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Abstract

By matching data on land transactions in China's primary land market with detailed curriculum-vitae of board directors in publicly listed firms, we identify a pattern of "revolving door" exchanges between local officials and firms. The officials discounted the price of land which they sold to the said firms, and were subsequently rewarded with board appointments upon retirement. Specifically, these "client-officials" are three times as likely to be recruited by the "patron-firms" as board directors and enjoy a salary that is 23% higher and 81% more company shares by comparison with directors who did not help firms to secure cheap land deals. All of these, however, are conditional on patron-firms being able to receive a price discount, which averaged 19% when they purchased them in normal times. However, when client-officials were constrained from providing a price discount during a surprise audit, the likelihood of client-officials recruited as board directors was halved, with the price discount and extra compensation received by the patrons and clients respectively vanishing altogether. By providing evidence of the reciprocal benefits received by both parties, we demonstrate that the revolving door is used as a "payment" rather than a "connection" device in the Chinese context.

Keywords: Revolving door; Trading Favours; Surprise Audit; Primary Land market; China

JEL classification Nos.: D73, P26, R52

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Introduction

Do politicians yield to prospective corporate employers for their mutual benefit? Do publicly listed firms seek favours from officials in exchange for lucrative employment that promises not only salaried compensation but also lucrative shareholding? These questions often arise as politicians the world over amass enormous wealth through the politics-business revolving door (see, e.g., Eggers and Hainmueller, 2009; Fisman et al., 2014; Fafchamps and Labonne, 2017; Amore et al., 2015; Gagliarducci and Manacorda, 2020; Folke et al. 2017). However, existing evidence only shows the one-sided gains that politicians obtain from their lucrative employment; there is no evidence to link these lucrative rewards directly to the benefits that firms may have received from their clients.¹ Moreover, existing studies of the revolving door mainly focus on its role as a “connection device”, i.e., firms hiring former politicians primarily to help them approach those in power (e.g., Vidal et al., 2012; Bertrand et al., 2014; Luechinger and Moser, 2014; Cornaggia et al., 2016), but not as a “payment device” in the specific form of *deferred* reward to reciprocate business favours from politicians with authority to provide them while in office. Using the primary land market in China – a market in which local government is the sole seller² – as our case study, we bring systematic evidence to bear on the claim that “patron-firms” that benefited from discounted government land sales provided by their “client- officials” eventually employed them after their retirement.

The revolving door phenomenon has existed in China for some time now. The number of board directors in publicly listed firms who were formerly officials has increased markedly since 2003,³ ostensibly since the Independent Board Director System (IBDS) policy – a policy designed to provide checks and balances onto the majority shareholders – came into effect.⁴ While the revolving door is certainly not unique to China, it is peculiar to the Chinese

¹ Consider, for example, the public discussion surrounding Dick Cheney’s relationship with Brown and Root Services (BRS). As Bush Sr.’s Secretary of Defence, Cheney helped to initiate the government’s deal with a private military contractor within BRS, whose parent company Halliburton later hired him after he left the federal position. While this may well be a practice of revolving door, evidence fell short in proving that it was indeed the case.

² Since 1998, local governments in China have become the *de facto* monopolist sellers of land usufruct rights to private individuals for up to 70 years (see Section 2 for further details). Coupled with the rapidity of China’s urbanization since then, house prices in Tier-1 Chinese cities had risen enormously, reinforcing the “land sale craze” (Fang et al., 2015).

³ In particular, the real estate sector is one where disproportionately more former officials have been employed as board directors – a sector identified by Xi Jinping as the “hotbed” for breeding corruption (Chen and Kung, 2019).

⁴ For example, *Southern Weekly*, a widely circulated newspaper in China, reported that, as of 2013, 32% of the 2,532 firms listed on various stock exchanges had at least one former government official who served as board director, with many having more than one.

context because of two unique institutional features. The first is that local governments are empowered to sell rights for land use and retain the revenue from such sales (Chen and Kung, 2016, 2019; Han and Kung, 2015). By choosing a type of transaction that enables them to select a preferred buyer, a local government can practice price discrimination – specifically by providing their patron with a price discount (Section 2). The other unique institutional feature is that, once retired, officials are spared any questioning of their possible wrongdoings while in office – a prerogative essentially equivalent to “diplomatic immunity” (Zhong, 2015; Manion, 2016).⁵ Taken together, these two unique features give rise to revolving door practices. While the first feature provides strong incentives on the part of both parties to seek rents, the second leads to the use of the revolving door as a deferred payment device, as it substantially reduces the risk of being caught for corruption. Although patron firms have to reward their client-officials with higher salaries and larger amount of company shares, evidence suggests that these “premiums” account for no more than 7% of their saving from the price discounts provided by their clients.

To undertake an empirical analysis of China’s revolving door, we match the data on land transactions for the period 2000-2012 with the detailed curriculum vitae of the board directors of publicly listed firms to construct a unique data set (Section 3). Doing so serves two primary purposes. First, it enables us to establish evidence of (1) whether involvement in a land transaction by an official before retirement is linked to the official’s subsequent board directorship and corresponding compensation in terms of both salary and company shareholding; and (2) whether the prices of land transactions underpinned by this “patron-client” relationship are discounted. Second and crucially, the detailed curriculum vitae of board directors allows us to identify with greater confidence those officials who were previously involved in land transactions – either as provincial/prefectural leaders or as heads of functional departments related to land transactions – when they were still serving in the government.

Having prepared this unique dataset we begin our analysis with the research question of whether patron firms are more likely to *recruit* their client-officials as board directors as a result of the price discount the latter previously provided, and if so whether they are remunerated differently (Section 4). Our analysis finds that, by comparison with prefectures in which firms had not purchased land, firms are three times as likely to recruit client-officials from prefectures where they purchased land onto the board as directors. Conditional

⁵ This is evident in the anti-corruption campaign as it exclusively targets officials who are still in office.

upon recruitment, client-officials earned approximately 23% more in annual salary and were given 81% more in company shares by comparison with other officials-turned-directors who had not provided price discounts to the patron-firms, as well as directors who were not formerly officials. These results remain the same even after we control for future land purchases—a proxy for firms’ intentions to maintain or develop political connections with incumbent officials through the client-officials’ connections, ruling out the possibility that firms reward their client-officials purely as a connection device.

We rely on the “surprise audit” conducted by the central government to identify whether the relationship between the larger premium enjoyed by client-officials and their involvement in land transactions is merely a correlation or is causal. As these audits were unannounced, they effectively served as a quasi-random natural experiment. Indeed, we do find that the prospect of client-officials being recruited as board director is reduced significantly, with the premium in both salary and company shareholding vanishing altogether even in the event of appointment – presumably because client-officials could not offer the same price discount while under strict surveillance. Moreover, additional evidence finds that the effect of “patronage” – specifically appointment to a directorship resulting from past land purchase – is especially prevalent in regions where local governments and firms of lesser probity are apparently more corrupt not just in the primary land market but also in other respects, lending credence to the existence of corrupt behaviour in both firms and government.

Next, we examine price discount – the other side of the revolving-door exchange – in Section 5. Controlling for other possible confounding factors that may bear upon land price, most notably the quality of the land involved and method of land transaction, we find that patron-firms enjoyed an average price discount of 19% in normal times but this, like their client-officials’ income and shareholding premium, similarly vanished during the audit. Moreover, evidence finds that price discount was not the only favour client-officials extended to their patrons. By using a less transparent method when selling land, these officials were able to practise price discrimination with fewer restrictions; this resulted in selling not only more land to their patrons but also land designated for more profitable uses such as commercial and residential construction. To prove that the relationship between price discount and board appointment is causal, once again we employed the surprise audit as identification. Moreover, we imposed the further condition that the effect of the surprise audit must be time bound – in that its effectiveness is confined to the auditing period alone and not either before or after. We did find that to be the case; price discounts existed before the

surprise audit, vanished altogether during the audit, and returned soon after the campaign was over.⁶

In addition to identification, by controlling for firm-by-year fixed effects as we do in some specifications, we can rule out the concern that our estimates might be driven by unobserved time-varying firm characteristics. To ensure that our results are not driven by firms' unobserved market advantages in certain localities, we employ the secondary land market – a market in which the sellers are those who originally purchased the land use rights from the local government – as a robustness check. In this market, we find no illicit exchange between firms and retired government officials over land prices and board appointment.

What conclusions can we draw from this empirical exercise regarding the revolving door? Can we draw any net societal effect from it? To shed some light on these questions we provide a back-of-the-envelope calculation. In our sample, 4,427 land parcels altogether were conveyed via the revolving door, yielding a total discount of at least 57.2 billion *yuan* or 9.18 billion USD in 2012 distributed over 1,539 firm-years. A “representative” patron-firm obtained an average of 37.17 million *yuan* (57.2 billion/1,539) or 5.97 billion USD of “windfall profits” in a given year, approximately 8% of the average annualized profits made by a listed firm between 2000 and 2012.

Equally important is the monetary equivalent of the value of a board appointment. The 22.9% higher salary received by the client-official over two terms of six years implies that the client-official enjoyed a premium of 219,371.47 *yuan* ($=22.9\% * 159,659 * 6 \text{ years}$) or 35,211.55 USD in 2012 in salary over the client-official's peers who served in the same capacity as director but did not provide firms with a price discount. But it is company shareholding that accounts for the lion's share of the client-officials' premium income. Specifically, 81% more shares translates into 5.58 million *yuan*. The two premiums combined yielded an additional income of approximately 4.74 million *yuan* or 0.76 million USD for the client-official – an amount comparable to the annual compensation of a CEO in a publicly-listed firm in China in 2012 and 40 times the annual pension salary of a retired prefectural mayor who is not connected to the revolving door. Although the 342 client-officials who served as board directors for six years incurred an additional payment of 3.86 billion *yuan* or 0.62 billion USD for the patron-firms, this was a mere 7% of their saving from the discounted prices provided by their clients.

⁶ We thank an anonymous referee for asking us to make this point more explicit.

There are three bodies of literature to which we contribute. Foremost is the literature on politics-business revolving door (e.g., Vidal et al., 2012; Luechinger and Moser, 2014; Cornaggia et al., 2016; Bertrand et al., 2014). While this literature has spun many interesting narratives, it still falls short of demonstrating the reciprocal gains made by both parties to the revolving door exchange. To our knowledge, ours is the first to show the gains of both the patrons (the firms) and the clients (the officials) in the form of price discounts and lucrative post-retirement employment, respectively.

The biggest contribution we wish to claim, however, is the discovery of an entirely different mechanism underlying the revolving door, functioning primarily as a payment rather than connection device. Unlike market economies, where politicians are recruited to lobby for the interest of powerful business groups, we show how publicly listed firms in China made strategic use of deferred payment to entice officials in charge of land transactions to provide them with lucrative price discounts. As mentioned at the very beginning, this mechanism arises from the unique institutional features of local government owning public resources such as land, and the “diplomatic immunity” of retired officials for their corrupt behaviour while in office. Moreover, while Chen and Kung (2019) also make use of the uniqueness of landownership in China’s primary land market to reveal corruption, they link it to the “one-level-up” promotion policy to account for the exchange between the “princelings” firms and local officials, whereas ours is linked to a policy of sparing the local officials from punitive consequences after they retire from office.

Second, our study also contributes to a growing literature that examines the effect of pay structure on the career and financial incentives of public officials and politicians (e.g., Kotakorpi and Poutvaara, 2011; Dal Bo et al., 2013; Gagliarducci and Nannicini, 2013; Finan et al., 2017; Enikolopov, 2018; Khan, et al., 2019; Bertrand et al., 2020), as well as one that focuses on the abnormal financial gains accruing to politicians and/or their family members (e.g., Eggers and Hainmueller, 2009; Fafchamps and Labonne, 2017; Fisman et al., 2014; Amore et al., 2015; Gagliarducci and Manacorda, 2020; Folke et al., 2017; Chen and Kung, 2019). Last, but certainly not least, our work also joins the voluminous literature on corruption in general (Banerjee et al., 2012; Olken and Pande, 2012 for an overview), and political connections in particular (Khwaja and Mian, 2005; Li et al., 2008; Cingano and Pinotti, 2013; Coulomb and Sangnier, 2014; Fisman and Wang, 2015, Fang et al., 2019).

2. Institutional Background

2.1 The Revolving Door of China’s Listed Firms

With the intent of providing checks and balances for the majority shareholders, in 2001 the China Securities Regulatory Commission (CSRC) stipulated that within two years a publicly listed firm was required to fill at least a third of its board with independent directors (*Guidance Regarding the Establishment of the Independent Directors System in Listed Companies*). However, in reality, a substantial majority of the independent directors were recruited by the majority shareholders. Granted, the *Guidance* explicitly prohibits officials from joining firms whose businesses are directly related to the officials' authority, firms circumvent this by delaying recruiting them until they have officially retired from the public sector.

2.2 China's Primary Land Market

The passing of a statutory bill at the 15th National Party Congress in 1998 assigned exclusive statutory rights to local governments in China to collect and retain revenue from leasehold sales to eligible parties for up to 70 years.⁷ In turn, those who obtain the usufruct are authorized by law to resell it in the so-called "secondary" land market to a third party before its expiry. Thus, the land market in China consists of two spheres: the primary market where the local government is the sole seller, and the secondary market – a market where the local government is not involved at all. Our analytical focus is on the primary land market.

In order to practise price discrimination, the monopolist local government chooses the method of land transactions that allows them the greatest flexibility in choosing buyers and offering them the best prices. In principle, transactions can be carried out in one of three ways – "invited bidding" (*guapai*), "listed bidding" (*zhaobiao*) and "English auction" (*pimai*), the choice of which can significantly affect the discount that local government can extend to potential buyers.⁸ While all three methods are in principle open auctions, the English auction is considered the most transparent and least prone to corruption or price manipulation, and hence results in the highest land prices on average (Chen and Kung, 2019). But this method accounted for less than 10% (8.32%) of all land transactions in the primary land market between 2000 and 2012. Further, among the listed firms the corresponding magnitude is a

⁷ Entitled *The Revised Law of Land Management*, the bill explicitly grants local governments *de jure* ownership over land in their geographic jurisdictions (Chen and Kung, 2016; Han and Kung, 2015; Lin and Ho, 2005; Kung et al., 2009).

⁸ The "bilateral agreement" (*xieyi*), which essentially represents negotiations between a single buyer and seller behind closed doors, has been banned since 2002 by the Ministry of Land and Resources on land designated for commercial and residential uses (*Regulation on the Transaction Method of Leasehold Sale of Land by Local Government*), before it was extended to also industrial land in 2007. But many local governments continued to do that with the excuse that only a single buyer can fulfil the stated requirements (more on this below).

miniscule 5.6%. This exceptionally low incidence suggests that local officials were selling land in a far from transparent manner, especially when their buyers were listed firms. Indeed, close to half of the land conveyed in the primary land market, 42.62%, were sold through listed bidding – a method that begins with at least two bidders but often ends up with just one and essentially becomes a *de facto* “bilateral agreement”. Indeed, a slightly larger proportion of land parcels, 46.67%, were sold this way, despite being officially prohibited since 2002. In our sample of publicly listed firms, nearly all the land they purchased was bought either via listed bidding (59.78%) or bilateral agreement (32.31%). It is easy for local government to convert a listed bidding into a bilateral agreement simply because they have full discretion in setting the requirements for the qualifications and characteristics of the bidders; this gives them ample room to choose the preferred buyer and manipulate the price. For example, in one reported corruption case, the few potential bidders were disqualified by the officials, as they were unable to resettle the affected households within the short notice given to them, while the preferred buyer was informed well in advance and could negotiate with the households ahead of time. In the end, only one buyer met the requirement and won the bid (Gong and Wu, 2012). This anecdote is consistent with many similar studies, all of which invariably show that officials can manipulate the requirements so that only their preferred bidder is qualified to win the bid (Cai et al., 2013; Lian et al., 2019).

Land policy is no exception to the general rule that officials can circumvent the regulations imposed by the central government, like many policies in China. Indeed, after auditing land sales in 11 prefectures, the National Audit Office of China came to the following reluctant conclusion:

“The Chinese government efforts to clean up land sales, a major source of official corruption..., face a rethink.....according to an investigation published by the National Audit Office (NAO) last week. ...Some prefectures have given a flexible interpretation to the rules and the auction system has often existed in name only, resulting in a lack of competition among developers and the winning developer being able to secure the land at below its true market value.”⁹

2.3 Efforts to Curb Corruption in the Primary Land Market

To curb corruption in the primary land market, the central government launched a series of “surprise audits” beginning in 2005. Altogether four rounds of such inspections were

⁹ *Asian Times* (June 2008). The English translation is from Cai et al. (2013).

conducted in a total of 585 counties and/or prefectures (respectively in 2005, 2007, 2009 and 2011). As the audits were intended to take the targeted provinces, prefectures, and counties by surprise, they were not announced in advance. Moreover, except for major municipalities such as Beijing, Tianjin, Shanghai and Chongqing, only 76 prefectures – a small fraction out of 585 (13%) – were audited more than once. Typically, the inspection teams would be dispatched to the targeted prefectures and counties for a duration of between 10 and 18 months to audit land transaction records and related financial documents. It is difficult to prove corruption merely on account of the seemingly lower prices of land sold by client-officials to their patron-firms, for there was no evidence as yet that these officials had received any tangible benefits. But the same cannot be said for *ongoing* transactions; for example, the presence of the inspection team strongly deterred local officials from selling land using bilateral agreements, restraining them from manipulating prices. Upon completing the inspection, the team returned and submitted reports to the central government.

3. Data Sources and Variables Construction

To conduct an empirical analysis of the politics-business revolving door in China's primary land market, we construct a dataset by merging together the data on (1) various characteristics of publicly listed firms, including the particulars of board directors, and (2) land transactions, respectively. Our data are drawn from the following sources.

3.1 Listed Firms

The first data source is annual reports published by firms – their subsidiaries included – listed on the Shenzhen and Shanghai stock exchanges from 2000 to 2012; there were altogether 2,665 of these firms during that period. Containing detailed information on firms' characteristics and performance measures, the bulk of these reports were acquired from three major data vendors in China: Wind Information, China Stock Market and Accounting Research (CSMAR), and RESSET.

3.2 Land Transactions

Made available by the Ministry of Land and Resources (via the website of the Land Transaction Monitoring System, <http://www.landchina.com/>), the second data source provides detailed information on land transactions for the same period (i.e., between 2000 and 2012). As required by the *Law of Land Management*, prefectural governments are required to report detailed information for each land transaction in their jurisdictions,

including size and location (e.g., area code and precise address) of the land parcel, total payment, transaction date, name of the buyer, method of transaction (e.g., English auction, bilateral agreement, and so on), a 3-digit industry code indicating land use (e.g., industrial versus commercial), the quality of each land parcel as rated by the particular official-in-charge of the transaction on a 20-point scale, the legal floor area ratio, etc. In total, more than a million (specifically 1,126,269) land parcels were sold in the primary land market during the 2000-2012 period.

We then match the firm data with the land transaction data based on a firm's full name, including its subsidiaries. Of the 2,665 publicly listed firms in China, nearly two-thirds (1,673 or 62.78%) purchased land in the primary land market between 2000 and 2012. The 30,871 land parcels purchased by these 1,673 listed firms amounted to a total payment of 1,536 billion *yuan* or 217 billion US dollars at the 2020 price,¹⁰ accounting for 12.31% of the overall land revenue in that period.

3.3 Board Directorship

Our third data source comes from CSMAR, which provides detailed information on annual salary and company shareholding of the board directors who served in our sample of listed firms between 2000 and 2012. In addition, three other data vendors provided detailed curriculum vitae of the board directors. This information is especially valuable as it reveals the career trajectories of all officials-turned-directors, in particular those who served in the government. The distribution of board directors in terms of their former governmental positions and functions is provided in Table A1 in the Appendix. Of the 3,610 officials-turned-directors, there were few provincial party secretaries and governors, accounting for less than 1% (0.91% [= 0.25% of party secretaries + 0.66% of governors] or 33). At this highest level, a substantially larger proportion, nearly 20%, belonged to what may be categorized as “technocrats” serving in such departments as *Planning and Construction* (7.2%), *Commerce* (2.99%), and *Finance and Taxation* (2.69%). At the lower, prefecture level, party secretaries and mayors combined accounted for more than a fifth of the board directors – 21.19% ([5.26% of party secretaries + 15.93% of mayors] or 765). Nearly half of the officials-turned-directors, 47.01%, were technocrats who served in functional departments at the prefectural level, with the more prominent ones being *Planning and Construction* (14.46%), *Finance and Taxation* (8.89%), *Land and Natural Resources* (6.45%), and so

¹⁰ One *yuan* was equal to approximately 0.14 USD in the first quarter of 2020.

forth. Officials from *Planning and Construction* are definitely involved in land sales, as the department has the mandate of drafting the annual land sales plan. Similarly, *Finance and Taxation* officials are also responsible for collecting the land conveyance fee and related taxes. Hence, the directors' curriculum vitae serve the important purpose of identifying who among the directors were more likely to have been involved in land transactions.

Table 1 reports summary statistics for board directors in our sample of listed firms. Column (1) reports the characteristics of all directors, while column (2) reports the subsample of those who are *not* formerly officials. Column (3) shows that an overwhelming proportion of board directors, 90.93%, are non-officials. In other words, only about 10% of directors were formerly officials. Columns (5) - (8) further divide these officials-turned-directors into those who had sold land to the patron-firms (columns (7) and (8)), and those who had not (columns (5) and (6)). In column (8) we can see that the client-officials accounted for a mere 2% (1.99%), while those who were uninvolved in land transactions accounted for the great majority, 7.08% (column (6)).

The directors' compensation is compared using two metrics— annual salary and company shareholding. Salary is lowest amongst the “non-client-officials” (112 thousand *yuan*), followed by non-officials (154 thousand *yuan*), and sharply higher for client-officials (359 thousand *yuan*). Consistent with this pecking order, client-officials also received a greater number of shares (1,396,000) than directors who came from the private sector (1,122,000) and nearly three times the amount of their “non-client” counterparts (424,000). Thus, the question to be addressed is, what enabled the client-officials to be compensated so much more generously than the other two categories of directors.

In terms of demographics, the average age of officials-turned-directors is 58, about 4 years older than the non-officials.¹¹ To measure political connections, we follow Li et al. (2008) by using indicators such as delegate of the Chinese People's Political Consultative Conference (CPPCC) or National Party Congress (NPC), and membership of the Chinese Communist Party (CCP), respectively. Unsurprisingly, a substantial majority of directors are represented in one or more of these organizations. The directors are also more likely to have cultivated political connections with banks.

[Table 1 about here]

¹¹ Where age is missing for some directors, the data vendors provided an estimate based on the directors' work experiences as detailed in their curriculum vitae. However, doing so may result in measurement error. To ensure that our estimate will not be contaminated by measurement error of this nature, we conduct a robustness check that excludes age as a control variable, and find strikingly similar results (Table A2 in the Appendix).

3.4 Measuring Land Quality

Land price can vary enormously because of location (quality) and its attendant facilities, among other factors. Officials from the *Land and Natural Resources* department at the prefectural level are tasked with the responsibility of evaluating the quality of each land parcel they sell, by assigning each a score on a scale of 1-20. However, this measure is subjective and probably biased because an official intending to provide a price discount to a patron has a strong incentive to underrate its quality. In this light, we construct a more accurate (at least unbiased) measure of land quality by comparing land parcels purchased by the listed firms with those purchased by the non-listed firms in the same neighbourhood (e.g., within a 500-meter radius) and in the same year. This requires us to match land transactions on a parcel-by-parcel basis between the two types of firms within a well-defined radius, for example, a 5-kilometer, a 1-kilometer, or a 500-meter radius, as illustrated in Figure 1, and in the same year (see, e.g., Chen and Kung, 2019).

[Figure 1 about here]

Table 2 presents summary statistics for the land transactions data.

[Table 2 about here]

4. Land Purchased by Patron-Firms and Benefits Received by Client-Officials

In this section we examine the effect on the benefits of client-officials of land purchased by patron-firms, measured in terms of recruitment to board directorship (Section 4.1), followed by compensation (Section 4.3). To rule out the possibility that recruitment might be confounded by discounted future land purchases, “home bias”, the differential effect of the first versus repeated audits, and so forth, we conduct a number of robustness checks in Section 4.2. Finally, to shed light on the magnitude and importance of the compensation package received by client-officials, we provide a back-of-the-envelope calculation of the *difference* in overall compensation between directors who are client-officials and those who are not (Section 4.4).

4.1 Recruitment of Board Directors

Our primary goal here is to establish whether past land sales provided by client-officials led there being a greater prospect of patron-firms recruiting them onto the board as directors.

Second, by using the surprise audit as identification, we examine whether these correlated “stylized facts” are in fact causal; the underlying assumption here is that when they are under strict surveillance, client-officials refrain from practising price discrimination for fear that they might get caught. Based on the method developed by Bayer et al. (2008), we construct a sample in which firms and prefectures are paired for the 2000-2012 period. Covering 2,665 firms and 341 prefectures, this exercise yields a total of 7,772,413 firm-by-prefecture pairs of observations.¹² The regression is specified as follows:

$$\begin{aligned}
 RecruitingLocalOfficial_{jct} = & \beta_0 + \sum_{l=1}^3 \beta_l PastLandPurchases_{cj,t-l} + \\
 & \sum_{l=1}^3 \gamma_l PastLandPurchases_{cj,t-l} * Audit_{cj,t-l} + \tau_{cj} + \varphi_{jt} + \omega_{ct} + \zeta_{cjt}, \quad (1)
 \end{aligned}$$

where $RecruitingLocalOfficial_{jct}$ is set to 1 if firm j in year t appointed a former official who served in prefecture c , and 0 otherwise; $PastLandPurchase_{cj,t-l}$ is set to 1 if firm j purchased land from prefecture c in year $t-l$, and 0 otherwise; $Audit_{cj,t-l}$ is set to 1 if the land purchased by firm j from prefecture c in year $t-l$ coincided with the auditing period, and 0 otherwise; and $l=1, 2, 3$. To eliminate possible confounding effects associated with prefectures, firms, and years, we control for the prefecture-by-firm, firm-by-year, and prefecture-by-year fixed effects; abbreviated as τ_{cj} , φ_{jt} , and ω_{ct} , respectively. We include only three lags of land purchase in the specification because a single board directorship term is limited to three years. Moreover, few transactions occurred more than three years before a director’s appointment. All standard errors are clustered at the prefecture-by-firm level.

In specification (1), $\beta_l (l = 1,2,3)$ is a measure indicating how land purchased by firm j in prefecture c increases the likelihood of a client-official from prefecture c becoming a director of firm j . As identification, $\gamma_l (l = 1,2,3)$ indicates that the patron-client relationship is *conditioned* on the purchase being transacted in the non-auditing period, when patron-firms can benefit from the price discount; γ_l would be negative if firms are unable to reap any benefits during the auditing period.

Table 3 presents the results of estimating Equation (1). First, column (1) shows that the likelihood of a client-official earning board appointment on account of a land transaction in the previous year is 2.7 percent higher than that of a non-client-official. The same effect occurs for land purchased two to three years ago, albeit with a smaller magnitude. To what extent does this relationship represent a “deferred payment”? To find out, we use surprise

¹² This number is smaller than the expected 11,813,945 (=2,665 * 341 * 13) because, while some firms were newly listed in the sample period, others were delisted.

audits as a quasi-random natural experiment to identify the effect of corruption, by interacting the indicator variable of land purchase in the previous three years with whether a transaction occurred during the auditing period ($PastLandPurchases_{cj,t-l} * Audit_{cj,t-l}, l = 1, 2, 3$). Column (2) of Table 3 shows that the coefficient of interaction term is negative. As the magnitude wipes out more than half of the positive gains from previous land purchase, this result squarely confirms that firms only reward their client-officials with board appointments after obtaining cheap land deals. We then replace the three separate indicators of land purchase with a single indicator (column (3)), and interact it with an audit indicator (column (4)) to check robustness. The results show, while average land purchase in the past three years increases the likelihood of recruiting a client-official by approximately 4.6 percent (the benchmark for comparison is prefectures without such transactions), the corresponding magnitude during the auditing period is more than halved – 2.1 percentage points (4.6%-2.5%). Against the mean of the outcome variable in this specification (1.5%), our estimated coefficient (of 4.6%) suggests that a firm buying land in a prefecture facilitated by a client-official in normal times is approximately three times as likely to recruit the client-official onto the board as director.

[Table 3 about here]

4.2 Robustness Checks

Although we have identified the relationship between past land purchase and board appointment as causal using the surprise land audit as identifier, there are a number of remaining concerns that require further examination. We begin with the possible alternative channel of future land purchase.

4.2.1 Effect of Future Land Purchase

First, it may be contended that, to the extent that firms wish to benefit from price discounts in the future, they need to cultivate connections with incumbent officials; an easy way to do so would be to rely on retired officials. To shut down on this channel, we control for the three-year leads of land purchase in Equation (1) and reported the result in column (5) of Table 3. While future land purchase also increases the likelihood of board appointment, the effect of past purchase remains significant and its magnitude has become even larger, suggesting that our earlier finding is not driven solely by the omission of future land purchase.

A related issue concerns the likelihood of a firm with pre-established connections in a prefecture wanting to maintain and extend such connections in the future. To ensure that our result is not driven by this “feedback loop” between previous and future land purchases, we further control for the interaction between the indicator variables of respectively land purchase in the past and future three years.¹³ As reported in column (6) of Table 3, the result shows that the pertinent interaction term is statistically insignificant, but the effect of past land purchase remains significant. Together, the results of columns (5) and (6) suggest that the revolving door in our context goes way beyond a connection device but functions instead as a deferred payment device – a mechanism that allows firms to reward their clients for their past effort.

4.2.2 “Home Bias”

Another concern pertains to “home bias”; i.e., that there might be a tendency for firms to both purchase land and recruit directors in cities where their headquarters are located and/or registered. Figure A1 in the Appendix, which shows (1) the geographic distribution of firms’ registered location by province, and (2) the provinces in which they purchased land, reveals that most land transactions occurred outside firms’ province of registration. To ascertain this visual pattern more rigorously, we re-estimate our regressions based on the specification in column (4) of Table 3 by first dropping those observations that pair firms and their registered prefectures from our sample, followed by dropping those that pair firms with both their headquartered and registered prefectures (in the event the two are separate). Columns (7) and (8) of Table 3 report these re-estimations. In both cases, the likelihood of firms recruiting client-officials continues to be significant, but its magnitude is halved if the land purchase occurred during the auditing period, which once again testifies to the underlying causal nature of the observed relationship. In any case, these findings reassure us that our results are clearly not driven by “home bias”.

4.2.3 Officials Involved in Land Transactions

There may also be a concern that not all officials-turned-directors were involved in land transactions, as some departments may have little if anything to do with it. To ensure that our estimates are not biased by the inclusion of *all* officials at the prefectural level and above, we conduct a robustness check by including only those officials whom we judge are most likely

¹³ We thank an anonymous referee for the suggestion.

to be involved in land transactions based on the administrative functions of the departments in which they served. For example, in addition to the departments most likely to be involved in land transactions, such as *Planning and Construction*, *Finance and Taxation*, and *Land and Natural Resources*, the Department of *Transportation* and Prefectural *State-owned Assets Administration Commission* are also likely candidates, as they are charged with the respective responsibilities to develop the infrastructure surrounding the land parcels put up for sale, and to reclaim land parcels from bankrupt state-owned enterprises. On the whole, we supposed that nearly 80% (79.89%) of the client-officials at the two levels combined (province and prefecture) – including both those who are the general leaders (such as the Party secretaries or governors/mayors) or who worked in a functional department – have played a specialized role in land transactions while in office. We thus conduct a robustness check by including only these officials in the regression analysis and confirm its significance (Tables A3-A4 in the Appendix, corresponding to Tables 3 and 5).

4.2.4 *Difference between Initial and Subsequent Audits*

While the surprise audit provides us with a solid identification, one potential concern is that officials and firms may form expectations after the first audit and became more alert to future audits (in anticipation of their reoccurrences). Should that be the case, the rent-seeking firms might *time* their purchase strategically in different cities in accordance with their expectations about the likelihood and sequence of future audits. Based on the fact that only a minority of prefectures have been subjected to repeated audits (13% or 76/585 prefectures and counties), the strategic behaviour in question is probably unlikely. But a case could be made that the dearth of repeated audits is only revealed *ex post*, hence *ex ante* even officials in prefectures not being raided repeatedly after the initial audit might become more cautious and act more strategically. To find out if the first and subsequent audits have different effects on recruitment, we expand the regressions based on columns (4) through (10) of Table 3. Reported in Table A5 in the Appendix, the results show that there is no difference between the first and subsequent audits with respect to the positive association between past land purchase and board appointment of the client-officials.

4.2.5 *Scope of Rent-seeking*

One approach to strengthening the claim that the observed relationship between land purchase and board appointment is causal is to strengthen its external validity. For example, might firms and prefectures more prone to revolving door practices also have greater

proclivities to engage in other rent-seeking activities (e.g., Fisman et al., 2014)? To answer this question, we make use of several prefecture-level measures related to corruption and firm-level measures related to probity, respectively.

The three regional-level measures are: 1) the ratio between private and public sector wages,¹⁴ 2) the annual provincial index of marketization, and 3) the annual number of prosecuted corruption cases in each province.¹⁵ Measure (1) is selected because the sectoral wage gap – with the public-sector wage being the lower of the two – is taken as a proxy for the official’s opportunity cost for engaging in corrupt behaviour; presumably the larger the ratio the smaller the opportunity cost. Measure (2) is a composite index constructed to measure the degree of market development in the private sector, the product market, the factor market, the intermediate market and legal institutions, and government-market relations, respectively (Fan et al., 2003). Previous studies found that, the higher the index, the lower the incidence (and presumably the smaller the scope) of rent-seeking activities (e.g. Li et al., 2008). Measure (3) is the most direct measure of regional corruption; but, like (2), it is enumerated at the provincial level.

Regarding the three measures of firm’s probity, they include whether a firm has ever been charged by the China Securities Regulatory Commission (CSRC) for: (1) irregularities or misconduct of any kind, and (2) having committed particular fraud(s). In addition, we also check a firm’s probity using an annual survey conducted by the *Shenzhen Stock Exchange* on its degree of accounting opacity.¹⁶

Reported in Table 4, we find that the relationship between past land purchase and board appointment is stronger in cities with larger wage gaps between the private and public sectors (column (1)), with less developed markets (column (2)), and among firms apprehended by the CSRC for having committed irregularities, particularly fraud, and with less transparency in accounting practices (columns (4) – (6)). However, perhaps the provincial number of corruption cases is too noisy a measure, its interaction with past land purchase is not significant (column (3)).¹⁷ Overall, the results provide robust external checks on the validity of our finding regarding the practices of the politics-business revolving door between publicly listed firms and government officials.

[Table 4 about here]

¹⁴ The ratios were computed based on the 2005 mini-population census, which sampled 1% of the population.

¹⁵ The data are obtained from *The Procuratorial Yearbook of China* for the period 2001- 2013.

¹⁶ The data are from the CSMAR database.

¹⁷ Its coefficient is positive, however, which is consistent with our expectations.

4.3 Past Land Purchase and Compensation of Client-Officials

Following board appointment, we now examine the effect of past land purchase on client-officials' compensation. Specifically, we examine the effect of past land purchase on the officials-turned-directors' annual salary and company shareholding using the following baseline regression:

$$\begin{aligned} \text{Log(Compensation)}_{ijt} = & \rho_0 + \rho_1 \text{PastLandPurchases}_{ij} \\ & + \rho_2 \text{PastLandPurchases}_{ij} * \text{FormerLocalOfficial}_i \\ & + \rho_3 \text{PastLandPurchases}_{ij} * \text{FormerLocalOfficial}_i * \text{Audit}_{ij} \\ & + Y_i \sigma^1 + Z_{jt} \sigma^2 + \phi_j + \mu_t + \epsilon_{ijt} \quad (2) \end{aligned}$$

where $\text{Log(Compensation)}_{ijt}$ denotes either the logged annual salary or company shareholding held by director i of firm j in year t ; $\text{PastLandPurchase}_{ij}$ is a variable indicating that firm j had purchased land up to three years before director i joined firm j ; and $\text{FormerLocalOfficial}_i$ is a variable indicating that director i was previously an official in charge of land transactions, i.e., client-officials. The interaction term of $\text{PastLandPurchase}_{ij} * \text{FormerLocalOfficial}_i$ is a variable that takes the value of 1 if director i was a local official in the prefecture where firm j had purchased land before i joined the firm. For identification we use the triple interaction term of $\text{PastLandPurchase}_{ij} * \text{FormerLocalOfficial}_i * \text{Audit}_{ij}$, which is a variable indicating whether firm j had purchased land in the prefecture where client-official i worked during the surprise audit. In this regression setup, we control for a vector of director- and firm-related characteristics, such as whether the director is a former official, the official's age, gender, years of schooling, CPPCC membership, NPC deputyship, CCP membership, connections with banks, proportions of the firm's shares owned by the state, foreign parties, and board members, respectively, the firm's annual profit, and the size of employment, etc. We also control for firm- and year-fixed effects, and cluster the standard errors at the firm level.

Columns (1) and (5) of Table 5 report the estimates of past land purchase (ρ_1) and its interaction with local officials (ρ_2) on annual salary and company shareholding, respectively. First, ρ_1 is insignificant, suggesting that a director's salary is not conditioned on a firm's purchase of land in the past three years alone. But ρ_2 is significant and positive in both columns, suggesting that only a client-official can enjoy an additional premium of 9.1% in annual salary, and hold 52% more shares than officials who had not helped firms to secure the price discount. To verify whether this premium reflects a reward to the client-official for

providing price discounts in previous land transactions to their clients, we examine the triple interaction term of $PastLandPurchase_{ij} * FormerLocalOfficial_i * Audit_{ij}$ (ρ_3), for identification. As reported in columns (2) and (6) of Table 5, while assisting the patron-firm to obtain cheap land deals increases the client-official's salary by 22.9% and company shareholding by 81%, they are more than offset by the losses incurred during the auditing period; the sums of the coefficients, viz., $0.229 + (-0.309) = -0.079$ and $0.811 + (-0.647) = 0.164$, are not statistically significantly different from zero. To eliminate the potential confounding effects we include the firm-by-year fixed effects in columns (3) and (7) and the results are similar.

[Table 5 about here]

Once again, to eliminate the concern that our results may be driven by “home bias”, i.e., firms might pay directors based in their headquarters or registered prefectures more generously for reasons we fail to observe, we exclude those client-officials that firms recruited from their headquartered office or prefecture of registration and re-estimate Equation (2) again, and find similar results (columns (4) and (8)).¹⁸

To deal with the concern that client-officials were recruited to facilitate future land purchases, we add to Equation (2) the leads of land purchase in prefectures where the client-officials once worked, and presumably still maintain connections with incumbent officials. As reported in Table 6, while inclusion of the leads of land purchase reduces the sample size, the estimated premiums obtained by client-officials – be it in salary or in company shares – remain robustly significant and with an even larger magnitude than before. Most importantly, future land purchases are not significantly associated with any premium.

[Table 6 about here]

4.4 The Client-Official's Premium

An important question arising from Section 4.3 concerns the size of the premium enjoyed by client-officials.¹⁹ How large is it in reality? To shed light on its importance, we provide some back-of-the-envelope calculations. Given that the average annual compensation of an official-turned-director was approximately 159,659 *yuan*, and that directors typically served two terms of six years, a client-official earned a premium of 219,371.477 *yuan* (=22.9% *

¹⁸ While the effect on annual salary becomes less significant (10%, column (4)), the coefficient of the triple interaction term remains negative.

¹⁹ We thank two anonymous referees for suggesting that we perform this exercise.

159,659 * 6 years) or 35,211.55 USD as of 2012 in salaried compensation over a non-client director of six years (two terms).

But salary only forms a small part of the client-officials' overall income. More substantially, they are given 81% more company shares than other directors. Assuming the client-officials liquidate their shares upon leaving the firm, and further assuming that the shares are valued at 5.58 million *yuan* (based on the last month of the year when they served as director), a client-official could earn up to 4.52 million *yuan* ($=5.58 * 81%$) more in value than a non-client-official. Taken together and using the last year of our sample for illustration (i.e., 2012), the salary and equity income yielded a total premium of approximately 4.74 million *yuan* or 0.76 million USD. How attractive is this increase in post-retirement income over the other directors? It is comparable to the annual compensation of a CEO in a publicly listed firm in China in 2012, and 40 times the annual pension of a retired prefectural mayor who is not connected to the revolving door. And if we were to count the overall income of a client-official (salary plus shareholding), the two sources combined would amount to 11.28 million *yuan* or 1.81 million USD. Altogether, the 342 client-officials in our sample have collectively earned a colossal 3.86 billion *yuan* or 0.62 billion USD during the six years in which they served as board directors in their patron firms.

Given these lucrative returns, we attempt to find out whether client-officials might be tempted to serve beyond six years. As reported in Table A6 in the Appendix, we do not find any significant difference in duration of tenure between different kinds of directors, suggesting that the term limits are strictly adhered to.

5. Price Discounts Received by Patron-Firms

After confirming the extraordinarily large premium enjoyed by client-officials, we now examine whether these officials did provide price discounts to their patrons when they oversaw land transactions while in office, by examining the prices, method(s), and quantity of land transactions that these officials handled.

5.1 Price Discounts When Directors were Client-Officials

To verify whether client-officials provided price discounts to their patrons in land transactions while in office, we compare the price of land transactions they handled with those handled by others. To identify corruption, we compare transactions that occurred in normal times with those that occurred during the auditing period. Our main specification is as follows:

$$\begin{aligned}
\log(\text{Price})_{ijct} = & \delta_0 + \delta_1 \text{RecruitingLocalOfficial}_{ijct} \\
& + \delta_2 \text{RecruitingLocalNonofficial}_{ijct} \\
& + \delta_3 \text{RecruitingNonlocalOfficial}_{ijct} + \delta_4 \text{Audit}_{ijct} \\
& + \delta_5 \text{RecruitingLocalOfficial}_{ijct} * \text{Audit}_{ijct} \\
& + \delta_6 \text{RecruitingLocalNonofficial}_{ijct} * \text{Audit}_{ijct} \\
& + \delta_7 \text{RecruitingNonlocalOfficial}_{ijct} * \text{Audit}_{ijct} + \phi_1 \text{LPC}_{jct} + \phi_2 \text{LE}_{jct} \\
& + \phi_3 \text{GPC}_{jt} + X\gamma + \lambda_t + \rho_j + \theta_c + \mu_{ijct} \quad (3)
\end{aligned}$$

where the dependent variable $\log(\text{Price})_{ijct}$ is the logged unit price of land parcel i purchased by firm j in prefecture c in year t . Our key independent variable is $\text{RecruitingLocalOfficial}_{ijct}$, which is a variable indicating that land transaction i occurred in prefecture c at time t , where t denotes the three years before a former official from prefecture c joined the board of firm j . To verify the price discount, we compare the difference if any in land price between transactions handled by a client-official-director and those by a non-official-director who also worked in prefecture c where firm j purchased land at time t ,²⁰ denoted as $\delta_2 \text{RecruitingLocalNonofficial}_{ijct}$, and other officials-turned-directors who originated from a prefecture other than c , denoted as $\delta_3 \text{RecruitingNonlocalOfficial}_{ijct}$. $\delta_4 \text{Audit}_{ijct}$ is a dummy variable indicating that firm j 's purchase of land i from prefecture c in year t occurred during the audit. Of special interest are the interactions between $\delta_5 \text{RecruitingLocalOfficial}_{ijct} * \text{Audit}_{ijct}$, which measures the expected effect on land price of an official-turned-director who came from prefecture c where land i was conveyed during the audit period; and the respective effects of local non-officials $\delta_6 \text{RecruitingLocalNonofficial}_{ijct} * \text{Audit}_{ijct}$, and non-local officials $\delta_7 \text{RecruitingNonlocalOfficial}_{ijct} * \text{Audit}_{ijct}$.

X is a vector of control variables that include the characteristics of land parcels, firms and prefectures. Throughout the regressions, the fixed effects of firms, prefectures and years are all included, with standard errors clustered at the prefecture-by-year level. In some regressions, we also control for the higher dimension of firm-by-year fixed effects. In distinguishing the beneficial effect conferred by client-officials on land price, it is necessary that we control for nuanced differences in the nature of political connections based on the board directors' characteristics. Broadly speaking, political connections can be (1) specific to

²⁰ This variable is constructed by using the non-official-director's detailed curriculum vitae that we obtained from the same sources as those of the official directors. We define local non-official-directors as those who were not formerly officials but who had worked in the same prefectures where the patron-firms purchased land.

a local government, (2) general to a local government, or (3) specific to a locality. For instance, locality-specific political connections (LPC_{jct}) are connections derived from the experience of a director of firm j in year t who worked in the government of prefecture c before joining the firm, whereas general political connections (GPC_{jt}) refers to the experience of a board director who worked in a local government in general, i.e., one other than prefecture c . Finally, general local experience, LE_{jct} , is a variable indicating that a director of firm j in year t had previously worked in locality c .

Table 7 presents the results of the estimation. Column (1), which estimates Equation (3) before including the various interaction terms, finds that a land parcel sold by a client-official fetches a price 12% lower than other parcels purchased by the same firm but without such a relationship. This estimate is significant at the 5% level, suggesting that the significantly higher compensation paid to client-officials is indeed preceded by a favour in the form of a price discount. Further, locality-specific political connections (LPC_{jct}) yield an additional discount of 9.6% — a finding consistent with that identified in other contexts (refer to the literature on political connections detailed in the *Introduction*). A novel finding in this context is that the “patronage effect” is independently significant of the “connections effect”.

[Table 7 about here]

To identify corruption, once again we examine whether the price discount may be weakened if not altogether eliminated during the auditing period, by adding the interaction term between $RecruitingLocalOfficial_{ijct}$ and $Audit_{ijct} - \delta_5$ in Equation (3). As reported in column (2) of Table 7, the coefficient of δ_5 shows that land transactions that took place within a year before a client-official was appointed to the board enjoyed a discount of 14.6% greater than land parcels without similar connections. However, the same firm that enjoyed the price discount in normal times paid 29.1% more for land parcels it purchased during the audit. To control for a possible selection bias arising from the unobserved time-varying firm characteristics such as managerial ability (i.e., firms may have to pay more for reasons other than the fear of getting caught), we control for the firm-by-year fixed effects (column (3)) and the result remains unchanged. Doing so yields the finding that land purchased outside the auditing period is 19% (18.9%) cheaper than those sold without price discount. However, the positive and significant coefficient of δ_5 suggests that, for transactions that occurred during the audit, the monetary benefit of price discount is wiped out completely.

One concern for our estimates of price discount is that the reduced price may reflect lower land quality due, for example, to location. To test this, we control for the average neighbourhood prices within a 5 km radius, a 1 km radius and a 500 meter radius, respectively (columns (4) - (6)), and find that the price discount remains significant, and with a magnitude ranging from 12% to 14%. To alleviate the concern that the discounted prices may be a consequence of firms purchasing land in their home prefectures, we exclude those transactions in the firms' registered or headquarters prefectures. Reported in columns (7) and (8), price discount remains significant and with an even larger magnitude of 21% - 24%.

5.2 Robustness Checks

5.2.1 Whether Auditing is Time Bound?

Given that our identification arises from the exogenous treatment of a surprise audit, the effect of the audit on price discounts has to be time bound. To test this, we construct a dummy variable and split it into 11 equal chunks of three months duration; specifically, there are four quarters before an audit campaign commences, three during the audit period, and four after it ends.²¹ For comparison, the reference group are land transactions not characterized by patron-client relationships. The estimated coefficients of these 11 dummies and the confidence intervals are plotted in Figure 2, from which we find that the price discount provided by client-officials to their patrons is significant before the surprise audit begins but vanishes suddenly as it starts and returns to the pre-audit level as the campaign comes to an end. Consistently, these results coalesce in confirming that the effects of surprise audit on price discounts are indeed time bound.

[Figure 2 about here]

5.2.2 Transactions in Secondary Land Market

Although the foregoing evidence provides proof that the relationship underlying the revolving door is probably causal, there may still be concerns that our results could be confounded by time-varying, firm-specific and locality-specific factors that cannot be observed. For instance, a firm might enjoy unobservable advantages in a certain locality at a certain point in time, which, if so, both facilitates land transactions and leads to higher compensation for its directors. Given that there are multiple sellers in the secondary land market, we use it as a placebo test. As reported in Table A7 in the Appendix, the results

²¹ These 11 quarterly dummies therefore replace the single dummy variable of $Audit_{ijct}$ in Equation (3).

confirm that there are no price discounts in the secondary land market. To verify this result further, we also examine the effect of land transactions in this market on board appointment and compensations and confirm that the results are not significant (Table A8-A9 in the Appendix).

5.3 Additional Benefits: Transaction Transparency, Land Use, and Quantity

An inevitable question that arises is whether firms engaging in revolving door practices received benefits other than land price discounts. Would they, for instance, be offered proportionately more land designated for commercial and residential use, given their higher property values, or would they simply be sold more land? To find out, we examine the method of land transactions, land use, and the overall size of the land parcels associated with the land purchased by these firms, by estimating a model similar to Equation (3), but with the outcome variable being an indicator of the English auction—the most transparent method of land transaction. Indeed, columns (1) and (2) of Table 8 shows that the English auction is 0.8-0.9% less likely to be used in transactions characterized by a patron-client relationship. The result is robust even after we control for the higher dimensional firm-by-year fixed effects. However, client-officials refrained from controlling the mode of sale during the auditing period, presumably out of the fear of getting caught.

[Table 8 about here]

As with the method of land transaction, the land sold by client-officials is 3.5-5.4% more likely to be designated for commercial and residential uses – our dependent variable in columns (3) and (4), irrespective of whether we control for firm-by-year fixed effects or not.

Our last test pertains to whether client-officials would simply sell more land to their patrons, in a context in which property prices are expected to rise. To test this hypothesis, we first examine whether client-officials sell larger land parcels to their clients, with the logged size of each parcel transacted as the outcome variable. Columns (5) and (6) of Table 11 report the estimates at the transaction level first without and then with the firm-by-year fixed effects. Overall, land parcels sold by client-officials to their patrons are only marginally larger than those not underpinned by this relationship, and is not precisely estimated anyway. Moreover, there is also no significant difference in the size of land parcels conveyed between the auditing and non-auditing periods. But the insignificant differences stop there. Though not necessarily selling larger land parcels to their patrons, client-officials did sell more land parcels to their patrons, in regressions where the dependent variable is total land area purchased by firms in each prefecture in a panel of firm-prefecture pairs (columns (7) and

(8)). Specifically, and for each given year, the total land area purchased by a patron firm is 3% more in prefectures with many firms engaging in revolving-door activities than in those not characterized by this relationship. Once again, the result holds even after controlling for the firm-by-year fixed effects (column (8)).

5.4 Monetary Benefits of Price Discount

Perhaps the biggest question is how much can firms save by appointing client-officials to their board? Against the average payment of 68.0 million *yuan* or 10.92 million USD in 2012 per land transaction in our sample, the estimated price discount of 19% (column (3) of Table 7) suggests that firms with a client-official saved 12.9 million *yuan* or 2.07 million USD from each land transaction than those without one. With as many as 4,427 land transactions conducted in normal times, the patron-firms saved a massive 57.2 billion *yuan* or 9.18 billion USD in price discounts in total, out of which only 7% (3.86/57.2 billion dollars) were spent as rewards to client-officials. To put these “savings” in perspective, a “representative” patron-firm obtains an average of 37.17 million *yuan* (57.2 billion/1,539) or 5.97 billion USD of “above-normal” profits in a given year, which is equivalent to approximately 8% of the annual profits (estimated at 470 million *yuan*) a listed firm made between 2000 and 2012.²²

6. Conclusion

In this paper, we use China’s primary land market to reveal what essentially is a patron-client relationship between listed firms and officials engaged in land transactions before they retired from office. In particular, we examine how publicly listed firms take advantage of public officials in charge of land sales to provide them with price discounts, in exchange for board directorships upon their retirement. Specifically, our analysis finds that a patron-firm can enjoy an average discount of up to 19% in normal times, while the client-official is reciprocated with a compensation that is 22.9% higher in salary and 81% more in company shares than other directors who had not provided firms with discounted land sales. Using surprise audits as a quasi-random natural experiment, we prove that the above exchange is indeed corruption, as both price discount and compensation premium vanished altogether during an audit, even though the client-official might still be rewarded with board appointment (with diminished prospects). Listed firms are keen to exploit gains from the

²² The benefits that listed firms may derive from other sources such as government subsidies, for instance, paled in comparison with price discounts. To illustrate, in 2007 the listed firms obtained 6.8 million *yuan* of government subsidies in total, which accounted for just 18% of the price discount in the same year.

revolving door because the benefits to be gained are by no means trivial, while the costs of doing so only constitute a tiny fraction. The client-officials are similarly keen to play the revolving door game because it provides them with a post-retirement income many times higher than their pension income but at negligible risk.

Our study has implications that are both generalizable and context-specific. Regarding the former, we provide solid evidence of the benefits that both parties in the revolving door exchange received; more importantly, the compensation received by the client is contingent on the benefits that the client was able to provide the patron in the first place. By making use of the unique Chinese context, one in which the local government is the monopoly seller in the primary land market and retired officials have immunity from their wrongful acts while in office, we prove that the revolving door can be used profitably as a payment rather than a connection device as it is typically the case elsewhere.

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Figure 1. Geographic Distribution of Land Parcels Sold in Shanghai in 2010
—An Example of How to Construct the Market Value Measures

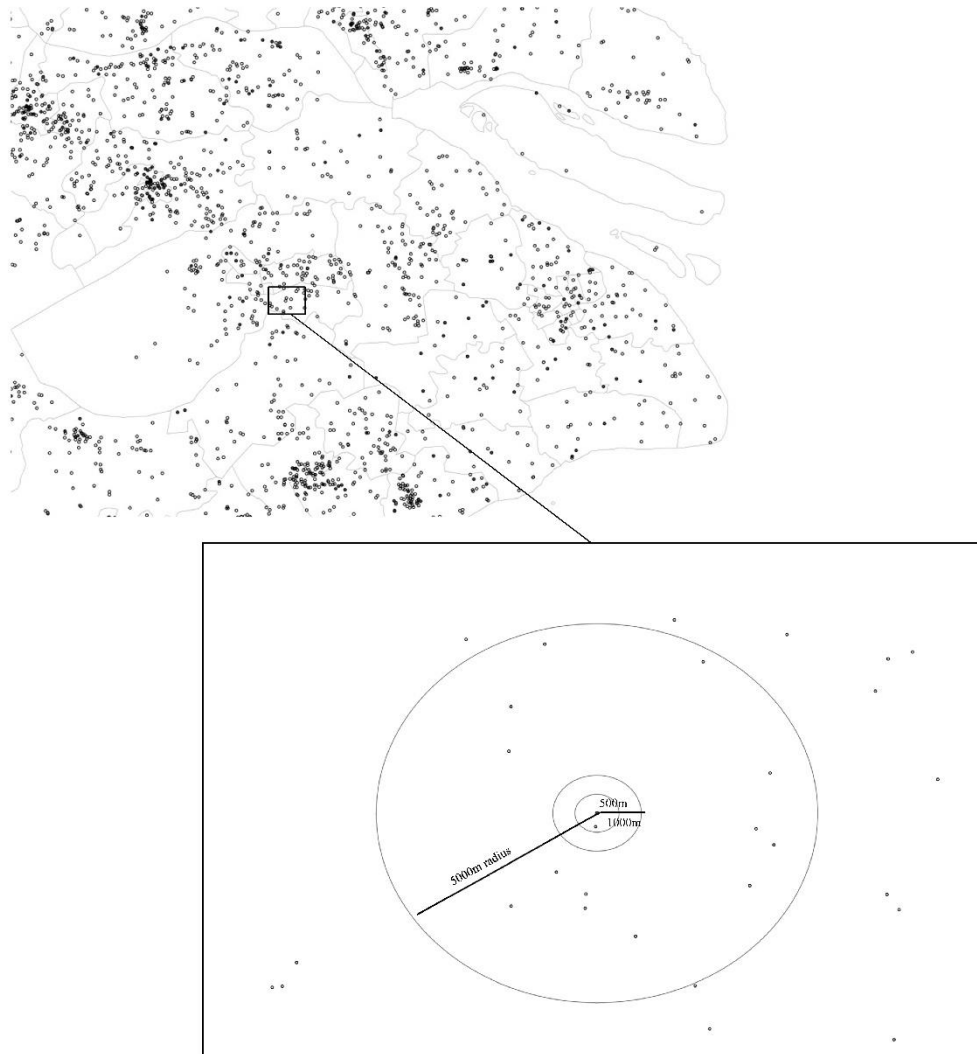


Figure 2. Interacted Effects of Subsequent Recruitment of Client-Officials on Unit Land Price (Logged), by Different Periods

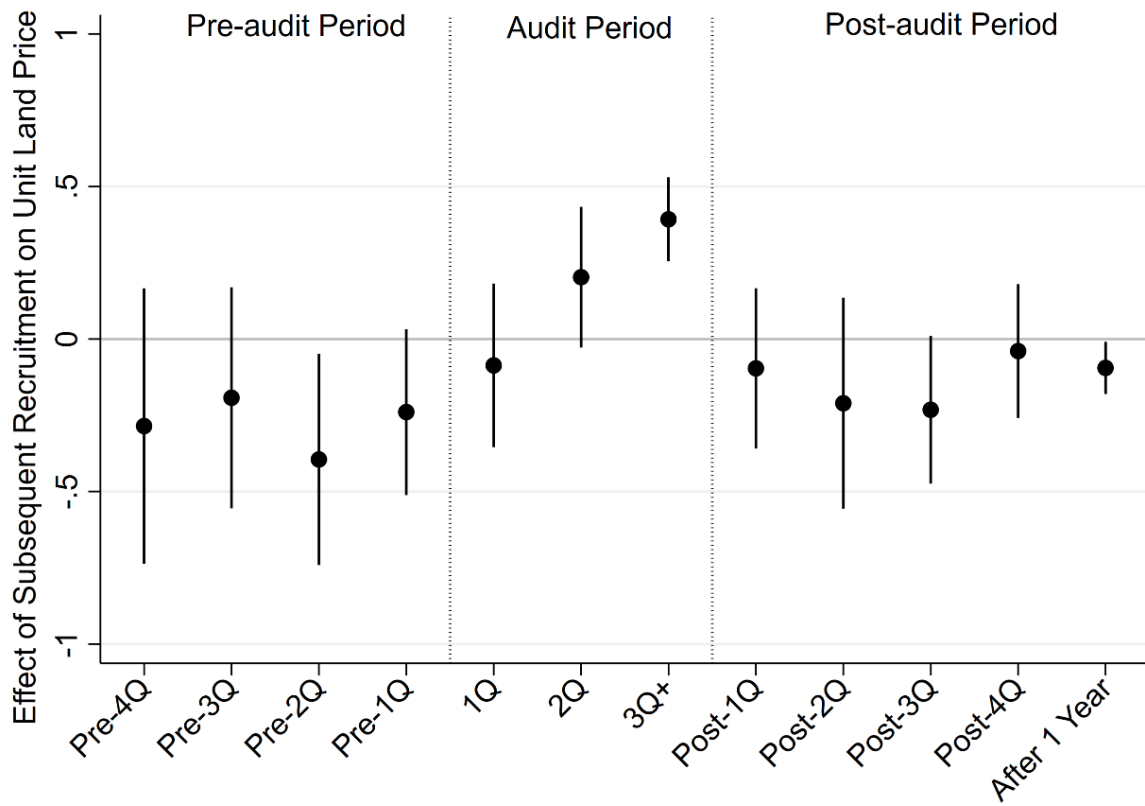


Table 1. Summary Statistics of Directors' Characteristics, 2000-2012

| | All | | Former Politician=0 | | Former Politician=1 Past Land Purchase*Former Local Official | | | |
|------------------------------|-------------|------------------|---------------------|------------------|---|------------------|-------------|------------------|
| | (1) Mean | (2) Std. Dev. | (3) Mean | (4) Std. Dev. | (5) Mean | (6) Std. Dev. | (7) Mean | (8) Std. Dev. |
| Annual Salary | 156469.7 | 402104 | 153996.8 | 405040.3 | 112182 | 278171.3 | 358815 | 509126.4 |
| Company Shareholding | 1078.06 | 12984.66 | 1122.26 | 13223.2 | 424.48 | 8303.53 | 1395.92 | 15394.6 |
| Years of Education | 17.53 | 2.44 | 17.53 | 2.45 | 17.46 | 2.35 | 17.53 | 2.23 |
| Age | 54.33 | 7.17 | 53.99 | 7.2 | 57.68 | 5.84 | 58.1 | 5.49 |
| Male | 88.87% | 31.46% | 88.58% | 31.81% | 91.45% | 27.97% | 92.84% | 25.78% |
| CPPCC Member | 3.04% | 17.17% | 2.79% | 16.48% | 5.20% | 22.20% | 6.76% | 25.11% |
| NPC Deputy | 2.30% | 14.99% | 2.08% | 14.27% | 4.30% | 20.28% | 5.26% | 22.33% |
| Bank Connections | 6.05% | 23.85% | 6.03% | 23.80% | 6.42% | 24.51% | 5.90% | 23.57% |
| Party Member | 23.28% | 42.26% | 22.37% | 41.67% | 31.51% | 46.46% | 35.40% | 47.83% |
| Number/Share of Observations | 228199 | 100% | 207502 | 90.93% | 16155 | 7.08% | 4542 | 1.99% |

Table 2. Summary Statistics of Land Transactions' Characteristics, 2000-2012

| | Mean | Std. Dev. |
|---|---------|-----------|
| Land Price (RMB/Square Meter) | 1055.95 | 2107.91 |
| Size of Payment (10 ⁴ RMB) | 6801.73 | 25823.82 |
| Size of Area (hectare) | 6.62 | 22.34 |
| Commercial-Residential Use | 0.41 | 0.49 |
| Quality | 12.55 | 6.47 |
| Average District Land Price | 987.45 | 1081.75 |
| Local Firm (Registration or Headquarter Location) | 20.49% | 40.36% |
| Transaction Methods: | | |
| - English Auction | 5.60% | |
| - Bilateral Agreement | 32.31% | |
| - Listing Auction | 59.78% | |
| - Invited Bidding | 2.31% | |
| Average Price <= 5km Radius | 978.83 | 1172.08 |
| Average Price <= 1km Radius | 975.10 | 1566.45 |
| Average Price <= 500m Radius | 908.33 | 1536.81 |
| | N=30871 | |

Table 3. Effect of Past Land Purchases on Recruitment of Former Local Officials, 2000-2012, All Officials-turned-Directors

| | Prefecture-Firm-Year Level | | | | | | | |
|--|---|---------------------|---------------------|----------------------|---------------------|---------------------|---------------------|---------------------|
| | Recruitment of Former Local Officials = 1 | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Past Land Purchases _{t-1} | 0.027*** (0.003) | 0.032*** (0.004) | | | | | | |
| Past Land Purchases _{t-2} | 0.021*** (0.003) | 0.026*** (0.004) | | | | | | |
| Past Land Purchases _{t-3} | 0.018*** (0.004) | 0.023*** (0.004) | | | | | | |
| Past Land Purchases _{t-1} *Audit _{t-1} | | -0.017** (0.006) | | | | | | |
| Past Land Purchases _{t-2} *Audit _{t-2} | | -0.018** (0.007) | | | | | | |
| Past Land Purchases _{t-3} *Audit _{t-3} | | -0.021* (0.010) | | | | | | |
| Past Land Purchases _{t-3, t-1} (β) | | | 0.039*** (0.004) | 0.046*** (0.004) | 0.072*** (0.005) | 0.074*** (0.005) | 0.046*** (0.004) | 0.046*** (0.004) |
| Past Land Purchases _{t-3, t-1} *Audit _{t-3, t-1} (γ) | | | | -0.025*** (0.007) | -0.021** (0.007) | -0.021** (0.007) | -0.021** (0.007) | -0.022** (0.007) |
| Future Land Purchases _{t, t+3} | | | | | 0.061*** (0.004) | 0.063*** (0.004) | | |
| Past Land Purchases _{t-3, t-1} *Future Land Purchases _{t, t+3} | | | | | | -0.009 (0.007) | | |
| $\beta + \gamma$ | | 0.026 (0.018) | | 0.021*** (0.007) | 0.051*** (0.007) | 0.052*** (0.007) | 0.026*** (0.006) | 0.025*** (0.006) |
| Prefecture-Firm Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Prefecture-Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

| | | | | | | | | |
|-------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Firm-Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Number of Observations | 5199227 | 5199227 | 5199227 | 5199227 | 5199227 | 5199227 | 5184884 | 5182694 |
| Adjusted R-squared | 0.638 | 0.638 | 0.638 | 0.638 | 0.638 | 0.638 | 0.624 | 0.623 |

Note: Column (7) excludes those prefecture-firm pairs associated with a firm's registration; column (8) excludes those prefecture-firm pairs associated with either a firm's registration or headquarter location. Standard errors in parentheses are clustered at the firm-prefecture level; * p<0.05, ** p<0.01, *** p<0.001; constant terms are not reported.

Table 4. Effect of Past Land Purchases on Recruitment of Former Local Officials, Heterogeneity Tests

| Prefecture-Firm-Year Level | | | | | | |
|---|-------------------|---------------------|-------------------|---------------------|---------------------|--------------------|
| Recruitment of Former Local Officials = 1 | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Past Land Purchases _{t-3, t-1} (PLP) | -0.019 (0.026) | 0.071*** (0.014) | -0.000 (0.032) | 0.034*** (0.004) | 0.034*** (0.004) | 0.068** (0.025) |
| PLP*Private-Public Sector Wage Ratio | 0.073* (0.032) | | | | | |
| PLP*Marketization | | -0.005* (0.002) | | | | |
| PLP*\# of Corruption Cases | | | 0.005 (0.005) | | | |
| PLP*Firm Punished for Irregularities | | | | 0.031*** (0.008) | | |
| PLP*Firm Punished for Fraud | | | | | 0.077*** (0.015) | |
| PLP*Firm's Accounting Quality | | | | | | -0.012+ (0.007) |
| Prefecture-Firm Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Prefecture-Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm-Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Number of Observations | 5183980 | 5199227 | 5199227 | 5199227 | 5199227 | 2170806 |
| Adjusted R-squared | 0.638 | 0.638 | 0.638 | 0.638 | 0.638 | 0.658 |

Note: Standard errors in parentheses are clustered at the firm-prefecture level; + p<0.10, * p<0.05, ** p<0.01, *** p<0.001; constant terms are not reported.

Table 5. Effect of Past Land Purchases on Directors' Annual Salary and Company Shareholding, 2000-2012

| | Individual-Year Level | | | | | | | |
|--------------------------------------|-----------------------|----------------------|----------------------|---------------------|--|--------------------|---------------------|---------------------|
| | Log of Annual Salary | | | | Log of Company Shareholding (Year End) | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Past Land Purchases $t-3, t-1$ (PLP) | -0.01 (0.010) | -0.011 (0.010) | 0.056 (0.048) | 0.078 (0.068) | 0.018 (0.045) | 0.017 (0.045) | 0.267 (0.284) | -0.491 (0.460) |
| PLP*Former Local Official | 0.091** (0.033) | 0.229*** (0.036) | 0.205*** (0.046) | 0.345*** (0.074) | 0.520** (0.187) | 0.811** (0.252) | 0.914*** (0.249) | 2.891*** (0.465) |
| PLP*Audit*Former Local Official | | -0.309*** (0.055) | -0.305*** (0.063) | -0.155+ (0.088) | | -0.647* (0.281) | -0.642* (0.301) | -1.462** (0.449) |
| Control Variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm Fixed Effects | Yes | Yes | No | No | Yes | Yes | No | No |
| Year Fixed Effects | Yes | Yes | No | No | Yes | Yes | No | No |
| Firm-Year Fixed Effects | No | No | Yes | Yes | No | No | Yes | Yes |
| Number of Observations | 165312 | 165312 | 165312 | 154757 | 205630 | 205630 | 205630 | 192545 |
| Adj. R-squared | 0.18 | 0.18 | 0.172 | 0.174 | 0.291 | 0.291 | 0.287 | 0.297 |

Note: Control variables include former official (=1), age, years of education, gender, CPPCC member, NPC deputy, bank connections, Party membership, concurrent as senior or high executive (=1), firm's annual profit (log), state share, foreign share, board share and firm size. Columns (4) and (8) exclude those official-turned-directors that firms recruited from either their registered or headquartered prefecture. Standard errors in parentheses are clustered at the firm level; + p<0.10, * p<0.05, ** p<0.01, *** p<0.001; constant terms are not reported.

Table 6. Effect of Future Land Purchases on Directors' Annual Salary and Company Shareholding, 2000-2012

| | Individual-Year Level | | | | | |
|--------------------------------------|-----------------------|----------------------|----------------------|---|---------------------|---------------------|
| | Log of Annual Salary | | | Log of Company Shareholding (Year End) | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Past Land Purchases $t-3, t-1$ (PLP) | -0.012 (0.010) | -0.013 (0.010) | 0.043 (0.049) | -0.002 (0.043) | -0.004 (0.043) | 0.199 (0.287) |
| PLP*Former Local Official | 0.095** (0.032) | 0.233*** (0.036) | 0.214*** (0.046) | 0.559** (0.184) | 0.849*** (0.250) | 0.978*** (0.245) |
| PLP*Audit*Former Local Official | | -0.308*** (0.055) | -0.304*** (0.062) | | -0.645* (0.281) | -0.634* (0.301) |
| Future Land Purchases $t, t+3$ (FLP) | 0.007 (0.011) | 0.008 (0.011) | | 0.073 (0.047) | 0.073 (0.047) | |
| FLP*Former Local Official | -0.053+ (0.029) | -0.052+ (0.029) | -0.049 (0.031) | -0.237+ (0.142) | -0.235+ (0.142) | -0.252+ (0.150) |
| Control Variables | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm Fixed Effects | Yes | Yes | No | Yes | Yes | No |
| Year Fixed Effects | Yes | Yes | No | Yes | Yes | No |
| Firm-Year Fixed Effects | No | No | Yes | No | No | Yes |
| Number of Observations | 165312 | 165312 | 165312 | 205630 | 205630 | 205630 |
| Adj. R-squared | 0.18 | 0.18 | 0.172 | 0.291 | 0.291 | 0.287 |

Note: Control variables include former official, year of education, age, male, CPPCC member, NPC deputy, bank connections, Party membership, concurrent as senior or high executive (=1), firm's annual profit (log), state share, foreign share, board share and firm size. Standard errors in parentheses are clustered at the firm level; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; constant terms are not reported.

Table 7. Effect of Recruitment of Former Officials and Surprise Audit on Land Price, 2000-2012

| | Transaction Level | | | | | | | |
|---|--------------------------------------|---------|---------|----------|---------------------|----------|-----------|---------|
| | Log of Land Price (RMB/Square Meter) | | | | | | | |
| | All Firms | | | | Exclude Local Firms | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Recruiting Local Official $t+1, t+3$ | -0.121* | -0.146* | -0.189* | -0.115* | -0.137** | -0.130** | -0.243*** | -0.206* |
| | (0.057) | (0.057) | (0.084) | (0.051) | (0.050) | (0.050) | (0.073) | (0.099) |
| Recruiting Local Non-Official | 0.021 | 0.038 | 0.018 | 0.049 | 0.065 | 0.07 | -0.021 | -0.042 |
| | (0.038) | (0.039) | (0.058) | (0.063) | (0.067) | (0.071) | (0.049) | (0.064) |
| Recruiting Non-local Official | -0.048 | -0.062+ | -0.063 | 0.016 | 0.047 | 0.086 | -0.034 | 0.056 |
| | (0.035) | (0.036) | (0.100) | (0.087) | (0.087) | (0.091) | (0.041) | (0.122) |
| Audit | | 0.094* | 0.107* | 0.100+ | 0.135* | 0.122* | 0.074 | 0.082 |
| | | (0.046) | (0.050) | (0.053) | (0.055) | (0.058) | (0.045) | (0.052) |
| Recruiting Local Official $t+1, t+3$ *Audit | | 0.291** | 0.269+ | 0.310* | 0.399** | 0.399* | 0.233 | 0.028 |
| | | (0.096) | (0.140) | (0.146) | (0.148) | (0.160) | (0.145) | (0.190) |
| Recruiting Local Non-official $t+1, t+3$ *Audit | | -0.118 | -0.165 | -0.162 | -0.152 | -0.071 | -0.045 | -0.014 |
| | | (0.107) | (0.139) | (0.143) | (0.150) | (0.175) | (0.133) | (0.158) |
| Recruiting Non-local Official $t+1, t+3$ *Audit | | 0.085 | 0.041 | 0.032 | -0.001 | -0.057 | 0.023 | -0.01 |
| | | (0.069) | (0.071) | (0.076) | (0.084) | (0.090) | (0.072) | (0.084) |
| General Political Connections | -0.042 | -0.039 | | | | | -0.038 | |
| | (0.042) | (0.042) | | | | | (0.047) | |
| Local Experience | 0.019 | 0.017 | 0.008 | -0.00 | 0.055 | 0.054 | 0.006 | -0.007 |
| | (0.040) | (0.039) | (0.051) | (0.058) | (0.064) | (0.066) | (0.044) | (0.055) |
| Locality-specific Political Connections | -0.096+ | -0.105* | -0.109 | -0.136+ | -0.189* | -0.214* | -0.002 | 0.037 |
| | (0.054) | (0.053) | (0.076) | (0.079) | (0.080) | (0.085) | (0.074) | (0.097) |
| Average Land Price within 5km Radius | | | | 0.304*** | | | | |
| | | | | (0.016) | | | | |

Average Land Price within 1km Radius

0.284***
(0.017)

Average Land Price within 500m Radius

0.291***
(0.020)

| | | | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Control Variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Land Use Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Prefecture Fixed Effects | Yes | Yes | No | No | No | No | Yes | No |
| Firm Fixed Effects | Yes | Yes | No | No | No | No | Yes | No |
| Year Fixed Effects | Yes | Yes | No | No | No | No | Yes | No |
| Firm-Year Fixed Effects | No | No | Yes | Yes | Yes | Yes | No | Yes |
| Number of Observations | 30273 | 30273 | 30273 | 25242 | 20132 | 18133 | 24135 | 24135 |
| Adjusted R-squared | 0.679 | 0.68 | 0.713 | 0.709 | 0.721 | 0.727 | 0.686 | 0.709 |

Note: Control variables include dummy of registration or headquarter prefecture, area of land (log), transaction method, land quality, average land price within the district, firm total asset (log), logged firm net profit, number of employees (log), state share and foreign share. Columns (7) and (8) exclude those land transactions that firms purchased from prefectures where they either registered or based as headquarter. Standard errors in parentheses are clustered at the prefecture-year level. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001; constant terms are not reported.

Table 8. Effect of Recruitment of Former Officials and Surprise Audit on Method of Land Transaction, Land Use, and Quantity of Land Transactions, 2000-2012

| | Transaction Level | | | | Firm-Prefecture Panel Level | | | |
|---|-------------------------|---------------------|--|---------------------|----------------------------------|--------------------|----------------------|----------------------|
| | English Auction (=1) | | Commercial- Residential Use (=1) | | Land Area (square meter, log) | | Total Land Area | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Recruiting Local Official $t+1, t+3$ | -0.008*** (0.002) | -0.009** (0.003) | 0.054*** (0.014) | 0.035+ (0.019) | 0.077 (0.056) | 0.087 (0.066) | 0.032*** (0.003) | 0.032*** (0.003) |
| Recruiting Local Non-Official $t+1, t+3$ | 0.001 (0.000) | 0 (0.001) | 0.009 (0.015) | 0 (0.020) | -0.037 (0.059) | 0.016 (0.072) | -0.001 (0.001) | -0.001 (0.001) |
| Recruiting Non-Local Official $t+1, t+3$ | -0.002* (0.001) | 0 (0.003) | -0.01 (0.014) | -0.067* (0.027) | 0.088 (0.056) | 0.068 (0.098) | -0.002 (0.003) | -0.003 (0.004) |
| Audit | -0.003* (0.002) | -0.004* (0.002) | -0.021 (0.015) | -0.027 (0.018) | -0.213** (0.073) | -0.178* (0.070) | -0.001* 0.000 | |
| Recruiting Local Official $t+1, t+3$ *Audit | 0.028*** (0.007) | 0.031*** (0.010) | 0.090** (0.029) | 0.122*** (0.034) | 0.081 (0.132) | -0.077 (0.156) | -0.076*** (0.005) | -0.076*** (0.005) |
| Recruiting Local Non-Official $t+1, t+3$ *Audit | -0.003 (0.004) | 0 (0.005) | -0.023 (0.033) | -0.070+ (0.040) | -0.01 (0.167) | -0.282 (0.188) | -0.002 (0.002) | -0.002 (0.002) |
| Recruiting Non-Local Official $t+1, t+3$ *Audit | 0.010** (0.004) | 0.012* (0.005) | 0.044+ (0.024) | 0.060* (0.026) | -0.065 (0.097) | -0.094 (0.097) | 0.001+ 0.000 | 0.001 0.000 |
| Control Variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Land Use Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | No | No |
| Prefecture Fixed Effects | Yes | No | Yes | No | Yes | No | No | No |
| Firm Fixed Effect | Yes | No | Yes | No | Yes | No | No | No |
| Firm-Year Fixed Effects | No | Yes | No | Yes | No | Yes | Yes | Yes |
| Firm-Prefecture Fixed Effects | No | No | No | No | No | No | Yes | Yes |

| Prefecture-Year Fixed Effects | No | No | No | No | No | No | No | Yes |
|-------------------------------|-------|-------|-------|-------|-------|-------|---------|---------|
| Number of Observations | 30871 | 30871 | 30871 | 30871 | 30871 | 30871 | 4822518 | 4822518 |
| Adjusted R-squared | 0.991 | 0.991 | 0.523 | 0.577 | 0.701 | 0.743 | 0.458 | 0.459 |

Note: In columns (1) to (6), the control variables include general political connections, local experience, locality-specific political connections, dummy of registration or headquarter city, area of land (log), transaction method, land quality, average land price within the district, firm total asset (log), logged firm net profit, number of employees (log), state share and foreign share, standard errors in parentheses are clustered at the prefecture-year level. In columns (7) and (8), the control variables include general political connections, local experience, and locality-specific political connections; standard errors are clustered at the firm-prefecture level. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001; constant terms are not reported.

Appendix

Figure A1. The Bivariate Distribution of “Destination” provinces by “Origin” Provinces

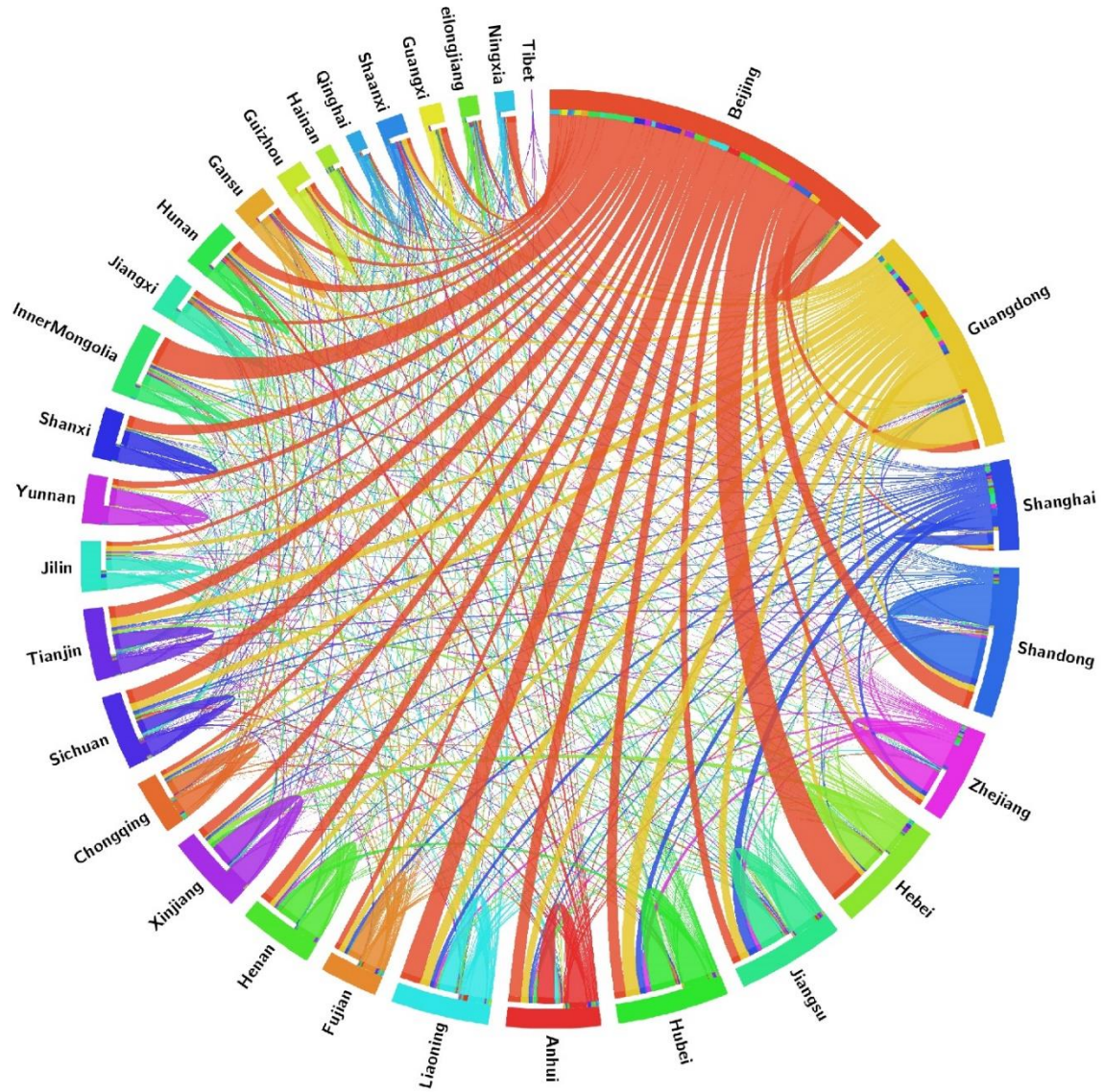


Table A1. Highest Official Positions Held by Officials-Turned-Directors Before Retirement, Provincial and Prefectural Levels

| Position | | Number of Director | Percentage of Director | Related to Land Transactions |
|------------------|---|--------------------|------------------------|------------------------------|
| Provincial Level | | 767 | 21.25% | |
| 省委书记（正副职） | Provincial Party Secretary (Director and Deputy) | 9 | 0.25% | 1 |
| 省长（正副职） | Governor (Director and Deputy) | 24 | 0.66% | 1 |
| 省政府秘书长、省长助理 | Provincial Secretary General | 6 | 0.17% | 1 |
| 省委政法委书记 | Secretary of the Provincial Political and Legal Committee | 6 | 0.17% | 0 |
| 省委组织部长 | Secretary of the Provincial Organization Committee | 1 | 0.03% | 0 |
| 省委常委 | Provincial Standing Committee Member | 4 | 0.11% | 0 |
| 省高级人民法院院长 | Head of Provincial Higher People's Court | 1 | 0.03% | 0 |
| 厅长 | | 716 | 19.83% | |
| 规划建设厅（住房和城乡建设厅） | Provincial Department of Planning and Construction | 260 | 7.20% | 1 |
| 商务厅 | Provincial Department of Commerce | 108 | 2.99% | 0 |
| 财税厅（财政厅） | Provincial Department of Finance and Taxation | 97 | 2.69% | 1 |
| 工业厅（工业和信息化厅） | Provincial Department of Industry | 80 | 2.22% | 0 |
| 国土资源厅（自然资源厅） | Provincial Department of Land and Natural Resources | 58 | 1.61% | 1 |
| 交通厅 | Provincial Department of Transportation | 32 | 0.89% | 1 |
| 审计厅 | Provincial Audit Office | 20 | 0.55% | 0 |
| 石油化工厅 | Provincial Department of Petrochemical | 15 | 0.42% | 0 |
| 省发改委 | Provincial Department and Reform Commission | 12 | 0.33% | 1 |
| 冶金厅 | Provincial Department of Metallurgical | 11 | 0.30% | 1 |
| 科技厅 | Provincial Department of Science and Technology | 10 | 0.28% | 0 |
| 林业厅 | Provincial Department of Forestry | 6 | 0.17% | 1 |
| 劳动厅（人力资源和社会保障厅） | Provincial Department of Labor | 4 | 0.11% | 0 |
| 电力厅 | Provincial Department of Electric Power | 2 | 0.06% | 0 |
| 环保厅（生态环境厅） | Provincial Department of Environment Protection | 1 | 0.03% | 0 |

| Prefectural Level | | 2843 | 78.75% | |
|-------------------|--|------|--------|---|
| 市委书记（正副职） | Prefectural Party Secretary (Director and Deputy) | 190 | 5.26% | 1 |
| 市长（正副职） | Mayor (Director and Deputy) | 575 | 15.93% | 1 |
| 市政府秘书长、市长助理 | Prefectural Secretary General | 116 | 3.21% | 1 |
| 市委常委 | Prefectural Standing Committee Member | 31 | 0.86% | 0 |
| 市委组织部部长 | Secretary of the Prefectural Organization Committee | 28 | 0.78% | 0 |
| 市中级人民法院院长 | Head of Prefectural Higher People's Court | 7 | 0.19% | 0 |
| 局长 | Prefectural Department Head | 1697 | 47.01% | |
| 规划建设局（住房和城乡建设局） | Prefectural Department of Planning and Construction | 522 | 14.46% | 1 |
| 财税局（财政局） | Prefectural Department of Finance and Taxation | 321 | 8.89% | 1 |
| 国土资源局（规划与自然资源局） | Prefectural Department of Land and Natural Resources | 233 | 6.45% | 1 |
| 工业局（工业和信息化局） | Prefectural Department of Industry | 184 | 5.10% | 1 |
| 商务局 | Prefectural Department of Commerce | 179 | 4.96% | 0 |
| 审计局 | Prefectural Audit Office | 65 | 1.80% | 0 |
| 电信局 | Prefectural Department of Telecommunication | 58 | 1.61% | 0 |
| 交通局 | Prefectural Department of Transportation | 32 | 0.89% | 1 |
| 石油化工局 | Prefectural Department of Petrochemical | 21 | 0.58% | 0 |
| 国有资产管理局 | Prefectural State-owned Assets Administration Commission | 20 | 0.55% | 1 |
| 电力局 | Prefectural Department of Electric Power | 18 | 0.50% | 0 |
| 环保局（生态环境局） | Prefectural Department of Environment Protection | 15 | 0.42% | 0 |
| 科技局 | Prefectural Department of Science and Technology | 15 | 0.42% | 0 |
| 劳动局（人力资源和社会保障局） | Prefectural Department of Labour | 14 | 0.39% | 0 |
| 物价局（市场监管局） | Prefectural Administration for Market Regulation | 14 | 0.39% | 0 |
| 林业局 | Prefectural Department of Forestry | 13 | 0.36% | 1 |
| 市发改委 | Prefectural Department and Reform Commission | 21 | 0.58% | 1 |
| 冶金局 | Prefectural Department of Metallurgical | 9 | 0.25% | 0 |
| 开发区管委会主任（正副职） | Director (Deputy) of Special Development Zone (Industry Park) Management Committee | 142 | 3.93% | 1 |

Total

3610

2884
79.89%

Table A2. Effect of Past Land Purchases on Directors' Annual Salary and Company Shareholding, 2000-2012,
Removing Age as Control

| | Director-Year Level | | | | | | | |
|---|----------------------|----------------------|----------------------|--|-------------------|--------------------|--------------------|--------------------|
| | Log of Annual Salary | | | Log of Company Shareholding (Year End) | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Past Land Purchases _{t-3, t-1} (PLP) | -0.01 (0.010) | -0.01 (0.010) | 0.06 (0.048) | -0.117 (0.107) | 0.017 (0.045) | 0.016 (0.045) | 0.263 (0.284) | -1.292 (0.862) |
| PLP*Former Local Official | 0.085** -0.033 | 0.224*** -0.036 | 0.198*** -0.046 | 0.344** -0.11 | 0.524** -0.187 | 0.811** -0.253 | 0.916*** -0.249 | 2.660** -0.875 |
| PLP*Audit*Former Local Official | | -0.310*** (0.055) | -0.306*** (0.063) | -0.315*** (0.089) | | -0.639* (0.282) | -0.638* (0.302) | -0.783+ (0.439) |
| Control Variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm Fixed Effects | Yes | Yes | No | No | Yes | Yes | No | No |
| Year Fixed Effects | Yes | Yes | No | No | Yes | Yes | No | No |
| Firm-Year Fixed Effects | No | No | Yes | Yes | No | No | Yes | Yes |
| Number of Observations | 165842 | 165842 | 165842 | 147753 | 206352 | 206352 | 206352 | 188507 |
| Adj. R-squared | 0.178 | 0.178 | 0.169 | 0.169 | 0.29 | 0.29 | 0.286 | 0.288 |

Note: Control variables include former official, concurrent as senior or high executive (=1), firm's annual profit (log), state share, foreign share, board share and firm size. Columns (4) and (8) exclude those formal official directors firms recruited from their registered or headquartered prefectures/provinces. Standard errors in parentheses are clustered at the firm level; + p<0.10, * p<0.05, ** p<0.01, *** p<0.001; constant terms are not reported.

Table A3. Effect of Past Land Purchases on Recruitment of Former Local Officials, 2000-2012, Land Transaction Related Officials Only

| | Prefecture-Firm-Year Level | | | | | | | |
|--|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | Recruitment of Former Local Officials = 1 | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Past Land Purchases _{t-1} | 0.036*** (0.003) | 0.038*** (0.004) | | | | | | |
| Past Land Purchases _{t-2} | 0.030*** (0.004) | 0.034*** (0.004) | | | | | | |
| Past Land Purchases _{t-3} | 0.017*** (0.004) | 0.024*** (0.004) | | | | | | |
| Past Land Purchases _{t-1} *Audit _{t-1} | | -0.009 (0.007) | | | | | | |
| Past Land Purchases _{t-2} *Audit _{t-2} | | -0.015* (0.007) | | | | | | |
| Past Land Purchases _{t-3} *Audit _{t-3} | | -0.027** (0.010) | | | | | | |
| Past Land Purchases _{t-3, t-1} (β) | | | 0.044*** (0.004) | 0.050*** (0.004) | 0.072*** (0.005) | 0.073*** (0.005) | 0.045*** (0.004) | 0.045*** (0.004) |
| Past Land Purchases _{t-3, t-1} *Audit _{t-3, t-1} (γ) | | | | -0.018** (0.007) | -0.015* (0.007) | -0.015* (0.007) | -0.018** (0.007) | -0.019** (0.007) |
| Future Land Purchases _{t, t+3} | | | | | 0.053*** (0.003) | 0.054*** (0.004) | | |
| Past Land Purchases _{t-3, t-1} *Future Land Purchases _{t, t+3} | | | | | | -0.005 (0.007) | | |
| $\beta + \gamma$ | | 0.045** (0.017) | | 0.031*** (0.006) | 0.057*** (0.007) | 0.058*** (0.007) | 0.028*** (0.006) | 0.026*** (0.006) |
| Prefecture-Firm Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Prefecture-Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

| | | | | | | | | |
|-------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Firm-Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Number of Observations | 5199227 | 5199227 | 5199227 | 5199227 | 5199227 | 5199227 | 5184884 | 5182694 |
| Adjusted R-squared | 0.638 | 0.638 | 0.638 | 0.638 | 0.638 | 0.638 | 0.624 | 0.623 |

Note: Column (7) excludes those prefecture-firm pairs associated with a firm's registration; column (8) excludes those prefecture-firm pairs associated with either a firm's registration or headquarter location. Standard errors in parentheses are clustered at the firm-prefecture level; * p<0.05, ** p<0.01, *** p<0.001; constant terms are not reported.

Table A4. Effect of Past Land Purchases on Directors' Annual Salary and Company Shareholding, 2000-2012, Land Transactions Related Officials only

| | Director-Year Level | | | | | | | |
|--------------------------------------|----------------------------|----------------------|----------------------|----------------------|---|--------------------|--------------------|--------------------|
| | Log of Annual Compensation | | | | Log of Company Shareholding (Year End) | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Past Land Purchases $t-3, t-1$ (PLP) | -0.007 (0.010) | -0.008 (0.010) | 0.073 (0.047) | 0.073 (0.047) | 0.03 (0.045) | 0.028 (0.045) | 0.397 (0.278) | 0.397 (0.278) |
| PLP*Former Local Official | 0.082* (0.034) | 0.227*** (0.038) | 0.188*** (0.047) | 0.188*** (0.047) | 0.505** (0.192) | 0.777** (0.266) | 0.792** (0.267) | 0.792** (0.267) |
| PLP*Audit*Former Local Official | | -0.316*** (0.058) | -0.302*** (0.065) | -0.302*** (0.065) | | -0.593* (0.300) | -0.553+ (0.314) | -0.553+ (0.314) |
| Control Variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm Fixed Effects | Yes | Yes | No | No | Yes | Yes | No | No |
| Year Fixed Effects | Yes | Yes | No | No | Yes | Yes | No | No |
| Firm-Year Fixed Effects | No | No | Yes | Yes | Yes | Yes | Yes | Yes |
| Number of Observations | 165842 | 165842 | 165842 | 165842 | 206352 | 206352 | 206352 | 206352 |
| Adj. R-squared | 0.178 | 0.178 | 0.169 | 0.169 | 0.29 | 0.29 | 0.286 | 0.286 |

Note: Control variables include former official, concurrent as senior or high executive (=1), firm's annual profit (log), state share, foreign share, board share and firm size. Columns (4) and (8) exclude those officials-turned-directors that firms recruited from their registered or headquartered prefectures. Standard errors in parentheses are clustered at the firm level; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; constant terms are not reported.

Table A5. Effect of Past Land Purchases on Recruitment of Former Local Officials, 2000-2012, First versus Repeated Audits

| | Recruiting Former Local Officials = 1 | | | | |
|--|---------------------------------------|---------------------|----------------------|---------------------|---------------------|
| | (1) | (2) | (3) | (4) | (5) |
| Past Land Purchases $t-3, t-1$ (β) | 0.046*** (0.004) | 0.072*** (0.005) | 0.074*** (0.005) | 0.046*** (0.004) | 0.046*** (0.004) |
| Past Land Purchases $t-3, t-1$ *First Audit $t-3, t-1$ (γ_1) | -0.020** (0.007) | -0.022** (0.007) | -0.022*** (0.007) | -0.019** (0.006) | -0.019** (0.006) |
| Past Land Purchases $t-3, t-1$ *Repeated Audit $t-3, t-1$ (γ_2) | -0.029*** (0.009) | -0.020* (0.009) | -0.021* (0.009) | -0.022** (0.008) | -0.024** (0.008) |
| Future Land Purchases $t, t+3$ | | 0.061*** (0.004) | 0.063*** (0.004) | | |
| Past Land Purchases $t-3, t-1$ * Future Land Purchases $t, t+3$ | | | -0.009 (0.007) | | |
| $\gamma_1 - \gamma_2$ | 0.008 (0.006) | -0.002 (0.006) | -0.001 (0.006) | 0.003 (0.005) | 0.005 (0.005) |
| $\beta + \gamma_1 + \gamma_2$ | -0.003 (0.013) | 0.030* (0.013) | 0.031* (0.013) | 0.005 (0.012) | 0.003 (0.012) |
| Prefecture-Firm Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Prefecture-Year Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Firm-Year Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Number of Observations | 5199227 | 5199227 | 5199227 | 5184884 | 5182694 |
| Adjusted R-squared | 0.638 | 0.638 | 0.638 | 0.624 | 0.623 |

Note: Column (4) excludes those prefecture-firm pairs associated with a firm's registration; column (5) excludes those prefecture-firm pairs associated with either a firm's registration or headquarter location. Standard errors in parentheses are clustered at the firm-prefecture level; * p<0.05, ** p<0.01, *** p<0.001; constant terms are not reported.

Table A6. Effect of Past Land Purchases on Directors' Tenure Duration, 2000-2012

| | Individual Level Tenure Duration | | |
|--------------------------------------|-------------------------------------|-------------------|-------------------|
| | (1) | (2) | (3) |
| Past Land Purchases $t-3, t-1$ (PLP) | -0.005 (0.051) | -0.005 (0.051) | -0.083 (0.156) |
| PLP*Formal Local Official | -0.12 (0.079) | -0.145 (0.091) | -0.023 (0.088) |
| PLP*Audit*Formal Local Official | | 0.074 (0.149) | -0.157 (0.148) |
| Former Official | 0.037 (0.039) | 0.037 (0.039) | 0.017 (0.044) |
| Control Variables | Yes | Yes | Yes |
| Firm Fixed Effects | Yes | Yes | No |
| Year Fixed Effects | Yes | Yes | No |
| Firm-Year Fixed Effects | No | No | Yes |
| Number of Observations | 42144 | 42144 | 42144 |
| Adj. R-squared | 0.338 | 0.338 | 0.398 |

Note: Control variables include concurrent as senior or high executive (=1), firm's annual profit (log), state share, foreign share, board share and firm size. Standard errors in parentheses are clustered at the firm level; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; constant terms are not reported.

Table A7. Effect of Past Land Purchases on Recruitment of Former Local Officials in Secondary Land Market, 2000-2012

| | Recruitment of Former Local Officials = 1 | | | | |
|--|---|-------------------|-------------------|-------------------|-------------------|
| | (1) | (2) | (3) | (4) | (5) |
| Past Land Purchases _{t-1} | -0.001 (0.003) | -0.001 (0.003) | | | |
| Past Land Purchases _{t-2} | -0.001 (0.003) | -0.001 (0.004) | | | |
| Past Land Purchases _{t-3} | -0.003 (0.003) | -0.003 (0.003) | | | |
| Past Land Purchases _{t-1} *Audit _{t-1} | | -0.007 (0.007) | | | |
| Past Land Purchases _{t-2} *Audit _{t-2} | | -0.008 (0.006) | | | |
| Past Land Purchases _{t-3} *Audit _{t-3} | | -0.007 (0.007) | | | |
| Past Land Purchases _{t-3, t-1} | | | -0.002 (0.003) | -0.001 (0.003) | -0.006 (0.005) |
| Past Land Purchases _{t-3, t-1} *Audit _{t-3, t-1} | | | | -0.005 (0.004) | 0 (0.007) |
| Future Land Purchases _{t, t+3} | | | | | -0.003 (0.004) |
| Prefecture-Firm Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Prefecture-Year Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Firm-Year Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Number of Observations | 5199227 | 5199227 | 5199227 | 5199227 | 3330547 |
| Adjusted R-squared | 0.638 | 0.638 | 0.638 | 0.638 | 0.571 |

Note: Standard errors in parentheses are clustered at the firm-prefecture level; * p<0.05, ** p<0.01, *** p<0.001; constant terms are not reported.

Table A8. Effect of Past Land Purchases on Directors' Annual Salary and Company Shareholding in Secondary Land Market, 2000-2012

| | Log of Annual Salary | | | Log of Company Shareholding (Year End) | | |
|---|----------------------|-------------------|------------------|--|--------------------|------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Past Land Purchases _{t-3, t-1} (PLP) | 0.022 (0.024) | 0.022 (0.024) | 0.187 (0.115) | 0.373** (0.140) | 0.373** (0.140) | 0.653 (0.503) |
| PLP*Former Local Official | -0.049 (0.059) | -0.047 (0.060) | 0.087 (0.113) | -0.173 (0.308) | -0.175 (0.313) | 0.506 (0.911) |
| PLP*Audit*Former Local Official | | -0.025 (0.098) | 0.001 (0.088) | | 0.014 (0.336) | 0.014 (0.348) |
| Control Variables | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm Fixed Effects | Yes | Yes | No | Yes | Yes | No |
| Year Fixed Effects | Yes | Yes | No | Yes | Yes | No |
| Firm-Year Fixed Effects | No | No | Yes | No | No | Yes |
| Number of Observations | 167748 | 167748 | 167748 | 213694 | 213694 | 213694 |
| Adjusted R-squared | 0.18 | 0.18 | 0.173 | 0.293 | 0.293 | 0.294 |

Note: Control variables include former official, year of education, age, male, CPPCC member, NPC deputy, bank connections, Party member, concurrent as senior or high executive (=1), firm's annual profit (log), state share, foreign share, board share and firm size. Standard errors in parentheses are clustered at the firm level; + p<0.10, * p<0.05, ** p<0.01, *** p<0.001; constant terms are not reported.

Table A9. Effect of Recruitment of Former Officials and Surprise Audit on Land Price in Secondary Land Market, 2000-2012

| | Log of Land Price (RMB/Square Meter) | | | | | | | |
|---|--------------------------------------|-------------------|----------------------|----------------------|----------------------|----------------------|-------------------|----------------------|
| | All Firms | | | | Exclude Local Firms | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Recruiting Local Official $t+1, t+3$ | 0.022 (0.354) | 0.021 (0.368) | -0.361 (0.449) | -0.372 (0.456) | -0.378 (0.458) | -0.372 (0.456) | 0.084 (0.299) | -0.219 (0.419) |
| Recruiting Local Non-Official | -0.012 (0.161) | -0.003 (0.162) | -0.094 (0.199) | -0.038 (0.173) | -0.151 (0.207) | -0.038 (0.173) | 0.097 (0.167) | -0.065 (0.202) |
| Recruiting Non-local Official | 0.06 (0.200) | 0.064 (0.215) | | | | | 0.056 (0.215) | |
| Audit | | -0.097 (0.251) | -0.272 (0.196) | -0.093 (0.167) | -0.06 (0.237) | -0.093 (0.167) | -0.066 (0.262) | -0.233 (0.200) |
| Recruiting Local Official $t+1, t+3$ | | 0.091 (0.608) | 0.568 (0.847) | 0.357 (0.848) | 0.518 (0.842) | 0.357 (0.848) | -0.088 (0.791) | 0.403 (0.830) |
| Recruiting Local Non-official $t+1, t+3$ *Audit | | -0.179 (0.582) | -1.945*** (0.356) | -1.872*** (0.353) | -2.025*** (0.372) | -1.872*** (0.353) | -0.864 (0.554) | -2.070*** (0.361) |
| Recruiting Non-local Official $t+1, t+3$ *Audit | | -0.124 (0.290) | | | | | -0.16 (0.302) | |
| General Political Connections | -0.142 (0.193) | -0.137 (0.194) | | | | | -0.123 (0.189) | |
| Local Experience | -0.259 (0.194) | -0.261 (0.194) | | | | | -0.237 (0.202) | |
| Locality-specific Political Connections | 0.04 (0.373) | 0.029 (0.368) | | | | | -0.131 (0.383) | |
| Average Land Price within 5km Radius | | | | 0.657*** (0.107) | | | | |
| Average Land Price within 1km Radius | | | | | 0.531** (0.189) | | | |

Average Land Price within 500m Radius

0.657***
(0.107)

| | | | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Control Variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Land Use Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Prefecture Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm-Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Number of Observations | 3694 | 3694 | 3694 | 3694 | 3694 | 3694 | 3443 | 3443 |
| Adjusted R-squared | 0.618 | 0.618 | 0.699 | 0.719 | 0.703 | 0.719 | 0.609 | 0.695 |

Note: Control variables include a dummy indicating the prefecture of a firm's registration or headquarter, area of land (log), land quality, firm total asset (log), logged firm net profit, number of employees (log), state share and foreign share. Columns (7) and (8) exclude firms that either registered or based their headquarters in prefectures where they also purchased land. Standard errors in parentheses are clustered at the prefecture-year level. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001; constant terms are not reported.