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Collective Leadership, Career Concern, and the Housing Market in China: The Role of Standing Committees

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Abstract

Despite an emerging literature on political determinants of economic performance, little is known about whether standing committees of the Communist Party, an institution of collective leadership, matter for economic development. Using Chinese provincial-level panel data, we find that a higher ratio of new members in the standing committee of the local Communist Party is correlated with a higher housing sales/gross domestic product (GDP) ratio. Moreover, more new members in the standing committee are also associated with a lower level of GDP per capita and a lower manufacturing output growth rate. The results on the size of the real estate sector are robust to dealing with the endogeneity of the ratio of new standing committee members. Our findings suggest that career incentives of party leadership affected real estate development at the expense of manufacturing growth in the locality, and that the structure of collective leadership has important economic consequences.

1. Introduction

Influential earlier studies on the Chinese cadre system have linked China's economic success with the performance incentive system for its local leaders, and argued that promotion decisions for local government officials are made largely based on a tournament model with regional gross domestic product (GDP) growth as the performance standard (Maskin et al., 2000; Li and Zhou, 2005). These studies pioneered a branch of political economy research that focuses on promotion incentives in non-democratic and transitional countries. Adding to this literature are more recent studies continuing to explore how the Chinese cadre system works, but at a more disaggregated level and with more comprehensive data, which suggest that official promotion may not depend on local growth (Landry, 2008). For example, a comprehensive study of the advancement of central committee members in China suggests that the cadre system rewards fiscal revenue, factional ties to top leaders, but not economic growth (Shih et al., 2012).

While this nuanced literature on the Chinese bureaucratic system has shown that the incentives embedded in the cadre system are important, the literature is still limited in scope. It focuses on the incentives of top leaders in a locality or in the Central Committee. Yet, an important feature of the Chinese government in the past

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1 [2] few decades is that the standing committees (SCs) at various levels possess the great-
2 est power in the Chinese government and members of the SCs are supposed to serve
3 as checks and balances for the chief executives.¹ Does the composition of standing
4 committees matter for local development? If so, future studies of the political
5 [3] economy in non-democratic countries need to take into account the structure of SCs.
6 To explore whether SC structure matters, we examine how the composition of SCs
7 affects the development of the real estate and the manufacturing sectors along with
8 GDP growth and GDP per capita.

9 Our starting point is that the power of promotion incentives differs among regions
10 owing to the differences in SC membership. A region with more new members in its
11 local decision-making body, the SC of the regional Chinese Communist Party (CCP),
12 is faced with higher-powered incentives. Newcomers to a provincial collective leader-
13 ship team face greater career incentives to deliver what the central government
14 wants—they have fewer local accomplishments to speak of, and they face greater
15 rewards when moving up an additional rung in the career ladder.

16 What does the central government want then? For any government, a key objective
17 is political survival (Bueno de Mesquita et al., 2003) and to have ample financial
18 resources under government control, either to deliver local public goods or to use
19 those resources to facilitate the support for the government. Indeed, Shih et al. (2012)
20 provide evidence that the promotion of many provincial leaders is closely related to
21 fiscal revenue collection, but not to economic growth. While the central government
22 assigns various tasks to local governments, which tasks are accomplished thoroughly
23 depend on the reward system. The mandate of political survival coupled with the find-
24 ings of Shih et al. (2012) suggests that the central government highly value govern-
25 ment revenue, to which local government officials will thus devote more efforts.

26 The strong incentives of local governments for revenues are particularly well served
27 by the development of the real estate sector and such incentives are likely to be par-
28 ticularly strong for new SC members. Revenue from selling land use rights to real
29 estate developers has become a main source of fiscal income as well as loan collaterals
30 for local governments (Ding, 2007). Moreover, housing market expansion has been
31 widely linked to quick economic turnaround, if not sustainable development. New SC
32 members, likely younger, have stronger career concerns and need more resources to
33 get things accomplished. They have the strongest desires to win the tournament for
34 promotion—the reward for advancing an additional rung in the career ladder is par-
35 ticularly high. Yet they have the least to demonstrate within the region. These consid-
36 erations imply that they are motivated to make a quick splash and developing the
37 regional real estate market is a natural solution. In contrast, alternatives such as
38 developing the manufacturing sector are much harder and take longer to achieve, and
39 such a long wait would be in conflict with the inherent short-term horizon of the
40 Chinese bureaucracy. Thus in regions with more powerful promotion incentives for
41 the local leaders, we expect to see a higher degree of reliance of the regional economy
42 on the real estate sector. Moreover, more attention to the real estate sector likely
43 reduces the amount of effort to develop other, more difficult segments of the
44 economy such as manufacturing, and likely has adverse consequences for the local
45 economy.

46 Indeed, we find that a higher ratio of new members in the local SC is correlated
47 with a higher housing sales/GDP ratio. Strikingly, more leadership turnover is also
48 associated with lower manufacturing growth and the level of GDP per capita. Our
49 results thus indicate that SCs staffed with a high ratio of new members could have
50 severe unintended negative consequences.



Our study contributes to two strands of literature. First, it is related to the literature on the policy-making process in non-democratic countries. We know very little about how internal politics affect economic outcomes in non-democratic countries (Gandhi and Przeworski, 2007). Oftentimes researchers equate non-democracy to dictatorship, but this is not true. In China, for instance, leaders are constrained by the SCs of the CCP. There are thus checks and balances within a non-democratic country. Yet, current studies largely focus on democratic countries, or only the behaviors of top leaders or an abstract “government” in non-democratic countries (Maskin et al., 2000; Li and Zhou, 2005; Landry, 2008; Shih et al., 2012), thus ignoring the implications of the checks-and-balances mechanism within non-democracy countries.² We are also not aware of economic papers that document systematically whether checks and balances in general, and SCs or collective leadership, in particular, matter for economic outcomes in non-democratic countries. The current paper attempts to fill in this gap. Second, our paper also sheds light on what factors determine the development of the housing sector. Our study highlights the role of local government incentives in affecting the housing sector.

2. Background

CCP Standing Committees

The center of power in China resides with the Chinese Communist Party (CCP henceforth, McGregor, 2010), and within it, the Standing Committee (the SC). At the central level, the position of the CCP secretary is more senior than that of the president of the state. Similarly, the SC at the local level serves as the source of power in that region. The head of the SC is the local party secretary, while the membership on the committee bestows additional power to the local leaders who possess it, compared with those without seats on the committee. These SCs play a key role in influencing local policy making by selecting local leaders and assigning crucial tasks. Moreover, these Chinese provincial leaders are vetted and chosen by the central Organizational Department, and cannot be removed by the local party secretary. Other SC members thus have bargaining power with the party secretary, and after being appointed, become responsible for a range of tasks in their regions. The SCs, present in every provincial and local government, thus permeate the whole political and economic system.

The local SC also looms large in the direct process of regional policy making in China through the mechanism of “democracy within the CCP”, or collective leadership. The most senior SC member, the local party secretary, is in charge of policy making. He or she, however, still needs to consult with their SC colleagues to establish some degree of consensus in reaching major decisions (McGregor, 2010). In particular, the local SC also appoints major government officials at lower levels in the economic sphere, providing an additional channel through which the SC as a whole takes charge of local economic policy making. It is, therefore, important to understand the role of the SC in affecting the development in Chinese regions.³

The central tasks of local leaders include economic growth, fiscal conditions, social development and development sustainability. However, such requirements can be cheap talk. What really matters to the central government remains an empirical issue. The degree of emphasis on and neglect of various responsibilities would thus depend on the power of the promotion incentives faced by these officials.

1 *Housing Market Development in China*

2 Over our sample period, the importance of the real estate sector skyrocketed. From
3 1997 to 2011, the proportion of household income allocated to housing increased from
4 2.8% to 10.6%. The percentage of housing debt in total household debt is 56% for
5 China as a whole and 67% for Chinese urban households.⁴

6 The great attention paid to the housing sector is relatively recent. The role of real
7 estate in the Chinese economy did not become important until 1998, when the central
8 government turned to the housing market to stimulate economic growth in order to
9 prevent potential recession induced by the Asian Financial Crisis. As there was no
10 real housing market to speak of in China in the first 20 years of economic reform,
11 the sector became a good candidate for stimulating growth at the time. Since 1998, the
12 promotion of the real estate sector as one of the “pillar industries” has been
13 the policy of the central government. The central government believed that the
14 growth in this industry helped promote growth in a large number of related sectors.

15 Local governments have strong incentives to develop their real estate markets
16 because of the importance assigned to this sector at the central level, the preferential
17 treatment provided in loans and subsidies, along with fiscal arrangements that grant
18 local governments’ key responsibilities in providing social services but without suffi-
19 cient fiscal resources. In addition to the large contribution made by the real estate
20 sector to the local GDP growth, the local government has an extra incentive to
21 promote its development: its revenue generating capacity. In addition to tax revenues
22 comparable with those made by other sectors, the local governments also have *de*
23 *facto* ownership over urban land, a prerequisite for any real estate development.
24 Local governments thus can obtain a substantial amount of revenue from selling use
25 rights of land to real estate developers—especially when the price is high.

26 **3. Data and Patterns of Standing Committee Membership**

27
28 We manually collected detailed annual information on SC members in all Chinese
29 provinces between 1997 and 2011.⁵ Based on SC members’ names, we compute the
30 percentage of SC members that are new as follows:

31
32
$$New\ SC_{it} = \frac{\text{number of new SC members}_{i,t}}{\text{number of SC members}_{i,t-1}}. \quad (1)$$

33

34 Here the numerator is the number of new SC members who joined the SC in year t in
35 province i , and the denominator is the total number of SC members in year $t - 1$.

36 The other main data source relating to the housing industry and many other
37 regional variables is the *Sixty Years’ Compendium of Chinese Statistics*. We chose
38 1997–2011 as our sample period because 1997 was the year when the current adminis-
39 trative divisions took shape.

40 The time path of the ratio of new SC members is largely determined by political
41 factors. First, the timing of appointments of new SC members closely follows the
42 central political cycle. The largest number of new appointments to the provincial CCP
43 standing committee is made in the year prior to or in the same year as the beginning
44 of a new Politburo term. The appointment process then slows down drastically, con-
45 sisting of mostly retirement replacements or unexpected moves necessitated by cor-
46 ruption investigations and other rare events, until the arrival of the next term of the
47 central Politburo. Second, the timing of the appointment of SC members is closely



1 related to the appointment of the local party secretary. Most of the SC members are
2 appointed in the first year of the party secretary's tenure. The highest frequency of SC
3 member changes occurs in the fifth year during the party secretary's tenure, the begin-
4 ning years of the Chinese government's five-year term, when old party secretaries are
5 reappointed or new ones assigned. Relatedly, while the new SC member ratio is posi-
6 tively and significantly correlated with the change of party secretary at the same level
7 (with a correlation coefficient of 0.12 and significant at the 1% level), it is not signifi-
8 cantly correlated with that of the provincial governor.

9 Another factor that affects the new SC member ratio is the age structure of the pre-
10 vious SC session in the same region. Following the strictly enforced mandatory retire-
11 ment age rule in Chinese politics, provincial leaders retire at the age of 60. As a result,
12 the percentage of members older than 59 is a good predictor of the new SC member
13 ratio in the following year. Indeed, the correlation coefficient between the new SC
14 member ratio and the proportion of SC members older than 59 in the previous year is
15 0.32, large and statistically significant.

16 While there are substantial variations across regions in the new SC member ratio,
17 such variations are not correlated with either the regional GDP per capita or GDP
18 growth rate. To see this, we perform a regression that relates the provincial new SC
19 member ratio on provincial fixed effects and year fixed effects. The estimates of the
20 provincial fixed effects then represent the average level of the new SC member ratio
21 across provinces. We find no apparent correlation between the estimated average new
22 SC member ratio and the GDP per capita level at the locality. Neither do we find that
23 the new SC member ratio and the GDP growth rate are correlated.⁶

25 **4. Hypotheses and Empirical Analysis**

26 *Hypotheses*

27
28 The real estate sector became increasingly important as the central government tried
29 to strengthen its fiscal capacity. While reversing the trend of declining share of total
30 tax revenues collected by the central government, the 1994 tax reforms yielded an
31 unfortunate consequence: the local government faced a mismatch of fiscal revenues
32 and fiscal responsibilities, i.e. local governments remained responsible for basic social
33 services, but the new tax system did not give them sufficient tax revenue for such
34 responsibilities. Local governments were thus forced to self-finance the gap, by
35 increasingly relying on land revenue and tax revenues from the real estate sector,
36 including selling land use rights for revenues. As a result, land-sales revenue had
37 become an important part of local fiscal revenue: the total land-related revenue in
38 China had increased from less than 10% to 55% of tax revenue between 1999 and
39 2004 (Ding, 2007).

40 Besides helping the financing of local public goods, real estate development has
41 been favored by local leaders for another reason. The promotion of real estate devel-
42 opment is the most effective way of quickly growing the local GDP, both directly
43 through the growth of the real estate sector itself and indirectly through the linkage
44 effects on other related sectors.⁷

45 How does the ushering in of new members to the local standing committee affect
46 real estate development? As discussed above, local leaders, in their quest for career
47 advancement and promotion, face strong incentives for obtaining more fiscal rev-
48 enues. Several features associated with new members of the SC imply that a SC

1 staffed with more new members tends to push more vigorously for the central govern-
2 ment's agenda including quick increases in fiscal revenue.

3 First, a SC staffed with more new members resembles the scenario of more
4 **6** National Basketball Association (NBA) rookies sitting on the bench vying for a fixed
5 playing time—more members without a track record at the SC level would compete
6 vigorously to demonstrate their capacity and loyalty. As these rookies have fewer
7 local accomplishments to show, the need to demonstrate their competence would
8 induce them to take new initiatives that satisfy the upper government's needs, espe-
9 cially those projects that engender quick results. We call this “the empty plate effect”.

10 Relatedly, the reward at this round of the tournament is particularly great. Rising
11 up from being an average SC member to the next level—say, a SC member and the
12 governor—implies a big step toward the center of power. Such a huge power boost
13 would generate strong motivation (Kung and Chen, 2011).⁸ We call this effect “the
14 tournament reward effect”.

15 In addition, tax revenues generated through land sales are at the discretion of the
16 local government, and can provide the financial resources to garner local support,
17 which is needed by newcomers to the local leadership. Such revenues allow the local
18 government to satisfy basic social services, and to ensure social stability, a key task
19 that the central government values. More local revenues also imply that local offi-
20 cials have resources for their pet projects, often in infrastructure. More infrastruc-
21 ture construction also facilitates the collection of bribes owing to the large profit
22 margins for developers and the small number of players involved. We dub the extra
23 benefits of direct control of resources from land-sale revenues as “the resource
24 control effect”.

25 Another key consideration is career concern. New members tend to be younger,
26 typically newly promoted from lower-level positions. Indeed, the average age of new
27 SC members is slightly above 53 in our sample, while that of existing SC members is
28 close to 55. The new SC members therefore have longer careers ahead, and hard work
29 and consequent achievements at the earlier stage have a longer horizon to bear fruits.
30 Career concerns naturally induce them to work harder and more efficiently towards
31 goals that the central government cares about such as revenues, local growth, and
32 social stability. We call this “the career concern effect”.

33 All these effects induce new SC members to deliver what the upper government
34 needs. Having more new SC members in the local SC thus has straightforward impli-
35 cations for the local real estate market. More new SC members lead to a more vigor-
36 ous pursuit for expanding fiscal revenue through developing the real estate market.
37 Presumably the local government can also develop manufacturing and services for
38 more taxes and faster growth, but such development is more demanding: the local
39 government does not have all the necessary instruments to develop them. For
40 instance, private and foreign capital flow does not follow the order of the local gov-
41 ernment. Moreover, it takes longer to develop the manufacturing sector. Hence, local
42 leaders naturally turn more of their energy and resources to developing the real estate
43 sector, a sector that bear fruits quickly and for which they have direct instruments to
44 control (i.e. land sales). Our first hypothesis is thus the following:

45 *H1: In locations with a larger share of new SC members, the housing sales in the local-*
46 *ity will account for a larger fraction of the regional GDP.*

47 How would the incentives of new SC members to develop the real estate sector affect
48 manufacturing growth in particular and the aggregate economy in general? Given
49 the limited amount of energy and financial resources, when more focus is placed on



the real estate sector, less is available for manufacturing. There is thus likely an adverse effect on manufacturing growth. Moreover, with the strong development of the real estate sector, many firms will devote their effort to the real estate sector rather than innovation or improving competitiveness in their key areas. Indeed, many large Chinese firms invest heavily in real estate. Since such diversion of efforts by firms would hurt their competitiveness and there is limited urban land to be developed, we expect to see a tendency toward lower GDP growth in the long run. Finally, as the positive effect on the real estate sector partly offsets the negative effect on manufacturing, the effect of new SC members on aggregate indicators would be weaker than that on manufacturing. We thus have the second hypothesis:

H2: *A higher new SC member ratio in SC, via a stronger orientation toward the real estate sector, causes lower GDP level and growth as well as lower manufacturing growth, and the effect on manufacturing should be stronger than that on GDP.*

Empirical Specifications and Baseline Results

In our benchmark estimation, the dependent variable is the housing sales/GDP ratio, and the specification is as follows:

$$\frac{\text{Housing Sales}_{it}}{\text{GDP}_{it}} = \alpha_1 \text{New SC}_{i,t-1} + \theta_1' X_{i,t-1} + u_i + v_t + \varepsilon_{1,it} \quad (1)$$

Here $\text{New SC}_{i,t-1}$ is the lagged new SC member ratio in province i , X_{it} is a set of control variables at the provincial level, while u_i and v_t are province and year fixed effects. The control variables, including GDP per capita, population density, proxies of economic structure and the share of state-owned enterprises in the economy (all lagged by one year), are used to capture the demand and supply for local housing, while province and time fixed effects to control for other local land supply and province-specific factors. To allow for heteroskedasticity and potential auto-correlation of the error term within a province to avoid overstating estimation precision, we cluster the standard errors at the province level while correcting for heteroskedasticity.⁹

Table 1 presents the estimation results of equation (1). In the benchmark specification in column (1), $\text{New SC}_{i,t-1}$ is positively and significantly correlated with the housing sales/GDP ratio in the current year, even after controlling for various local characteristics as well as province and year fixed effects. For a 23 percentage point increase in $\text{New SC}_{i,t-1}$ (i.e. one standard deviation across the provinces), the corresponding rise is one percentage point in the housing sales/GDP ratio, which is about 6% of the corresponding standard deviation.

In column (2), we in addition include the dummy of local party secretary turnover (lagged by one year). Column (3) controls for corruption level of each province, using the number of corruption cases per capita as the corruption measure.¹⁰ Column (4) adds the age structure and the dependency ratio to capture additional effects of the population structure, which may affect housing demand. Column (5) takes the growth rate of urbanization into consideration (i.e. the growth rate of city population share) as urbanization may directly affect housing demand. Finally, in column (6), we further explore the robustness of our results when political cycles are taken into account, by including the government change dummy along with a whole set of political cycle dummies. All the estimations yield similar results for the effect of the new SC member ratio on the housing sales/GDP ratio.¹¹

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Table 1. Effects of New SC Member Ratio on Housing Sales/GDP

	(1)	(2)	(3)	(4)	(5)	(6)
New SC _{t-1}	0.0449** (0.0197)	0.0447** (0.0203)	0.0434** (0.0191)	0.0437** (0.0196)	0.0502** (0.0206)	0.0409** (0.0185)
Secretary Change _{t-1}		0.0009 (0.0089)				
Corruption _{t-1} (cases ratio)			0.0034 (0.0143)			
Population Structure _{t-1} : >65				-5.4395 (4.2381)		
Dependency Ratio _{t-1}				4.4813 (3.0043)		
Growth Rate of Urbanization _{t-1}					0.0012* (0.0007)	
Gov Change Year Dummy _{t-1}						-0.0382*** (0.0101)
1 year after Gov Change _{t-1}						-0.0146 (0.0175)
2 year after Gov Change _{t-1}						0.0050 (0.0221)
3 year after Gov Change _{t-1}						0.0021 (0.0040)
Base controls	Yes	Yes	Yes	Yes	Yes	Yes
Provincial FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	337	337	293	336	304	337
R ²	0.488	0.488	0.488	0.496	0.477	0.469

Notes: Robust standard errors are clustered at the province level in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. Base controls include: Population Density_{t-1}, Primary Output/GDP_{t-1}, Secondary Output/GDP_{t-1}, Transportation_{t-1}, and state owned enterprises' (SOEs') Output Ratio_{t-1}.

Endogeneity Concern

If the measures of housing sector development are serially correlated, we would face the specter of reverse causality. In addition, housing sales over GDP and new SC member ratio could both be correlated with some other unobserved local characteristics. Both concerns above suggest that the ordinary least squares (OLS) estimates may be biased. To deal with the potential endogeneity of new SC, we adopt two approaches.

First, we use the Granger causality test to examine whether the new SC member ratio Granger-causes the housing market boom, in which case the lagged term of new SC member ratio should matter in determining housing sales. On the other hand, housing sales should not Granger-cause the new SC member ratio. If both cases hold, it is likely that the causality runs only from the new SC member ratio to housing sales/GDP. We find that the new SC member ratio Granger-causes housing sales/GDP, but not vice versa.¹²

Second, we deal with endogeneity with the instrumental variable approach, using as the instrument the proportion of the provincial SC members 59 years old or older in the previous year (SC59_{t-1}). As discussed earlier, SC59_{t-1} is significantly correlated



1 with the new SC member ratio in the current year, thus satisfying the relevance cri-
2 terion for a good instrumental variable. The reason for relevancy hinges on the
3 bureaucratic rule that provincial leaders have to retire at the age of 60, implying that a
4 larger $SC59_{t-1}$ leads to more SC openings this year, for which new members will have
5 to be filled. In addition, $SC59_{t-1}$ is unlikely to have any direct effect on local housing
6 development in the current year. Hence, the excludability condition is likely satisfied.

7 Column (1) of Table 2 presents the estimation results using the instrumental vari-
8 able (IV) approach, where the estimated coefficient of new SC member ratio remains
9 positive and marginally significant. The first stage test statistics support the choice of
10 the IV, as shown by the high F -statistics for the IV. Moreover, we observe a larger
11 positive correlation between the new SC member ratio and the housing sales/GDP
12 ratio once the IV estimation is used, suggesting that the OLS estimates are biased
13 downward.¹³

14 15 *Challenges to Exclusion Restrictions*

16 Our IV estimation rests on the exclusion restriction that the proportion of the provin-
17 cial SC members 59 years old or older in the previous year (i.e. $SC59_{t-1}$) does not
18 directly affect housing development. But this exclusion restriction may be violated if
19 the following scenario is true. A larger $SC59_{t-1}$ can imply stronger incentives for bribes
20 that hinge on developing the real estate sector, thus $SC59_{t-1}$ could directly affect
21 incentives for housing development. We deal with this scenario by directly controlling
22 for the average age of the SC members, then instrumenting the new SC ratio by
23 $SC59_{t-1}$.¹⁴ Estimation results are given in column (2) of Table 2, which again show
24 positive and significant effects of new SC member ratio on the housing sales/GDP
25 ratio. The average SC age is not significant, suggesting that older SC members do not
26 have higher incentives for real estate development.¹⁵

27 A further concern is that a potential omitted variable (in the real estate develop-
28 ment equation) is corruption in the real estate sector, which may be correlated with
29 the new SC ratio.¹⁶ To examine this possibility, in column (3) of Table 2, we directly
30 control for the logarithm of average area of land involved per illegal land usage case
31 (once-lagged), a proxy of corruption intensity in the real estate sector. The results
32 from two-stage least squares (2SLS) estimation again indicate a significant effect of
33 lagged new SC ratio on current real estate development.

34 A final concern also relates to omitted variables, in particular, characteristic of provin-
35 cial governors and party secretaries. The concern is that the new SC ratio may be
36 related to particular types of party secretary; or alternatively, governors may have
37 direct responsibilities for local economic affairs, and their characteristics would be
38 more relevant to control for than those of party secretaries. To address this concern,
39 we control for governor fixed effects and governor age, and party secretary fixed
40 effect and his age. The 2SLS results in column (4) of Table 2 show that new SC ratio is
41 positive and statistically significant at the 1% level.

42 43 *The New SC Member Ratio, Manufacturing Growth, GDP Growth and GDP 44 Per Capita*

45 Columns (5)–(7) of Table 2 test how the new SC member ratio affects the growth rate
46 of manufacturing output, GDP growth rate and GDP per capita. We report the
47 results using IV estimations, with the same IV as before.

Table 2. Effects of new SC member: the Granger Test and 2SLS Results

	(1) Housing sales/GDP	(2) Housing sales/GDP	(3) Housing sales/GDP	(4) Housing sales/GDP	(5) Growth rate of manufacturing output	(6) GDP growth rate	(7) GDP per capita
New SC ₋₁	0.2796* (0.1662)	0.2732* (0.1596)	0.2402* (0.1433)	0.0493** (0.0224)	-0.0801* (0.0472)	-0.0194 (0.012)	-0.0291* (0.0172)
Secretary Change ₋₁	-0.016 (0.0169)	-0.0079 (0.0141)	0.0081 (0.0142)	0.0183*** (0.006)			
SC average age ₋₁		0.0111 (0.0147)			0.0025 (0.0112)	0.0015 (0.0022)	0.0054* (0.0029)
log(avg area involved per illegal land usage cases) ₋₁			0.013 (0.0183)				
Secretary age controlled		No	No	Yes	No	No	No
Secretary fixed effect		No	No	Yes	No	No	No
Governor age controlled		No	No	Yes	No	No	No
Governor fixed effect		No	No	Yes	No	No	No
Base controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Provincial FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	337	337	278	277	308	339	339
R ²	0.298	0.366	0.369	0.942	0.683	0.62	0.997
Cragg-Donald Wald F	37.83	13.07	31.39	31.34	8.73	8.77	7.29
Anderson-Canon.LM	14.88	13.54	12.30	51.28	17.50	17.63	14.84
Number of Groups	31	31	31	31	31	31	31

Notes: Robust standard errors are clustered at the province level in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; Base controls include Population density₋₁, GDP per capita₋₁, Primary output/GDP₋₁, Secondary output/GDP₋₁, Transportation₋₁, and SOEs' output ratio₋₁. The instrumental variable for the 2SLS estimation is the ratio of SC members over 59 in the previous year.



1 A higher new SC member ratio is correlated with a lower growth rate of manufactur-
2 ing output, a lower regional GDP growth rate (statistically insignificant, with a
3 t -value of 1.62), and a lower GDP per capita. Along with our earlier findings, these
4 results suggest that, as local leaders focus more on the real estate sector, economic
5 outcomes that need more long-term investment and effort are neglected. The nega-
6 tive effect on manufacturing growth outweighs the positive effect on housing develop-
7 ment such that the overall effects on GDP per capita and GDP growth are negative.
8 Indeed, as we conjectured, the results on aggregate GDP growth are weaker than for
9 manufacturing owing to the partial cancellation between the positive effect on the
10 real estate sector and the negative one on manufacturing. The results in columns (5)–
11 (7) are a testament to the large negative consequence of strong career incentives of
12 new SC members and the over-emphasis on fiscal revenues at the expense of more
13 encompassing welfare measures such as GDP growth and GDP per capita.

15 5. Conclusions

16 We find that regions with more new SC members and thus stronger career incentives
17 have a higher housing sales/local GDP ratio. Strikingly, a higher share of new SC
18 members is also negatively associated with manufacturing growth and GDP per
19 capita, implying that the over-emphasis on the real estate growth may have hindered
20 more difficult economic goals such as the development of the manufacturing sector
21 and the overall economy. Our results suggest that collective leadership through the
22 standing committee of the Communist Party has strong implications for local eco-
23 nomic performance, and research on political economy of China should devote more
24 attention to the workings of standing committees of the governing Party.

26 References

- 27 Bueno de Mesquita, B., A. Smith, R. Siverson, and J. D. Morrow, *The Logic of Political Sur-*
28 *vival*, Cambridge, MA: MIT Press (2003).
- 29 Ding, C. R., “Policy and Praxis of Land Acquisition in China,” *Land Use Policy* 24 (2007):1–13.
- 30 Gandhi, J. and A. Przeworski, “Authoritarian Institutions and the Survival of Autocrats,”
31 *Comparative Political Studies* 40 (2007):1279–301.
- 32 Gehlbach, S. and P. Keefer, “Investment without Democracy: Ruling-party Institutionalization
33 and Credible Commitment in Autocracies,” *Journal of Comparative Economics* 39
34 (2011):123–39.
- 35 Kung, J. K. and S. Chen, “The Tragedy of the Nomenklatura: Career Incentives and Political
36 Radicalism during Chinese Great Leap Famine,” *American Political Science Review* 105
37 (2011):27–45.
- 38 Landry, P. F., *Decentralized Authoritarianism in China: The Communist Party’s Control of*
39 *Local Elites in the Post-Mao Era*, Cambridge: Cambridge University Press (2008).
- 40 Li, H. B. and L. A. Zhou, “Political Turnover and Economic Performance: The Incentive Role
41 of Personnel Control in China,” *Journal of Public Economics* 89 (2005):1743–62.
- 42 Maskin, E., Y. Y. Qian, and C.G. Xu, “Incentives, Information, and Organizational Form,”
43 *Review of Economic Study* 67 (2000):359–78.
- 44 McGregor, R., *The Party: The Secret World of China’s Communist Rulers*, New York: Harper
45 Collins (2010).
- 46 Shih, V., C. Adolph, and M. Liu, “Getting Ahead in the Communist Party: Explaining the
47 Advancement of Central Committee Members in China,” *American Political Science Review*
48 106 (2012):166–87.

Notes

1. The standing committee was installed to have collective leadership in order to avoid dangers caused by overly concentrated power within one leader's hands, as in the tragic era of Mao.
2. For studies on how non-democratic countries work, see, for instance, Bueno de Mesquita et al. (2003), Gehlbach and Keefer (2011), Kung and Chen (2011) and Shih et al. (2012).
3. The detailed analysis of government leaders below the very top is important not only for China, but also for other transitional countries such as Vietnam, which have similar political structures.
4. The calculation is based on the Chinese Household Finance Survey of 2011.
5. Our main data source is the name list of the SC members for all provinces and provincial-level cities for each year from a subscription-required website: *Military and Politics Online*.
6. To further check whether any other economic factors are correlated with new SC, we conduct a regression using the new SC member ratio as the dependent variable and as explanatory variables basic regional characteristics such as GDP per capita level and its growth, population and density, measures of economic structure, as well as provincial fixed effects and year fixed effects. We find no correlations between any of the economic variables and the local new SC member ratio.
7. In addition, some believe that the development of the real estate sector facilitates collection of bribes by government officials. In particular, land sales to developers always entail a large transactional value and a large potential for profits by developers, with few players involved. As a result, developers have a high willingness to pay bribes, while the small number of players involved makes maintaining secrets easier, both conditions facilitating corruption in this sector.
8. Indeed, this is similar to the argument of Kung and Chen (2011), which suggests that alternate Central Committee members of the CCP had stronger career incentives than full Central Committee members because the probability of further promotion is much higher than the full member group (which can only rise to a membership of the politburo, a very difficult step owing to its small size), and such stronger career incentives led to more radical economic policies to procure grains to please Mao's desire for rapid industrialization at a time of a great famine during the Great Leap Forward era, causing larger mortality rates in their localities.
9. A concern is that we rely on provincial data for our estimation. A natural context to investigate the effect of SC structure on housing development is to use city level data, at which level housing development was directly administered. Our adoption of the provincial level data is due to two reasons. First, only provincial level data are available for relatively comprehensive coverage of housing development and SC structure. Second, provincial variations are likely sufficient to test our story under plausible conditions. To begin with, career incentives of provincial leaders can be transmitted to lower-level government officials simply by command—that is, if provincial leadership wants a stronger real estate sector, provincial leaders would design incentives so that prefecture leaders would emphasize this sector. Furthermore, SC members can affect the composition of lower-level government officials in order to address their career concerns. So even though provincial governments do not own land directly, they can affect behaviors of lower-level governments simply by command and by official appointments. Once the data are aggregated to the provincial level, we should see the same pattern as if the provincial government is directly in charge of real estate development.
10. We also tried including a marketization index to measure the degree of market development and the relationship between government and market, with the results virtually unchanged.
11. Our finding of a positive association between the new SC member ratio and real estate development also implies that real estate development is not mainly motivated for corruption incentives of local government officials. Indeed, the real estate development for corruption view implies that a province with a higher new SC member ratio should have lower real estate development. That is, more new SC members imply a longer career horizon and a heightened fear of the consequence of being caught for corruption, and thus have lower incentives for real estate development (if this is mainly used for corruption).



- 1 12. The results are not reported in any table (owing to space limitations) but are available
- 2 upon request.
- 3 13. Note that estimation precision is reduced with the IV estimation. This is not surprising
- 4 since the instrumental approach tends to increase the standard errors of estimates.
- 5 14. As the average age of SC members may also be endogeneous, we use two IVs, the percent-
- 6 age of SC members that are 59 or older and the average age of SC members, both twice-lagged.
- 7 15. Another challenge to the exclusion restriction is that the central government adjusts the SC
- 8 composition based on economic performance, again making the new SC ratio endogenous. This
- 9 concern is unlikely to be important. We have shown that the new SC ratio is unrelated to eco-
- 10 nomic performance in general and that neither current nor lagged economic performance
- 11 measures are significant in predicting new SC ratio. We thus view the scenario of the central
- 12 government endogenously adjusting the SC structure based on economic performance as
- 13 implausible.
- 14 16. For instance, corruption in this sector may cause political scandals and replacements of SC
- 15 members and may also directly affect the development of the real estate sector.

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