

Can Clientelism Subvert Authoritarianism? Evidence From China's Housing Market

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July 17, 2015

Abstract

This article challenges a popular argument in authoritarian politics that informal institutions often undermine formal institutions. We show that the state bureaucracy is able to penetrate layers of connections built by firms that aim at capturing the state and seeking rents from an imperfect market. We test this by compiling and analyzing a large, original, and panel dataset of 150 Chinese listed real estate firms from 2003 to 2012 matched with 90 real estate policies. Event studies show that political connections are largely ineffective in resisting the impact of the policies implemented by high-authority state organizations. Policies enforced by strong state bureaucracies produced a significant cumulative abnormal return of -0.016% around the 5 days of the announcement of the policy. Using hierarchical linear modeling, we find a universal effect of strong state policies on firm values regardless of political connectedness.

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The building of modern nation-states in traditional societies inevitably challenges the authority of informal social ties, such as clans, ethnic groups, religion, and clientelism. Is state power able to penetrate layers of traditional ties to extend “the reach of the state” (Shue 1988), or are informal ties so strong and entrenched that the state is “captured” (Stigler 1971; Hellman 1998)?

While some believe that formal state institutions, such as parties, bureaucracy, and courts, once established will gradually replace informal institutions in regulating incentives and behavior (North 1990; Greif 2006), many recent studies show that informal institutions are still effective and can undermine or even subvert formal institutions in transition economies, such as in China, Russia, and Latin America (Tsai 2007; Frye and Zhuravskaya 2000; Stokes 2005).

We join this debate by examining the interactions between formal state institutions and informal social ties in China. It is a long-standing presumption that social connections (*guanxi*), particularly personal connections to political authorities, remain indispensable in China for a wide range of activities from conducting business (Wank 1999; Pearson 1997; Kennedy 2005), using courts (Ang and Jia 2014), obtaining bureaucratic protection (Wang 2014), boosting company reputation (Truex 2014), securing bank loans (Li et al. 2008), expressing grievances (Michelson and Read 2011), finding jobs (Bian 1994), to surviving the Great Famine (1959-1961) (Yan 1996). Many have investigated China’s regulatory failures in intellectual property rights protection, food safety, labor rights protection, and environmental protection through the lens of strong informal rules corrupting formal laws (Yang 2009). However, very few studies have examined informal institutions *in relation to* formal institutions or the interactive relationship between informal and formal institutions.

This article challenges this presumption by demonstrating the strength of formal state institutions even *confronting* strong social ties that are designed to undermine the state. Specifically, we show that the state bureaucracy is able to penetrate layers of connections built by firms that aim at capturing the state and seeking rents from an imperfect market.

We test this by examining the real estate market in China. Beginning in the late 1990s, the Chinese government started to commercialize the housing market to move it away from the government-subsidized model. Since then, the housing price has skyrocketed due to a high demand for urban housing and local governments' fiscal incentives. Meanwhile, members of the middle class began to complain about the unaffordable homes in big cities, yet there are significant numbers of vacant or under performing commercial and residential properties, which is a sign of a speculative real estate bubble.¹ Fearing that the bubble would burst, the Chinese national government, starting in 2003, has promulgated almost 100 policies to control housing prices. We examine the conditions under which these policies are effective in controlling housing prices with a particular interest in testing the relative strength of state bureaucracy and political connections.

We construct a large, original, and panel dataset of 150 listed real estate firms from 2003 to 2012. We supplement this with a dataset of 90 real estate policies promulgated by the Chinese national government that aimed at controlling housing prices from 2003 to 2012. Our empirical strategy is to conduct event studies to examine how each policy affected the market values of publicly traded real estate firms. Our core finding is that political connections, measured by the composition of firms' board of directors, are largely ineffective in resisting the impact of the policies implemented by high-authority state organizations, such as the State Council and the central bank. Connections with a local government (defined as having at least one former local bureaucrat on the board), the most effective form of political connections, could only help firms alleviate the impact of 13 policies (out of 90). However, policies enforced by strong state bureaucracies produced a significant cumulative abnormal return of -0.016% around the 5 days of the announcement of the policy. Using hierarchical linear models (HLM) and an interaction term between state bureaucracy and political connections, we find a universal effect of strong state policies on firm values regardless of political connectedness.

Our article contributes to the debate about formal and informal institutions ([Helmke and Levitsky 2004](#)), and our findings are consistent with a strand of the literature that

¹Please see <http://goo.gl/6Y4Yyt> (Accessed May 13, 2014).

emphasizes the role played by formal institutions in authoritarian regimes (Lieberthal 1992; Manion 1996; Mertha 2005; Gandhi and Przeworski 2007). Empirically, our study is one among a few that examine the effect of informal institutions *in relation to* formal institutions, while most existing studies study informal or formal institutions separately.

BACKGROUND AND HYPOTHESES

Urban housing in China was predominantly public until the 1980s when reform started. In the pre-reform era, the central government allocated funds to local governments and state-owned enterprises (SOEs) to build urban rental units, which were then allocated to their employees at nominal rents (Chen 1998, 44). Housing, along with food and medical care, was a form of subsidy for SOEs and government employees in the socialist economy (Walder 1995).

Urban housing reform started in the early 1980s, and the main goal was to establish private housing ownership and privatize housing construction funds (Chen 1998, 47). The reform, however, has been gradual. For SOE and government employees, many were encouraged to purchase the homes they used to rent at a subsidized price. Outside subsidized housing, there is a separate housing market that has been completely privatized. Real estate enterprises became major suppliers of housing at free-market prices. However, because land is publicly owned and the land-use rights are managed by local governments in China, local governments often reap a large share of the profits in the housing market, which gives them a strong incentive to develop the real estate market and raise land prices. The revenue incentive for local governments became especially powerful after 1998 when the Chinese Communist Party (CCP) passed a statutory bill granting local governments *de jure* ownership over land under their geographical jurisdictions (Lin and Ho 2005; Kung and Chen 2013).

Land revenue started to grow significantly after 1998. As Kung and Chen (2013, 6-7) show, by 2008 it has had accounted for a whopping 79% of the entire extra-budgetary revenue and approximately 38% of the total revenue for local governments. Under the strong

revenue incentive, local governments and real estate firms form development coalitions in which clientelism and corruption dominates state-business relations on land issues (Ong 2012; Cai, Henderson and Zhang 2013). As Chen (1998, 55) argues, public land is often sold at a nominal cost in the form of “negotiation price” to developers who lobby or pay bribes. Developers then sell their commercial housing at prices that are phenomenally higher than the “negotiation prices,” which yields extremely high returns.

The high returns for local governments and real estate firms also create high prices for consumers, and sometimes bubbles.² Worried about local corruption and the danger of bursting of the bubble, the central government began to promulgate policies in 2003 to cool the overheated housing market. According to our calculation, from 2003 to 2012, there have been nearly 100 national-level policies made by central government organizations to control housing prices. The organizations range from the State Council and People’s Bank of China to functional departments, such as Ministry of Housing, State Tax Bureau, State Development and Reform Commission, Ministry of Construction, and Ministry of Land and Resources. The policies include monetary policies (interest rates), fiscal policies (tax), land policies (supply), and buyer activity limits (demand). However, not every policy was effective. Figure 1 shows the average housing price and the number of policies over time. The housing prices continues to increase with little sign of cooling down.

[INSERT FIGURE 1 HERE]

How do we explain the the (in)effectiveness of central policies? Scholars focused on formal institutions would argue that it depends on the formal authority of state organizations and predict that policies promulgated by high-authority organizations are more effective than those implemented by low-authority organizations. Specifically, the “fragmented authoritarianism” theory in the Chinese politics literature contends that many central ministries only have a “professional relationship” with their local branches;

²There are many other reasons for China’s housing bubble, such as rapid urbanization, population growth, uneven regional development, and a culture to own homes to get married. For a review, please see Chen (1998).

that is, the central policies enforced through these ministries are non-binding on the local agencies (Lieberthal 1992; Mertha 2009). For example, the Shanghai Municipal Commission of Housing only follows the orders of the Shanghai Municipal Government rather than the Ministry of Housing in the central government. Conversely, many central organizations have a “leadership relationship” with their local branches, such as the State Council and People’s Bank of China. In this leadership relationship, the orders from the central principal are binding on its local agents. For example, the Shanghai branch of the People’s Bank of China must obey the orders from its headquarters in the center rather than the Shanghai Municipal Government. This theory implies that policies promulgated by a high-authority organization that has a leadership relationship with its branches are more likely to produce a negative impact on the real estate market. Hypothesis 1 (fragmented authoritarianism) summarizes this implication:

Hypothesis 1 (Fragmented Authoritarianism): Policies promulgated by the State Council and the People’s Bank of China are more likely to generate negative (abnormal) returns for real estate firms than those made by other central government organizations.

Scholars of informal institutions would offer an alternative explanation that firms that have connections with the local government have a stronger political leverage to capture local state and block policy implementation that alters the status quo (Stigler 1971; Hellman 1998). Note that the political connections hypothesis is focused on firm-level variation, while the fragmented authoritarianism hypothesis is focused on policy-level variation. Hypothesis 2 (clientelism) summarizes this implication:

Hypothesis 2 (Clientelism): Real estate firms that have political connections are less likely to be affected financially by a particular policy than firms that are unconnected.

A more interesting question is when authoritarianism meets clientelism, which is

stronger? For example, when a policy is implemented by the State Council, and according to the authoritarian rule, local governments must obey, can politically connected firms still block or alleviate the impact of the policy? If authoritarianism is stronger, we should observe a universal policy impact on all firms; if clientelism is stronger, we should see a differential effect of the policy on connected and unconnected firms. Hypotheses 3.1 and 3.2 summarize these two rival expectations:

Hypothesis 3.1 (Stronger Authoritarianism): For policies that are enforced by high-authority organizations, such as the State Council and the People’s Bank of China, politically connected and unconnected firms are equally affected financially.

Hypothesis 3.2 (Stronger Clientelism): For policies that are enforced by high-authority organizations, such as the State Council and the People’s Bank of China, politically connected firms are less likely to be affected financially than unconnected firms.

While theories of formal institutions would support Hypothesis 3.1, students of informal institutions would support Hypothesis 3.2. And our empirical strategy will enable us to test these two hypotheses in a unifying model.

There are a couple of reasons to expect that Hypothesis 3.1 will receive empirical support. First, China, after all, is still a strong state. As [Shue \(1988\)](#) argues, since the reform started in the late 1970s, the Chinese government has extended its “reach” to penetrate the “honeycomb” of informal social ties in the Chinese society. And decades of reform and opening up have strengthened the capacity of the Chinese state to enforce policies. Second, Beijing still has the prerogative to appoint, rotate, and remove provincial-level officials ([Yang 2006](#), 143). The *nomenklatura* power gives the center both *ex ante* and *ex post* mechanisms to influence local politics ([Burns 1994](#); [Huang 1995](#); [Sheng 2007](#); [Kung and Chen 2011](#)). Concerned with their political careers, Chinese local officials still have a strong incentive to obey central binding orders.

EMPIRICS

A conventional approach to examine the effect of institutions on firms is to find a set of institutions, such as laws or policies, a measure of policy compliance (Y), and variables of firm characteristics (X), and regress Y on X . This approach is problematic for two reasons. First, policy compliance is often unobservable. In the housing policy example, to measure whether a firm complies with a policy that limits sales to households that already have multiple homes would require very detailed and honest data on firms' sales and buyers' property information, which are often not disclosed to researchers. A second problem is endogeneity: a firm that pays more bribes is less likely to comply, or a non-complier is more likely to bribe. Without a strong identification strategy, the causality is difficult to pin down.

We employ a new identification strategy by examining how an exogenous, surprising policy shock affects the market returns of real estate firms. Based on the “efficient market” assumption (Fama 1970), this “event study” approach assumes that securities markets are extremely efficient in reflecting information about individual stocks and about the stock market as a whole (MacKinlay 1997). If a policy is expected to produce any impact on the real estate market, we should observe the impact by examining the stock prices of real estate firms.³

We conduct the study in three steps. First, we focus on policy-level variation to examine why some policies were effective while others were not. Second, we shift the unit of analysis to investigate firm-level variation to test, given the same policy, why some firms were affected while others were not. Third, the core of our analysis is to combine policy-level variation with firm-level variation using HLM to test whether formal institutions (state bureaucracy) have the same effect on firms regardless of informal institutions (political connections).

³Event studies have been widely applied to a variety of economic events, and have recently gained popularity in the study of political events (Roberts 1990; Fisman 2001; Bernhard and Leblang 2006).

Data

We construct two original datasets. The first is a panel dataset of 150 real estate firms that were listed on the Shanghai or Shenzhen Stock Exchange from 2003 to 2012. The real estate firms are identified using firms' Standard Industrial Classification codes.⁴ The dataset also includes information about firms' finance, income, ownership, locations, and daily stock prices.⁵ A caveat is that although the dataset includes all the *listed* real estate firms, it excludes non-listed firms. However, listed firms are the biggest actors in the real estate market, and their business activities are beyond regional boundaries, while most non-listed firms only conduct business within a certain region, which is not suitable for testing the impact of national policies. The second is a dataset of 90 housing/real estate policies promulgated by the central government to control housing price from 2003 to 2012.⁶ The two datasets were then merged for analysis.

One key variable is the formal authority of the policymaker. Based on the “fragmented authoritarianism” literature (Lieberthal 1992; Mertha 2009), we code the State Council and the People's Bank of China as high-authority organizations: they can issue binding orders to their local branches. Some policies were made by several organizations; we treat it as high-authority as long as it involves one of these high-authority organizations. The rest are coded as low-authority organizations, including Ministry of Housing, Ministry of Finance, State Tax Bureau, State Development and Reform Commission, Ministry of Construction, and Ministry of Land and Resources. There were 61 (67.8%) policies made by high-authority organizations, and 29 (32.2%) by low-authority organizations.

Another variable is a firm's political connectedness. We follow previous literature's “board approach” (Agrawal and Knoeber 2001; Boubakri, Cosset and Saffar 2008; Sun, Xu and Zhou 2011) to consider whether a firm has politicians on its board of directors (chairperson, president, vice-president, CEO, executive director, non-executive director, or secretary). We argue that the “board approach” is a more accurate measure of po-

⁴We start from 2003 because it was the first year that the Chinese government started to systematically control housing prices. For a list of these firms, please see Section I in the web appendix.

⁵The data are from the China Securities Market and Accounting Research (CSMAR) database.

⁶These policies are collected using online searches and visits to government websites.

litical connectedness than the “CEO approach” in the Chinese context. Unlike firms in industrialized economies that have their presidents or CEOs being elected members of parliament (Faccio 2006), the most important form of political connection in East Asia is retired politicians taking a corporate job (“descent from heaven”) and becoming non-executive directors. Examining only the political connections of CEOs misses the nuances of political connections in the Chinese economy.

We make one improvement over the existing literature: while many prior studies have fused types and levels of connections (Faccio 2006), we differentiate them. A board member could be connected with one of the following organizations: the national government, a local government (from province to township), the national parliament (including the National People’s Congress (NPC) and the Chinese People’s Political Consultative Conference), and a local parliament (including local People’s Congress and local People’s Political Consultative Conference). A board member is considered to be connected with one of these organizations if she was previously or currently an employee or member. We define government connections very strictly, excluding any semi-governmental organizations such as research institutes affiliated with a government organization. A company is connected if one of its board members is connected.⁷

Using 2012 as an example, there were 22.6% firms connected with the national government, 59.6% with the local government, 12.3% with the national parliament, and 39.7% with the local parliament.⁸ Figure 2 shows firms’ connectedness over time. There was not a monotonic increase of connected firms over time, indicating that firms did not perceive an increasing importance of political connections.

[INSERT FIGURE 2 HERE]

We expect that connections with the local government have the most significant effect because national policies need to be enforced by local governments; capturing local

⁷We obtained board members’ biographies from Wind Info, a leading integrated service provider of financial data based in Shanghai. We double-coded 23,670 individual-years’s biographies. For our code book and examples of biographies, please see Section II in the web appendix.

⁸These percentages do not add up to 100% because a firm can have multiple connections, for example, a board member is both a retired mayor and a delegate to the NPC.

bureaucrats is a more effective strategy than lobbying the national government. On the other hand, we do not expect a strong effect of parliament connections, because both local People’s Congress and People’s Political Consultative Conference are not directly involved in the policy enforcement process. Although joining the parliament can boost the reputation of firms (Truex 2014), we expect it to have little impact on policy enforcement.

Event Study Procedure

We follow the standard event study procedure to estimate the market-adjusted cumulative abnormal return for the 5-day period (event window) around the event dates (days - 2 to +2) (MacKinlay 1997).⁹ We set the event dates as the first trading day of the announcement of the policies.

Normal return is the expected return without conditioning on the event taking place. Abnormal return (AR) is defined as the actual *ex post* return of the security during the event window [-2, 2] minus the normal return of the firm during the event window [-2,2]. We use the estimation window [-110, -10] to estimate the normal return based on the “market model”:

$$NORMAL\ RETURN_{it} = \alpha_i + \beta_i MARKET\ RETURN_{mt} + \epsilon_{it}, \quad (1)$$

where $NORMAL\ RETURN_{it}$ and $MARKET\ RETURN_{mt}$ are the period t (in this case [-110, -10]) returns on security i and the market portfolio, respectively, and ϵ_{it} is the zero mean disturbance term with variance of Σ_ϵ^2 . α_i and β_i are the parameters of the market model. Since firms were listed either on the Shanghai or Shenzhen Stock Exchange, the Hu-Shen (Shanghai-Shenzhen) Index was used for the market portfolio.

With the estimated parameters $\hat{\alpha}_i$ and $\hat{\beta}_i$, the AR is

$$AR_{i\tau} = RETURN_{i\tau} - \hat{\alpha}_i - \hat{\beta}_i NORMAL\ RETURN_{m\tau}, \quad (2)$$

⁹It is a standard practice in event studies to set the event window to be [-2, 2] to take into consideration possible information leaks.

where $RETURN_{i\tau}$ is the daily return of stock i during the event window τ ($[-2, 2]$), and $NORMAL\ RETURN_{m\tau}$ is the estimated normal return based on Equation (1) during the event window τ $[-2, 2]$.

The cumulative abnormal return (CAR) is the sum of the abnormal return over the event window:

$$CAR_i(\tau_1, \tau_2) = \sum_{\tau=\tau_1}^{\tau_2} AR_{i\tau}, \quad (3)$$

Results

In the first step (Hypothesis 1), we use policy as the unit of analysis to examine on average how big an impact a policy produced on all the firms. We use the mean CAR across all firms as the dependent variable and AUTHORITARIANISM as the independent variable to measure whether the policymaker has the formal authority to issue binding orders (1 = yes, 0 otherwise). In different model specifications, we control for SUBJECTS (whether the policy was targeting at real estate firms, local governments, consumers, financial institutions, or mixed) and YEAR FIXED EFFECTS. Table 1 presents the results. In all models, the coefficient of AUTHORITARIANISM is significantly negative, suggesting that policies enforced by high-authority organizations negatively affected the market values of real estate firms. On average, policies that were enforced by high-authority organizations produced a significant mean CAR of -0.016% for real estate firms compared to policies enforced by low-authority organizations. The results support Hypothesis 1.

[INSERT TABLE 1 HERE]

We also test two alternative explanations. First, there might be a qualitative difference between the State Council (the highest executive organ of state power) and all the ministries. We create a dummy variable—STATE COUNCIL—for policies made by the State Council and include it in the regressions. Second, one of the ministries might be more powerful than others. We create dummies for each of the ministries and include them in the regressions. Controlling for SUBJECT and YEAR FIXED EFFECTS, only STATE COUNCIL’s effect has the expected sign ($\beta = -0.013$) and is significant

($p = 0.07$); none of the ministry dummies has a significantly negative effect.¹⁰ This is consistent with the “fragmented authoritarianism” argument and implies that the State Council’s orders were more strictly enforced than those of the ministries.

As a robustness check, we also use HLM to estimate the effect of AUTHORITARIANISM (a policy-level variation) on CAR (a firm-level variable) with or without YEAR FIXED EFFECTS and PROVINCE FIXED EFFECTS. We find very similar results with our policy-level analysis.¹¹

In the second step (Hypothesis 2), we switch the unit of analysis to firms and investigate how a particular policy j affected firms with different levels of political connectedness. We use one of the four connection variables—LOCAL GOVERNMENT, NATIONAL GOVERNMENT, LOCAL PARLIAMENT, and NATIONAL PARLIAMENT—as the independent variable and control for the log transformed total ASSETS and SOE SHARE (calculated as the ratio of state-owned share to the total share $\times 100$). Theoretically, we expect the effect of LOCAL GOVERNMENT to be positive, because housing policies are enforced by the local government, and firms connected with the local government should be less severely affected by the policies. The roles of the three other types of connections are unclear, because those organizations are not directly involved in the enforcement stage. ASSETS is controlled for to examine the “too big to fail” hypothesis that big firms are often bailed out by the government, and SOE included to consider the possibility that SOEs have more leverage vis-à-vis the local government in complying with policies. The following model is estimated using OLS:

$$CAR_{ij} = \alpha_j + \beta_{1j}CONNECTION_{ij} + \beta_{2j}ASSETS_{ij} + \beta_{3j}SOE\ SHARE_{ij} + \epsilon_j. \quad (4)$$

We estimate 360 regressions (4 independent variables \times 90 policies), and LOCAL GOVERNMENT’s effect is the most systematic among all the connection variables. For

¹⁰Tables A2-A7 in the web appendix present all the results.

¹¹Table A1 in the web appendix shows the results.

13 policies, firms connected with the local government experienced significantly smaller negative CARs than their unconnected counterparts.¹² Other connections' effects are less systematic. NATIONAL GOVERNMENT's effects are significantly positive for 7 policies, LOCAL PARLIAMENT for 6 policies, and NATIONAL PARLIAMENT for 4 policies. These findings suggest that connections with these organizations offer only limited help for firms.¹³

ASSETS's effects are also unsystematic. Among the regressions that use LOCAL GOVERNMENT as the independent variable, there are 37 significantly negative results, 12 significantly positive results, and 41 null results for ASSETS. It is difficult to explain these mixed findings, but they imply that there is no strong support for the "too big to fail" argument.

SOE SHARE's effect is significant for 10 policies, and they are all negative. This suggests that SOEs were more susceptible to policy shocks. This is inconsistent with a popular view that SOEs' rent-seeking behavior contributes to the failure of housing policies.¹⁴ One possible explanation is that SOEs are controlled by the government and, therefore, expected to take more responsibility in carrying out government policies. However, without detailed data on SOEs' sales and finance, this can only be left for future research.

The step 2 results do not suggest a strong effect of informal institutions: connections with the local government only helped alleviate the impact of 13/90 policies (14%). The null results in 77 policies show the ineffectiveness of informal institutions. We appreciate that political connections might help firms acquire other advantages besides sheltering from policy shocks, such as obtaining permits, taking land, lowering costs, and shirking tax and legal responsibilities, but our market return measure is the most direct way to measure the value of firms, which should reflect all of these other advantages firms have. So if political connections do not help with firm value, other advantages are trivial.

¹²Table A8 in the web appendix presents the full results.

¹³Tables A9-A11 in the web appendix present all the results.

¹⁴Please see <http://goo.gl/UtxXoE> (Accessed May 16, 2014).

So far, we have not tested the effectiveness of informal institutions *compared to* that of formal institutions. Our step 3 analysis is to use HLM to combine policy-level and firm-level data to examine the conditional effect of political connections. The following nested model is estimated using maximum likelihood estimation (MLE).

$$\begin{aligned}
CAR_{ij} = & \gamma_{ij} + \delta_{1j}AUTHORITARIANISM_j + \delta_{2j}LOCAL\ GOVERNMENT_{ij} \\
& + \delta_{3j}AUTHORITARIANISM_j \times LOCAL\ GOVERNMENT_{ij} \\
& + \delta_{4j}ASSETS_{ij} + \delta_{5j}SOE\ SHARE_{ij} + \mu_{ij}.
\end{aligned} \tag{5}$$

Similar to a common hierarchical setting in which students are nested in schools, firms are nested in policies in our study. In Equation (5), we test whether the effect of AUTHORITARIANISM (a policy-level variable) is conditional on LOCAL GOVERNMENT (a firm-level variable). Hypothesis 3.1 predicts that AUTHORITARIANISM has a significantly negative effect on firms' CARs ($\delta_{1j} < 0$), and this effect does not vary between connected and unconnected firms ($\delta_{3j} = 0$), while Hypothesis 3.2 predicts that AUTHORITARIANISM's effect is significantly negative ($\delta_{1j} < 0$), and this effect is significantly weaker for politically connected firms ($\delta_{3j} > 0$), implying informal ties undermining formal authorities.

[INSERT TABLE 2 HERE]

Table 2 presents the HLM results with different combinations of YEAR FIXED EFFECTS and PROVINCE FIXED EFFECTS. In all four specifications, AUTHORITARIANISM's effect is significantly negative, which is consistent with the step 1 results. The effect of LOCAL GOVERNMENT is positive and not distinguishable from zero using any conventional standards, which echoes step 2 results that political connections are ineffective. More interestingly, the effect of the interaction term is not significant, suggesting that policies enforced by high-authority organizations have a universal effect on firms, regardless of their connections (Hypothesis 3.1). Using the results in Column 1 as the

baseline model, further calculation shows that the marginal effect of AUTHORITARIANISM when LOCAL GOVERNMENT = 0 ($\delta_{1j} = -0.014$, robust s.e. = 0.005) and that of AUTHORITARIANISM when LOCAL GOVERNMENT = 1 ($\delta_{1j} + \delta_{3j} = -0.011$, robust s.e.=0.005) are not significantly different. The results support Hypothesis 3.1 that formal state institutions are stronger than informal political ties in determining the effectiveness of central policies.

CONCLUSION

Many recent studies have examined the roles of formal institutions (Gandhi and Przeworski 2007; Malesky, Schuler and Tran 2012; Truex 2014) and informal institutions (Tsai 2006, 2007) in authoritarian regimes. We investigate the interactions between formal and informal institutions. We show that, in the Chinese housing market case, informal institutions (political connections) are largely ineffective in determining policy outcomes while formal institutions (fragmented authoritarianism) can still help the state power control the market. We demonstrate this by compiling and analyzing a large, original, and panel dataset of 150 listed real estate firms from 2003 to 2012 matched with 90 central policies. Using an event study approach, our results show that policies enforced by high-authority organizations created significantly negative CARs for firms, and that political connections were unable to help firms resist policy shocks in most cases. Our core finding is that the effect of formal state authority is not compromised by the connections firms build with local governments.

Our findings challenge a recent trend in the political economy of development and authoritarian politics literatures that emphasizes the role played by informal institutions to undermine or even subvert formal institutions (Hellman 1998; Frye and Zhuravskaya 2000; Stokes 2005; Tsai 2007; Ang and Jia 2014; Truex 2014). What we demonstrate is what Helmke and Levitsky (2004) dub “accommodating informal institutions,” in which “These informal institutions create incentives to behave in ways that alter the substantive effects of formal rules, but without directly violating them; they contradict the spirit, but

not the letter, of the formal rules.”

We lend support to an earlier literature that argues a diminished role of informal institutions as formal institutions get established (North 1990; Greif 2006). We show empirically that a formal rule that governs the state bureaucracy, which assigns different levels of authority to bureaucratic organizations, to a large extent determines the outcome of the policies these organizations enforce. However, informal ties (*guanxi*) between firms and the state are incapable of compromising the state’s authority. Our findings are, therefore, consistent with a camp of scholars who argue that marketization of the economy helps consolidate the state power in traditional societies, such as China, and undermine the function of informal social ties (Shue 1988; Guthrie 1999).

Our study also creates several important policy implications. Authoritarian states are believed to be good at implementing, sometimes extremely unpopular, policies. Starting in 1992, the Singaporean government started a ban on chewing gum. Under the rule, no gum is allowed to be bought or sold inside Singapore, and there is a \$500 fine for spitting out gum on the streets.¹⁵ Starting in the late 1970s, the Chinese government started to strictly enforce the “one-child policy,” which states that, under usual circumstances, each family can have no more than one child. This study provides a bureaucratic explanation for this phenomenon. While many studies use “fragmented authoritarianism” to explain policy failures under certain conditions, we instead focus on the effectiveness of policies under other conditions. This article implies that if authoritarian regimes really care about certain policies, they can make sure that the policies are enforced by strengthening the bureaucracy.

In addition, in many developing countries, we often see failures of regulations in dealing with intellectual property rights (Mertha 2005), food safety (Yang 2009), environmental degradation (Economy 2010), and labor rights (Gallagher 2005). A popular argument in the scholarly world and public media is that corruption is the major obstacle to successful policy implementation.¹⁶ However, our findings turn the blame to state

¹⁵Please see <http://goo.gl/Ynxker> (Accessed May 12, 2014).

¹⁶For scholarly studies, please see, for example, Mookherjee and Png (1995). For public media, please see, for example, http://www.nytimes.com/2006/08/21/world/asia/21iht-smog.2550052.html?_r=

capacity by implying that many of the regulatory failures might be due to the inability of the state bureaucracy to enforce rules.

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Table 1: The Effect of Fragmented Authoritarianism on Firms' Mean CARs (Policy-Level OLS Estimates)

Variable	Coeff. (R.S.E.)	Coeff. (R.S.E.)	Coeff. (R.S.E.)	Coeff. (R.S.E.)
AUTHORITARIANISM	-0.012** (0.006)	-0.013** (0.005)	-0.014** (0.006)	-0.016** (0.006)
SUBJECT FIXED EFFECTS	NO	NO	YES	YES
YEAR FIXED EFFECTS	NO	YES	NO	YES
N	90	90	90	90
R ²	0.042	0.122	0.077	0.164

Notes: The dependent variable is the average CAR across all firms calculated using the standard event study procedure. Robust standard errors are reported in parentheses. p -values are based on a two-tailed test: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 2: The Effect of Fragmented Authoritarianism and Political Connections on Firms' CARs (HLM MLE Estimates)

Variable	Coeff. (R.S.E.)	Coeff. (R.S.E.)	Coeff. (R.S.E.)	Coeff. (R.S.E.)
AUTHORITARIANISM	-0.014*** (0.005)	-0.015*** (0.005)	-0.014*** (0.005)	-0.015*** (0.005)
LOCAL GOVERNMENT	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)
AUTHORITARIANISM*LOCAL GOVERNMENT	0.004 (0.003)	0.004 (0.003)	0.004 (0.003)	0.004 (0.003)
ASSETS (LOG)	-0.003** (0.001)	-0.003** (0.001)	-0.003** (0.001)	-0.003** (0.001)
SOE SHARE	0.000** (0.000)	0.000** (0.000)	0.000*** (0.000)	0.000*** (0.000)
INTERCEPT	0.061*** (0.022)	0.064*** (0.023)	0.061*** (0.021)	0.063*** (0.022)
YEAR FIXED EFFECTS	NO	YES	NO	YES
PROVINCE FIXED EFFECTS	NO	NO	YES	YES
N	9963	9963	9958	9958

Notes: The dependent variable is the CAR calculated using the standard event study procedure. Robust standard errors are reported in parentheses. p -values are based on a two-tailed test: * $p < 0.1$, ** $p < 0.5$, *** $p < 0.01$.

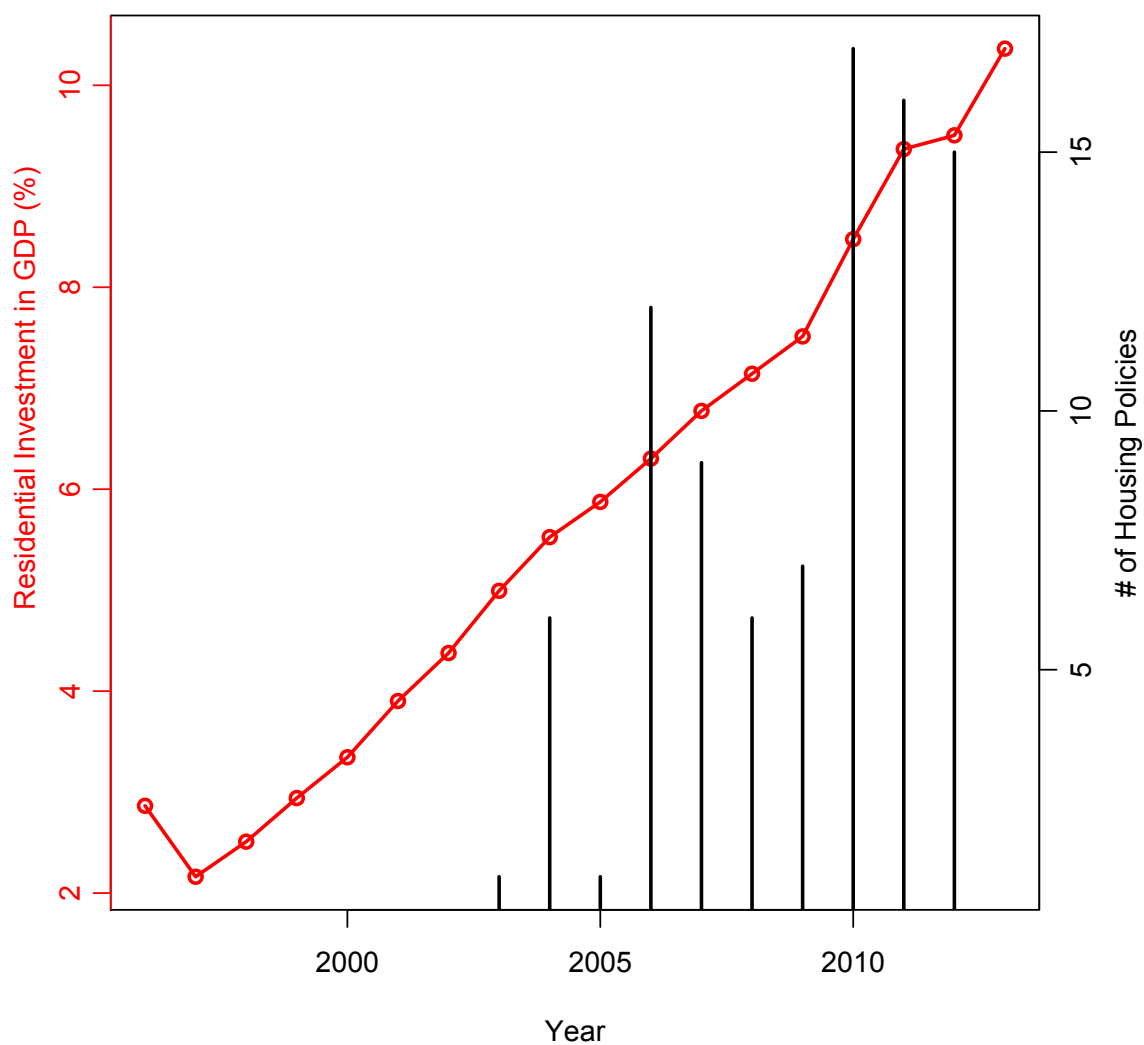


Figure 1: Real Estate Investment in GDP and Number of Housing Policies (1996-2013)

Notes: The line represents the ratio of real estate investment to China's GDP $\times 100$. The bars represent the number of housing policies promulgated by the central government. The data are from Datastream and OECD Data.

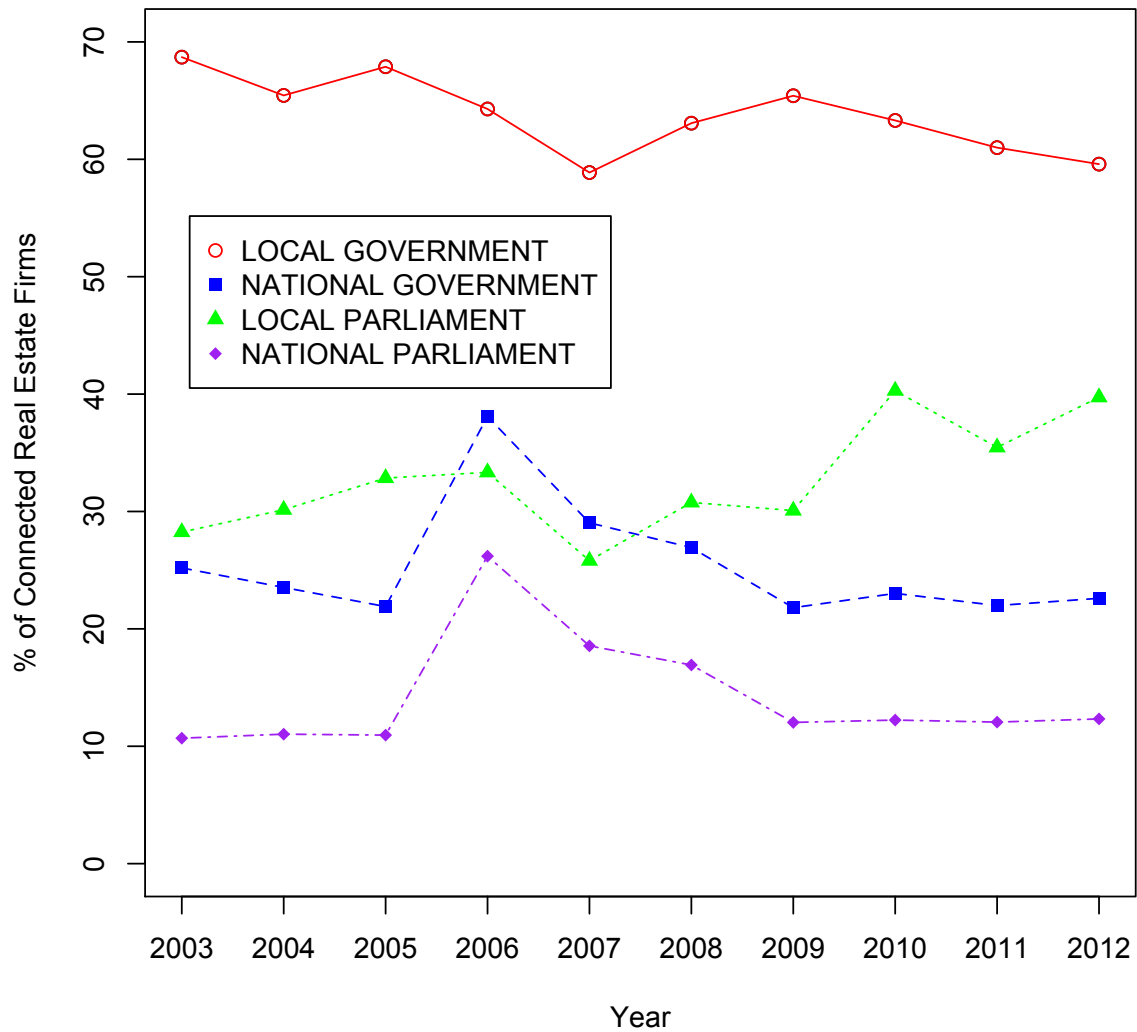


Figure 2: Real Estate Firms' Political Connections (2003-2012)

Notes: The four lines represent the percentages of Chinese real estate firms that had connections with the local government, the national government, the local parliament, and the national parliament, respectively. Connection is defined by having at least one former employee or member from one of these organizations on firms' board of directors.