implying that disguised sales involve equity stakes that are more than 5 percentage points smaller than *face-value SOE* transfers. The coefficient on *direct state* is positive (0.048) and significant, implying that *direct state* transfers involve stakes that are 5 percentage points larger than those of *face-value SOE* transfers. In column (3) we add firm fixed effects; once again the coefficient on *disguised* is negative, though somewhat smaller, and significant at the 5% level.

To summarize thus far, we have documented that transfers by *disguised* sellers carry a higher discount and are smaller in size relative to sales by *face-value SOE* sellers. These patterns are consistent with disguised sales as a means of transferring value out of state-owned enterprises.

Before analyzing the consequences of negotiated transfers for operating performance and market valuation, we reiterate that *disguised* is an endogenous variable, chosen by the seller. As such, the readiest alternative explanation for the transfer discount associated with *disguised* transfers is that some state-owned enterprises simply wish to sell their holdings very quickly and hide their real identities to expedite the transaction. Although we cannot fully rule out this possibility, several considerations favor our corruption-based interpretation. First, we have uncovered no media accounts that suggest this as a motivation for disguised transfers, so if it is the primary cause, it has eluded the media. Second, there is no reason to expect a correlation between the need to execute a transfer quickly and the size of a desired transfer.

A more general concern is that *disguised* sellers' attributes may differ systematically from those of other listed firms, and that these differences may underlie the higher *Value loss* of *disguised* sellers. To account more flexibly for the different attributes of *disguised* versus *face-value SOE* sellers, we present in Table 5 estimates of the effect of *disguised* on *Value loss* based on propensity score matching.¹⁶ Our estimates are comparable to

16. We follow the method and also the codes in Becker and Ichino (2002). A logit model is used in the propensity score test, where firms are matched on the following dimensions: $\log(\text{Assets})$, *Leverage*, *ROA*, $\log(\text{MktValue})$, *Turnover*, *Nontradable*, *Dividend Ratio* and SIC-2 digit industry. The Epanechnikov kernel is used in the kernel matching where the bandwidth is set at 0.04, smaller than the default value of 0.06.

Table 4. The Determinants of Transfer Size

	(1)	(2)	(3)
Disguised	-0.052*** (0.007)	-0.047*** (0.007)	-0.018** (0.008)
Direct State	0.048*** (0.011)	0.047*** (0.010)	0.053*** (0.014)
Private	-0.057*** (0.007)	-0.052*** (0.007)	-0.020** (0.008)
Private Buyer	-0.020*** (0.007)	-0.018*** (0.007)	-0.003 (0.008)
Dividend Ratio		-0.490 (0.392)	-1.278** (0.636)
Turnover		0.001 (0.002)	-0.001 (0.002)
log(Assets)		-0.013*** (0.004)	-0.009 (0.009)
Fixed Effects	Year	Ind and Year	Firm and Year
Observations	2121	2121	2121
R ²	0.109	0.158	0.513

Notes: The dependent variable in columns (1), (2), and (3) is *Fraction Transferred*, the ratio of shares transferred in this deal to all outstanding shares. *Disguised* is a dummy variable denoting a state-owned entity selling shares where the holdings are registered as private in deal documents; *Direct State* is a dummy denoting the seller is a state entity; *Face-value SOE* (the omitted category of seller type) is a dummy variable indicating a SOE seller that has honestly represented its ownership in deal documents; *Private* is a dummy variable indicating whether the seller is a private firm; *Private Buyer* is a dummy indicating the buyer is a private firm; *Turnover* is average daily turnover in the past year; *Log(Assets)* is the log value of total assets of the listed firm in the last year; In all cases, the columns report the results of a linear regression with standard errors clustered at the firm level included in parentheses. In specifications with industry fixed effects, the industry is defined at the two-digit SIC level. *Significant at 10%; **significant at 5%; ***significant at 1%.

Table 5. Effect of *Disguised* on Value Loss: Propensity Score Matching

Dependent variable	Matching method	Number of treatment firms	Number of control firms	ATE	Std. Err.
Value loss	Radius matching	476	1510	0.073	0.008
Value loss	Kernel matching	476	1510	0.044	0.009
Value loss	Nearest-neighbor matching	480	966	0.059	0.015

Notes: Stata codes come from Becker and Ichino (2002). ATE stands for "Average Treatment Effect on the Treated" where the treated group is *Disguised* transfers. Bootstrap replication number is set at 100 in each case. A logit model is used in the propensity score test, where firms are matched on these dimensions: *Log(Assets)*, *Leverage*, *ROA*, *log(Mkt value)*, *Turnover*, *Nontradable*, *Dividend Ratio* and SIC-2 digit industry. The Epanechnikov kernel is used in the kernel matching where the bandwidth is set at 0.04, smaller than the default value of 0.06.

those in our main specifications: the average treatment effect of *Disguised* is estimated as 0.044–0.073, depending on the matching method, indicating that differences in the distribution of observables are unlikely to account for our results.

4.4 Post-Transfer Operating Performance

We now examine how companies perform following negotiated transfers and whether there are differences in post-transfer performance across seller types. To account for the cumulative impact of transfers—ownership changes are permanent and hence we expect that the “stock” of ownership matters rather than the flow of ownership changes—we use the accumulated share transfers up to year y at firm f , *prior transfers* $_{fy}$. We may further disaggregate prior transfers by seller type, which yields the firm-year level measures of cumulative transfers *disguised transfers*, *face-value SOE transfers*, *direct state transfers*, and *private transfers*. (Note that we allow for multiple prior transfer types—including *face-value SOE* and *disguised* for a given firm-year observation.)

We begin by examining in Table 6 whether negotiated transfers in aggregate affect operating performance. We estimate the following equation:

$$ROA_{fy+1} = \beta_1 \text{Prior transfers}_{fy} + \text{Controls} + \gamma_y + \delta_f + \varepsilon_{fy} \quad (2)$$

where γ and δ are year and firm fixed-effects respectively. Throughout, we limit the sample to firms that had at least one negotiated transfer during 1992–2005.

In column (1), we observe that past transfers are strongly correlated with profitability. The coefficient on *prior transfers* is 0.038, significant at the 1% level. Given the standard deviation in *prior transfers* of 0.27, this implies that a one standard deviation increase in past negotiated transfers is associated with an increase in return on assets of about 1% (0.038×0.27).

When we examine the determinants of related party transactions (*RPT_ratio*), a proxy for asset stripping by insiders, we find no significant effect of *prior transfers*. At least part of the overall improvement in profitability appears to work through the channel of reduced labor costs—when $\log(\text{Employment})$ is the dependent variable, the coefficient on *prior transfers* is -0.38 , significant at the 5% level. Also consistent with ownership transfers increasing companies’ future prospects, we find that higher *prior transfers* are associated with a modest increase in investment.

In Table 7, we repeat specification (2), with *prior transfers* disaggregated based on seller type. Our primary interest is in comparing the effects on operating performance resulting from *disguised* versus *face-value SOE* transfers. In column (1), with *ROA* as the outcome variable, we find that the coefficient on *face-value SOE transfers* is positive and significant at the 5% level. Its magnitude of 0.034 is comparable to that of the coefficient on *prior transfers*, reported in Table 6. In contrast, *disguised transfers* are not associated with improved profitability: the coefficient on *disguised transfers* is very close to zero, with a standard error of 0.024. The difference in the coefficients on *disguised transfers* and *face-value SOE transfers* is not significant (p value = 0.269), so any interpretation of these findings on the differential impact of *disguised* versus *face-value SOE* transfers must necessarily be made with caution. Nonetheless, the

Table 6. Relationship between Listed Firm Level Operating Performance and Prior Transfers

Dependent variable	(1) ROA	(2) RPT ratio	(3) Employees	(4) Investment ratio	(5) Leverage
Prior transfers	0.038*** (0.010)	-0.028 (0.032)	-0.375** (0.160)	0.017* (0.008)	-0.025 (0.028)
Private legal person ownership	-0.005 (0.024)	0.035 (0.054)	-0.185 (0.229)	-0.004 (0.018)	0.024 (0.040)
State legal person ownership	-0.007 (0.027)	0.030 (0.053)	-0.265 (0.238)	-0.015 (0.019)	-0.050 (0.040)
State ownership	0.037 (0.028)	-0.017 (0.062)	-0.196 (0.272)	-0.013 (0.022)	-0.029 (0.041)
Log(Tobin's Q)	0.054*** (0.005)	0.022* (0.013)	-0.172** (0.071)	0.025*** (0.005)	-0.031 (0.019)
log(Sales)	0.009*** (0.003)	0.009 (0.006)	0.232*** (0.047)	0.003 (0.002)	-0.016 (0.012)
Fixed effects	Firm and Year				
Observations	4629	4470	3232	3928	4707
R ²	0.278	0.429	0.824	0.330	0.469

Notes: The dependent variables are *ROA*, the ratio of net profits (after tax) to total assets; *RPT_Ratio*, the ratio of total related party transactions to total assets; *Employees*, the log value of total number of employees; *Investment Ratio*, the ratio of investment to total assets, and *Leverage*, the ratio of total borrowings to total assets of the listed firm. *Prior Transfers* are cumulative transfers in this listed firm; *Private legal person ownership* is the ratio of total legal person shares owned by nonstate entities to total outstanding shares; *State legal person ownership* is the ratio of total state legal person shares to total outstanding shares; *State ownership* is the ratio of total state shares to total outstanding shares. Other variables are self-explained. In all cases, the columns report the results of a linear regression with standard errors clustered at the firm level included in parentheses. *Significant at 10%; **significant at 5%; ***significant at 1%.

difference does provide tentative evidence that corrupted asset sales—those associated with disguised transfers—result in lower improvements in profitability. This is consistent with the view that, although asset transfers have the potential to improve profit incentives and governance, for at least a subset of the cases we examine here, these benefits are erased by the value-destroying activities of insiders.

In the remaining columns of Table 7, we present the relationship between prior transfers disaggregated by seller type and other measures of post-transfer performance. Interestingly, when we look at determinants of related party transactions, *RPT_ratio*, we find a positive impact from past disguised transfers, possibly indicating one channel through which profitability is adversely affected by disguised transfers. Notably, there are no further differences between the effects of *disguised* and *face-value SOE transfers*, with the exception of leverage. The fact that subsequent employment, investment, and leverage are similar across all transfer types helps to rule out explanations for the difference in performance based on, for example, different constraints that seller governments place on disguised versus face-value SOE sellers. (One interpretation, albeit a speculative one, for the difference in the effects on leverage is that borrowed funds may further serve as free cash flow that can be diverted by new owners.)

Table 7. Relationship between Listed Firm Level Financials and Four Types of “Prior Transfers”

Dependent variable	(1) ROA	(2) RPT ratio	(3) Employees	(4) Investment ratio	(5) Leverage
Prior Transfers: Disguised	0.002 (0.024)	0.084 (0.062)	-0.344 (0.296)	0.009 (0.020)	0.087 (0.058)
Prior Transfers: Face-value SOE	0.034** (0.015)	-0.115** (0.058)	-0.532** (0.258)	0.017 (0.013)	-0.039 (0.036)
<i>p</i> value of difference between Disguised and Face-value SOE	0.259	0.021**	0.629	0.714	0.031**
Prior Transfers: Direct State	0.070*** (0.021)	0.003 (0.048)	-0.105 (0.202)	0.009 (0.016)	-0.025 (0.047)
Prior Transfers: Private	0.056** (0.025)	0.022 (0.053)	-0.274 (0.473)	0.025 (0.018)	-0.087 (0.073)
Private legal person ownership	-0.007 (0.024)	0.042 (0.055)	-0.186 (0.225)	-0.004 (0.018)	0.027 (0.040)
State legal person ownership	-0.007 (0.027)	0.025 (0.053)	-0.276 (0.237)	-0.015 (0.019)	-0.051 (0.040)
State ownership	0.045 (0.028)	-0.018 (0.061)	-0.151 (0.274)	-0.015 (0.022)	-0.031 (0.043)
Log(Tobin's Q)	0.053*** (0.005)	0.021* (0.013)	-0.171** (0.070)	0.025*** (0.005)	-0.032 (0.020)
log(Sales)	0.009*** (0.003)	0.009 (0.006)	0.231*** (0.046)	0.003 (0.002)	-0.016 (0.012)
Fixed effects	Firm and Year				
Observations	4629	4470	3232	3928	4707
R ²	0.280	0.433	0.824	0.330	0.471

Notes: The dependent variables are *ROA*, the ratio of net profits (after tax) to total assets; *RPT_Ratio*, the ratio of total related party transactions to total assets of the listed firm; *Employees*, the log value of total number of employees; *Investment Ratio*, the ratio of investment to total assets; and *Leverage*, the ratio of total borrowings to total assets of the listed firm. *Prior Transfers* are disaggregated into four types: *Disguised transfers*, *Face-value SOE transfers*, *Direct State transfers*, and *Private transfers*. *Private legal person ownership* is the ratio of total legal person shares owned by nonstate entities to total outstanding shares; *State legal person ownership* is the ratio of total state legal person shares to total outstanding shares; *State ownership* is the ratio of total state shares to total outstanding shares. Other variables are self-explained. In all cases, the columns report the results of a linear regression with standard errors clustered at the firm level included in parentheses. *Significant at 10%; **significant at 5%; ***significant at 1%.

4.5 Negotiated Transfers and Market Valuation

Given the profit improvements documented in the preceding section, it is natural to examine how investors react to the announcement of negotiated transfers. This can provide support for the results on operating performance and an assessment of the extent to which investors correctly anticipated the effects of different types of transfers. The latter is particularly relevant given that *disguised* transfers may appear indistinguishable from *face-value SOE* transfers for many investors.

We assess the effect of ownership transfers by examining announcement cumulative abnormal returns (CARs). In Figure 3 we graph, for each seller type, the median CARs for transfer announcement dates up to a one

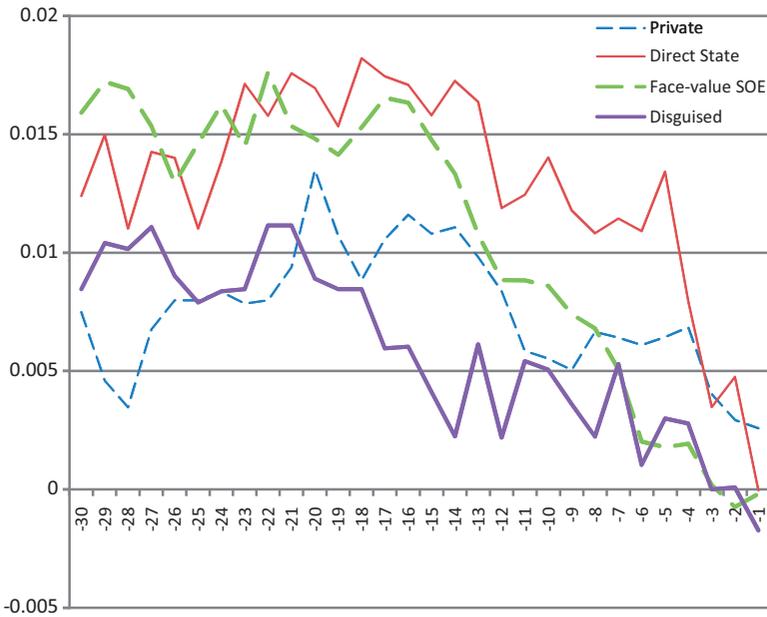


Figure 3. Median CARS by seller type for transfer announcements for windows $[-30, 1]$ to $[-1, 1]$. Notes: $CAR[-d, 1]$ is the cumulative abnormal returns over window $[-d, 1]$ around the first announcement of each negotiated transfer. *Disguised* sellers are state-owned entities selling shares where the holdings are registered as private in deal documents; *Direct state* sellers are state entity; *Face-value SOE* sellers are state-owned entities that have honestly represented their ownership in deal documents; *Private* sellers are private firms.

month pre-event window $[-d, 1]$, for $d = \{1, 2, 3, \dots, 30\}$, where cumulative abnormal returns are calculated using a standard CAPM model (MacKinlay 1997). For ease of comparing different types of *SOE* transfers, we highlight the lines for *disguised* and *face-value SOE* sellers. For all seller types, pre-event returns are positive, and for sufficiently long windows (to remove the effect of information leakage), the median returns are comparable for the various seller types. (There is also striking evidence of pre-transfer information leakage—for an event window that begins a week or less prior to the transfer announcement, returns are close to zero.) These patterns are confirmed based on Wilcoxon signed-rank tests of the fraction of transfer announcements where returns are positive. For any window longer than two days, significantly more than half of transfer announcements yield positive cumulative abnormal returns.

We next look at the determinants of cumulative abnormal returns using a regression framework to assess whether there are different investor responses as a function of seller type and other sale attributes. In all regressions, we include year and either two-digit industry effects or, more stringently, firm fixed effects. We also control for firm size by including $\log(\text{Assets})$. We are particularly interested in whether seller identity affects returns. We therefore include *disguised*, *direct state*, and *private seller* as

covariates (*face-value SOE* is the omitted category). We also include *fraction transferred* to examine whether investors are sensitive to the extent of ownership change.¹⁷

We present these results in Table 8. In the first 4 columns, we present results with year and industry fixed effects, using windows that begin 5, 10, 20, and 30 days before the official transfer announcement. Aside from the five-day window, we find that *disguised* transfers are associated with lower event returns, though this relationship is not statistically significant in any specification. Further, when we include firm fixed effects in the second set of columns, the coefficient on *disguised* switches sign for the 10-, 20-, and 30-day windows, though again in none of these three cases is the effect significant. For any window longer than five days, the firm fixed effects results indicate that investors do not, for a given firm, respond differently to transfer announcements as a function of seller type.

The one transfer attribute that is robustly associated with returns is *fraction transferred*. Its coefficient is, in all specifications, significant at least at the 5% level, and its magnitude over longer windows implies that a standard deviation increase in *fraction transferred* of 0.12 increases abnormal returns by more than 1%.

Overall, we find that investors respond positively to transfers, underpricing notwithstanding. However, there is little evidence that investors respond differently to sales as a function of ownership type.

5. Conclusion

We have investigated for Chinese firms the underpricing of state asset sales and the subsequent performance of publicly traded firms experiencing such sales.

We argue that our results, which involve particularly steep discounts for disguised sales and RPT, are best explained by corruption as a source of underpricing. Our analyses of post-transfer performance find that, despite the very high level of underpricing overall, profitability improves following asset transfers. However, there is an important exception to this general pattern: the lack of improved profitability for disguised transfers (as well as the accompanying increase in RPT) provides tentative evidence that in some cases state asset sales provide neither revenue benefits nor subsequent operating improvements.

Although our results on profitability are noisily estimated, they suggest that further analysis of the circumstances in which privatizations fail to achieve their desired ends would be fruitful. Such evidence can help to enrich our understanding of the privatization process and the role of ownership in affecting organizational performance.

17. We cannot use *Value loss* as an independent variable in these specifications since *Value loss* and *CARs* are mechanically correlated due to the appearance of stock price in both variables.

Table 8. Relationship between Cumulative Abnormal Event Returns and Seller Ownership Type

	(1) CAR [-5,1]	(2) CAR [-10,1]	(3) CAR [-20,1]	(4) CAR [-30,1]	(5) CAR [-5,1]	(6) CAR [-10,1]	(7) CAR [-20,1]	(8) CAR [-30,1]
Disguised	0.003 (0.003)	-0.006 (0.005)	-0.007 (0.007)	-0.006 (0.008)	0.009* (0.005)	0.002 (0.006)	0.001 (0.009)	0.003 (0.011)
Direct State	0.011** (0.004)	0.003 (0.005)	0.002 (0.007)	-0.000 (0.009)	0.005 (0.008)	-0.003 (0.009)	-0.002 (0.014)	-0.006 (0.017)
Private	0.008** (0.004)	0.002 (0.005)	0.005 (0.007)	0.004 (0.008)	0.009* (0.005)	0.004 (0.006)	0.009 (0.009)	0.012 (0.011)
Private Buyer	0.001 (0.003)	-0.003 (0.004)	-0.004 (0.006)	-0.005 (0.007)	-0.002 (0.005)	-0.006 (0.008)	-0.004 (0.010)	-0.001 (0.011)
log(Assets)	-0.003 (0.002)	-0.007** (0.003)	-0.002 (0.003)	-0.003 (0.004)	-0.009 (0.007)	-0.017* (0.009)	-0.019 (0.013)	-0.028** (0.014)
Fraction Transferred	0.053*** (0.011)	0.053*** (0.016)	0.083*** (0.022)	0.110*** (0.025)	0.073*** (0.017)	0.078*** (0.024)	0.106*** (0.034)	0.113*** (0.041)
Fixed effects		Industry and Year				Firm and Year		
Observations	2039	2050	2077	2086	2039	2050	2077	2086
R ²	0.070	0.051	0.060	0.070	0.309	0.299	0.284	0.282

Notes: The dependent variables are cumulative event returns over [-d,1] window around the announcement of transfers where $d = 5, 10, 20, 30$, respectively. *Disguised* is a dummy variable denoting whether the negotiated transfer seller is a state legal person that has registered its holdings in deal documents as general legal person shares; *Direct State* is a dummy denoting the seller is selling state shares; *Private Buyer* is a dummy indicating the buyer in this deal is a private firm instead of a state firm; *Private* is a dummy variable indicating whether the seller is actually a private firm instead of a state firm; *Face-value SOE* (the omitted category) is a dummy variable indicating the state seller honestly states his shareholdings as state-owned shares in the deal document; *Log(Assets)* is the log value of total assets of the listed firm in the last year; *Fraction Transferred* is the ratio of shares transferred in this deal to all outstanding shares. In all cases, the columns report the results of a linear regression with standard errors clustered at the firm level included in parentheses. In specifications with industry fixed effects, the industry is defined at the 2-digit SIC level. *Significant at 10%; **significant at 5%; ***significant at 1%.

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