Summer 2016

Taming factions in the Chinese Communist party

Yang Zhang
University of Iowa

TAMING FACTIONS IN THE CHINESE COMMUNIST PARTY

by

Yang Zhang

A thesis submitted in partial fulfillment
of the requirements for the Doctor of Philosophy
degree in Political Science in the
Graduate College of
The University of Iowa

August 2016

Thesis Supervisor: Professor Wenfang Tang

Graduate College
The University of Iowa
Iowa City, Iowa

CERTIFICATE OF APPROVAL

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PH.D. THESIS

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This is to certify that the Ph.D. thesis of

Yang Zhang

has been approved by the Examining Committee for
the thesis requirement for the Doctor of Philosophy degree
in Political Science at the August 2016 graduation.

Thesis Committee: _____
Wenfang Tang, Thesis Supervisor

_____
Frederick J. Boehmke

_____
Caroline J. Tolbert

_____
Frederick Solt

_____
Kang Zhao

ABSTRACT

How does the Chinese Communist Party tame factions from breaking it apart? Relying on thousands of biographies, the dissertation attempts to uncover the complex network of Chinese political elites and investigate how institutions constrain the expansion of factions.

First, it finds that the rule of avoidance has been effectively implemented. Native provincial officials are often assigned with secondary party positions, especially so in deeply indebted provinces that are heavily reliant on the central government for fiscal transfer. Second, the centralization of the disciplinary inspection system helps maintain the momentum of the anticorruption campaign since the 2012 leadership succession. Compared to native officials, the officials who were transferred from a different province or a central government agency are likely to investigate much more corrupt party cadres in their jurisdictions. Third, when it comes to promotions of provincial party secretaries, many performance-based criteria appear to be less important than factional ties. Good economic performance such as fast GDP growth does not increase a provincial party secretary's odds to join the Politburo. However, the effects of factional ties are mixed. For example, family ties to a top party leader greatly increase the likelihood of promotion, but college ties disadvantage the candidates. Finally, the dissertation shows that network centrality in the Central Committee is a strong predictor of the outcomes of the Politburo turnover. The network centrality is positively associated with party seniority, but due to the age limits, it cannot grow without a ceiling.

PUBLIC ABSTRACT

Factional conflicts almost wiped out the nascent Chinese Communist Party and Mao's dictatorship led to a series of disastrous policies. In 1980s, drawing on past failures, along with economic reforms the party started to take a road of political institutionalization. My thesis examines how the party uses institutions as a weapon to prevent any faction from seizing dominant power.

It first looks at provincial governments and finds that the rule of avoidance has been effectively enforced. This informal rule requires that officials should not be assigned to key government posts in their hometowns. To further consolidate the rule of avoidance, in 2015 the party centralized the appointment of provincial anticorruption leaders. As a result, more and more non-native officials are transferred to lead anticorruption in Chinese provinces, which keeps the momentum of the ongoing severe anticorruption campaign.

My thesis then focuses on the leadership succession of the Politburo, the top party institution. A handful of provincial party leaders are able to join the Politburo, which largely depends on factional ties rather than provincial economic performance such as GDP growth. However, the impacts of factional ties are mixed. For example, family ties greatly increase the chance of promotion, but college ties disadvantage the candidates. Moreover, the officials who are at the most central positions in the network of political elites are most likely to become Politburo members. Such network centrality depends on party seniority, and due to the age limits on retirement, it cannot keep increasing forever.

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CHAPTER 1: INTRODUCTION

Right after the leadership transition in China in 2012, Xi Jinping, the new general secretary of the Chinese Communist Party (CCP) initiated a far reaching anticorruption campaign, which has been carried out in a hard-headed fashion till today. It is credible that Xi Jinping is genuinely concerned with deep and widespread corruption in China, which is dangerous to the party's legitimacy. However, the anticorruption campaign can also bring the new party general secretary some personal benefits by increasing his public support and weakening rival factions. One slogan of the anticorruption campaign is "Swatting Flies and Slaying Tigers". Both strategies have received positive response from the public, but fighting "tigers" (ministry-level officials), in many cases, also revealed intense elite contention in the party.

Into 2014 the anticorruption campaign reached a new level: Zhou Yongkang, a former Politburo Standing Committee member and the chief of all internal security forces, was arrested for corruption and abuse of power. This event broke a post-Mao norm that retired Politburo Standing Committee members should be exempted from legal investigations. The investigation of Zhou Yongkang was stepwise—it targeted first on some businessmen and middle-level officials indirectly connected to him, then his close protégées in PetroChina, Sichuan province and the Ministry of Public Security, and eventually the patron himself (Keller and Wang, 2016). Similar procedures were adopted to investigate Bo Xilai, Xu Caihou, and Ling Jihua, the other three members of the "New Gang of Four" who allegedly plotted to overturn the plan of leadership succession agreed on by senior party leaders years before the 2012 leadership succession.

Despite these purges, the party's institutions—such as national party congresses, regular Politburo meetings and cadre promotion rules—remain largely unaffected. Once the political rivals are cleaned, the leadership under Xi Jinping may continue on a road of institutionalization (Li 2014). In fact, some institutional reforms have been carried out recently to centralize the party's disciplinary inspection system. For instance, in 2015, provincial and local party committees lost their control over the appointment of secretaries and deputy secretaries of disciplinary inspection commissions, who are now directly appointed by the disciplinary inspection commission at a higher level.

The recent political developments in China as well as new data and methods elicited a new round of debate on factions and institutions in Chinese elite politics (Shih 2016). More and more researchers have come to realize that factions and institutions do not independently affect important outcomes in Chinese politics, but they interact in complex ways. On the one hand, institutions set the rules of political games and constrain factions' choices of strategies (Ma 2016). On the other hand, institutions in an authoritarian regime is often malleable, and institutional reforms can be utilized by a faction to change the game in its favor (Wang and Vangeli, 2016). The dissertation project accords with the view that factions and institutions are interdependent. It particular, it will focus on how institutions limit the formation and growth of factions at the provincial level and the central level and how institutions reduce the influence of factions on important political activities such as promotions and anticorruption investigations.

Traditionally, studies of Chinese elite politics rely on qualitative research approaches such as interviews, case studies, and archival and historical analysis. Such studies excel in illustrating the processes and uncovering the causal mechanisms of complicated political events. But a problem is that conclusions from qualitative empirical evidence are heavily dependent on

researchers' personal interpretations, which in most cases are not replicable (Shih 2016). In recent years, several large data sets of Chinese political elites have been created by quantifying biographies of many high-ranking officials in China. These data sets make it possible to systematically study elites in the party (Shih, Shan and Liu 2008; Ma et al.), the national legislature (Truex 2014), and economic sectors (Wang and Zhang). They also encourage methodological innovations in the study of Chinese elite politics. In particular, various metrics and techniques in network analysis have been applied to studying political networks of party leaders (Keller 2016). The dissertation project is motivated by recent advancements in elite politics studies. It expands the previous elite data sets by collecting biographies of provincial high-ranking officials and recent Central Committee members. It utilizes measurements of factions in social network analysis and tests some hypotheses of Chinese elite politics with statistical models.

Factions and Institutions in Chinese Elite Politics

The Factionalist Logic

Factions are a core concept in the literature of Chinese elite politics. As Lucian Pye (1981, p.7) put it, factions are "linkage networks that extend upward in support of particular leaders who are, in turn, looking for followers to ensure their power." Andrew Nathan (1973) identified seven basic features of factions: (1) a faction involves two sides, a leader and a follower; (2) the leader often recruits followers from his social network; (3) a factional relationship is a special form of social exchange; (4) the leader and follower are unequal in status, wealth, or power; (5) the rights and duties of each side are clearly specified; (6) the

factional relation can be abrogated by either side; and (7) a few simple factions can form a complex faction, whose structure resembles a tree.

Nathan's (1973) factionalism model was based on his observation of the Cultural Revolution, where political factions took relatively defensive rather than aggressive actions against their rivals through the party and ideological apparatuses, and they refrained from using extreme punishment on the defeated leaders as Stalin did in the Great Purge. Nathan further argued that factionalism prevailed in the central government, reached provinces and government departments, but ceased to exist in local governments. This point corresponds with what China scholars find today (Landry and Lu 2014). For instance, factional ties play a significant role in promotions of provincial party leaders (Shih, Adolph, and Liu 2012), but play a much less important role than economic performance in promotions of mayors (Landry 2008).

Nathan's (1973) view of the Chinese factionalist system is moderate. As he suggested, the size of a faction is limited because it is difficult to coordinate a very big faction and continuous expansion will eventually collapse the faction into a few smaller parts. Factions help maintain a balance of power among different political forces in China, and policies often change in response to factional conflicts. Some scholars continued to take this moderate view of factionalism to study the post-Mao China. Dittmer and Wu (1995) found that in the early stage of the economic reform, the cycle of inflation and economic growth closely followed the rise and fall of two factions, one of which emphasized on economic prosperity and the other on social stability. By analyzing the financial system in China between 1987 and 2006, Shih (2008) found that although the allocation of capital was not largely driven by the market, inflation was successfully put under control. Shih explained this interesting phenomenon from the perspective of factionalism. The generalist faction has a broader base including provincial leaders, while the

technocratic faction is rooted in the central government. Inflation is likely to occur when the generalist faction gains power, because provinces tend to increase local economic growth by more lending. Although the generalist faction prefers financial decentralization, during economic crisis it is willing to delegate financial control to the technocratic faction because curbing inflation is in the interest of the technocratic faction.

In contrast to Nathan, Tang Tsou's (1995) factionalism model is a zero-sum game, a game of winning all or losing all. As he argued, a balance among factions rarely persists, and its disruption often results in political chaos; instead, a hierarchical factionalist system is more likely to persist, where one faction defeats the others, and takes away all the political resources. Tsou (1995), however, also prescribed a solution to creating a stable political system that allows a balance among factions, that is, institutionalization. In order to shore up political survival, the party attempts to institutionalize the leadership succession (Nathan 2003; Shirk 1993), and allows certain rank-and-file party members to participate in the election of Central Committee members. Although such an effort is limited in improving democracy at the public level, it facilitates political discussion and deliberation among different faction leaders.

Tsou (1995) pointed out that factionalism represents a leader-follower relationship, but some horizontal relations are also crucial building blocks of Chinese politics. For a common goal, politicians may form a clique, but they are equal in status and power. China is a Confucian society where strong interpersonal trust is enjoyed only by family members and acquaintances, but does not extend to strangers (Delhey, Newton & Welzel 2011). The Confucian tradition has a large effect on Chinese politics via the bonding of social ties (*guanxi*) (Pye 1995). By examining the fourth generation of Chinese leaders, Li (2001) identified five venues of social ties that unite faction members—family, birthplace, college, work experience, and the position of personal

secretary to a senior party leader. Social ties on the basis of family, birthplace, or college are often horizontal and do not necessarily create a hierarchical relationship. Job ties can be horizontal or vertical because the two sides may consist of equal-ranking colleagues or a boss and a subordinate. And obviously, a personal secretary has lower status than his boss, and their tie is always vertical. Some scholars found that factions become increasingly dependent on common work experience in specialized bureaucracies (Huang 2008, p.84).

The Institutionalist Logic

Another theoretical strand in the literature of Chinese elite politics is intuitionalism. Institutions are a set of established rules that constrain actors' strategies (North 1990). Formal institutions include written constitution, laws, and regulations, and informal institutions include norms, customs, and cultural beliefs. When the chaotic Cultural Revolution ended in late 1970s, China started to pursue a road of institutionalization, especially in the realm of economy. A number of regulations and laws have been issued, aimed at curbing corruption and creating a fair environment for business activities (Lubman 1999; Yang 2004; Wang 2015).

The party has also put in place a series of measures to institutionalize the Chinese political system. In 1988 the Organization Law of Villagers' Committee[1] was issued, allowing villagers to directly elect village government officials (Shi 1999). And experiments of township-level elections were conducted in multiple localities (Fewsmith 2013). At the provincial and central levels, the party promoted intra-party democratic procedures to let more party members to participate in the cadre selection process. One example is the election of the members of the Central Committee, the top party institution. The election is semi-competitive: the voters are

[1] 《村民委员会组织法》

about 2000 party delegates with diverse backgrounds, and there are less seats than candidates, though the gap is quite small. There are two types of Central Committee members—alternate members and full members. On the official list available to the public, full members are ranked in the order of name, but interestingly, alternate members are ranked based on the number of votes they received. One rule in the Party Constitution is that if a position of full Central Committee membership is vacated in between elections, it should be filled by the alternate member of the highest ranking. Such institutions decentralize power and prevent a single party leader from becoming a dictator. They also provide channels for power sharing and enable rival factions to resolve conflicts in a peaceful way (Svolik 2012).

A number of studies have focused on cadre promotions in the party and uncovered a set of critical selection criteria. The performance-based criteria make party leaders difficult to promote their protégés at will, and at least the incompetent protégés are filtered out in the screening process. Moreover, age limits prohibit party leaders from staying in power forever. In 1978, the party shifted its fundamental mission from class struggle to economic development, and economic performance became a major criterion for promotions (Nathan 2003; Shirk 1993). Higher GDP growth substantially increases the chance of promotion for county officials (Guo 2007), mayors (Landry 2008), and provincial leaders (Chen, Li & Zhou 2005; Choi 2012). And in return, such a criterion creates a strong incentive for provincial and local officials to focus on economic development (Li and Zhou 2005). Additionally, there is a specific upper limit on age for promotion at each level (Li 2012). For example, Politburo membership is subject to a norm called “seven up, eight down”: only Central Committee members who are 67 years old or younger can get elected or reelected into the Politburo. Similarly, a norm called “three up, four down” applies to Central Committee membership that 63 is the age threshold. Institutions make

Chinese leadership succession predictable. In the leading up to the actual succession in 2012, it was apparent that Xi Jinping was chosen to be the party's new leader. The party makes sure that the heir is familiar with party general secretary's core duties by assigning him to some important positions in the party and military (Wang and Vangeli 2016).

Social Network Data and Analysis

Social network analysis is a proper tool to explore how people are connected. Political scientists have utilized this tool to study a variety of political processes and outcomes, such as voting (Campbell 2013; Heckfeldt and Sprague 1987; Lazarsfeld, Berelson and Gaudet 1968; Sinclair 2012), legislation (Fowler 2006), policy making (Knoke 1994, chapter 6), ethnic violence (Varshney 2003), international disputes (Cranmer, Desmarais, and Kirkland 2012; Maoz et al. 2006) and so on.

Biographies of elites contain rich network information. A network can be visualized based on elites' family, birthplace, college, or work connections. Fortunately, brief biographies of political elites are public information in China, and a few databases are now available online that neatly organize these biographies. Table 1.1 lists several well managed biography databases of Chinese political elites. The first two are official databases, administered by the party's news agencies.

Table 1.1 Biography Databases of Chinese Political Elites

Database	URL
Thee Database of Chinese Leaders and Party Cadres (中国领导干部资料库)	http://cpc.people.com.cn/gbzl
The Database of Local Leaders (地方领导资料库)	http://ldzl.people.com.cn
The Database of Chinese Officials (中国政要资料库)	http://renwuku.news.ifeng.com
The Database of Local Party and Government Leaders (地方党政领导人库)	http://district.ce.cn/zt/rwk
China Vitae	http://www.chinavitae.com
Baidu Baike (百度百科)	http://baike.baidu.com

Many China scholars have utilized these databases for their research. One notable example is Shi, Shan and Liu's (2008) Central Committee Database that quantifies the biographies of all the Central Committee members from 1992 to 2002. Victor Shih continues to update this database in collaboration with the Department of Mathematics at the University of California, San Diego. The new version corrected numerous errors in the original version, updated the data to 2012, but it has not been released to the public.

I collected and coded the biographies for all the full Central Committee members between 2002 and 2012. Appended to Shi, Shan and Liu's (2008) database, the new data set makes it possible to examine recent factional networks and the dynamics of factional interactions over a longer period of time. In addition, with the great help of Xi Wang[2], I collected the biographies of all the current provincial Standing Committee members. Hence, it is possible to measure the ties between a provincial official and a central party leader as well as the ties among

[2] Xi Wang is a Ph.D. candidate in information science at the University of Iowa.

provincial officials themselves. Moreover, I followed the released corruption cases on the official website of the Central Disciplinary Inspection Commission[3], and gathered all the cases involving middle-level party cadres over 21 months from August 2013 to April 2015. The anticorruption data enables me to test the hypothesis on how social ties affect the performance of the party's disciplinary inspection officials.

Factions are an important concept in social network analysis which has developed sophisticated tools to measure factions and examine their functions, but these tools have been rarely applied in the context of Chinese politics. In social network analysis, faction is defined as a closed group where everyone is tied to everyone else but no one is tied to an outsider (Wasserman 1994). This definition of faction does not match the definitions given by China scholars. They either equate a faction with an edge (a tie between two persons) (Shih, Adolph and Liu, 2012), or regard it as a tree-shaped hierarchical network (Nathan 1973). In the dissertation, social tie refers to an edge between persons and faction represents an egocentric network. An edge can be formed via family, birthplace, college, and work experience. An egocentric network consists of a leader and his followers, and the edges include those between the leader and a follower as well as those between two followers. For a small network, the number of followers can be used as a measure for the power of a faction leader, but when it comes to a complex network where followers often have their own followers, such a measure does not perform well. In studying the complex Central Committee network, I turn to PageRank centrality, a metric used by the Google search engine to find the most important webpages related to a query.

[3] http://www.ccdi.gov.cn/jlsc/

Plan of the Chapters

Chapter 2 studies the actual adoption of the rule of avoidance in Chinese provinces. The rule of avoidance states that party cadres cannot take critical government posts in their hometowns. It is shown that this rule is effectively implemented in provincial standing committees—the top party institutions at the provincial level—especially so for the provinces that are highly dependent on the central government for fiscal transfers.

Chapter 3 focuses on an important role in provincial standing committees—Secretary of Disciplinary Inspection Commission. Recently, the party centralized the appointment process of provincial disciplinary secretaries. As a result, the number of native disciplinary secretaries sharply declined, and many provincial inspection commissions are now headed by the officials from a different province or a central party organization. It appears that this institutional change ensures the momentum of the anticorruption campaign.

Chapter 4 studies the most powerful role in provincial standing committees—Secretary of Party Committee. In particular, it compares the effects of economic performance and factional ties on the chance of getting promoted into the Politburo. Economic performance has no statistically significant effect, and factions affect promotions in a complex way. Certain factional ties with a top party leader can increase the likelihood of promotion, but in some cases they have the opposite impact because they may send out a signal of threat to some other factions.

Chapter 5 switches the focus from provincial standing committees to the party's top national institution—the Central Committee. The Politburo is the leading organ of the Central Committee. In Politburo elections, incumbent and retired Politburo members make final decisions about the candidates for the Politburo among Central Committee members. Chapter 5 finds that the likelihood of winning a seat in the Politburo is strongly associated with one's

centrality in the Central Committee network. It further shows that the network centrality cannot grow without a ceiling due to the age limits on Politburo membership.

Finally, Chapter 6 concludes the dissertation by summarizing the main findings and discussing the future plan for studying the complex relationship between institutions and factional contention in contemporary Chinese elite politics.

CHAPTER 2: NATIVE TIES, FISCAL INDEPENDENCE, AND RANKINGS OF PROVINCIAL STANDING COMMITTEE MEMBERS

In each Chinese province, there are four top political institutions: the party's provincial committee, provincial government (executive arm), provincial legislature, and the Political Consultative Conference. Although the four institutions have the same ranking, the last two basically function as a rubber stamp. In a province, the party's committee is the leading decision-making institution and the core is its standing committee. Chapter 2 studies how the party contains the formation and growth of potential factions in provinces through personnel management.

Characteristics of Provincial Standing Committee Members

Most CCP provincial standing committees consist of 13 members, whereas in two ethnic minority regions, Tibet and Xinjiang, a standing committee has 15 members. Standing committee members play critical roles in the party and government. Their roles are very similar but vary slightly from a province to another. Table 2.1 describes the most common roles taken by provincial standing committee members. Provincial party secretary and governor are ministry-level officials, and all the rest Standing Committee members are vice-ministry-level officials.

Table 2.1 Roles in a Provincial Standing Committee

- **Party Secretary**
  Head of the provincial party committee and the number one political figure in the province.
- **Vice Party Secretary**
  Deputy head of the provincial party committee, taken by the governor and a different provincial standing committee member.
- **Governor**
  Head of the provincial government and the number two political figure in the province who also serves as vice party secretary.
- **Vice Governor**
  Deputy head of the provincial government in charge of certain government functions, such as economic reforms, fiscal policies, agriculture, social stability, education, and health care.
- **Secretary of Discipline Inspection Commission**
  A standing committee member responsible for disciplining party cadres and investigating corruption cases.
- **Secretary of Political and Legal Affairs Committee**
  A standing committee member who coordinates the provincial court, procuratorate, and Public Security Department.
- **Head of Organization Department**
  A standing committee member responsible for the personnel administration of provincial officials and party cadres.
- **Head of United Front Work Department**
  A standing committee member who communicates with social and political forces outside the Chinese Communist Party, including non-Communist parties, ethnic and religious groups, political groups in Hong Kong, Macau and Taiwan, business groups, and intellectuals.
- **Head of Propaganda Department**
  A standing committee member in charge of guiding public opinion and regulating media organizations.
- **Secretary General**
  A standing committee member who serves as the coordinator of the provincial standing committee.
- **Municipal Party Secretary**
  Party leader of a principal city.
- **Political Commissar or Commander**
  Political Commissar: party representative in the provincial military region who is in charge of ideological guidance and education.
  Commander: chief officer in charge of military activities in the provincial military region.
- **Other**
  Secretary of Federation of Trade Unions, Head of People's Congress, etc. at the provincial level.

Table 2.2 compares the native ties and political experience of provincial standing committee members. Regional military officials are not included in the comparison, because their political experience differs greatly from other provincial officials and the information of their military careers is often not complete. In Table 2.2, "Central Government" is a variable measuring the number of years when one served in a central government department or party organization at the vice-ministry level or above. "Current Province" indicates the number of years when one was a ministry-/vice-ministry-level official in the current province. And "Other Province" indicates the number of years when one was a ministry-/vice-ministry-level official in a different province. The percentage in parentheses shows the distribution of the three types of political experience of individual standing committee members.

Table 2.2 Characteristics of Provincial Standing Committee Members

Title	N	Native	Central Government	Other Province	Current Province
Provincial Party Secretary	31	3%	3.2 (21%)	7.0 (44%)	5.3 (35%)
Governor	31	16%	4.1 (32%)	2.7 (23%)	5.0 (46%)
Vice Provincial Party Secretary	30	17%	2.3 (21%)	2.3 (23%)	5.6 (56%)
Secretary of Discipline Inspection Commission	31	13%	0.9 (19%)	2.2 (33%)	3.2 (48%)
Head of Organization Department	31	0%	0.3 (4%)	1.5 (40%)	1.9 (56%)
Secretary of Political and Legal Affairs Committee	31	52%	0.3 (3%)	0.1 (1%)	5.1 (95%)
Head of United Front Work Department	23	52%	0.2 (4%)	0.9 (11%)	3.3 (85%)
Head of Propaganda Department	28	41%	0.9 (14%)	0.4 (9%)	3.3 (77%)
Vice Governor	47	47%	0.9 (9%)	0.7 (9%)	5.3 (81%)
Secretary General	25	52%	0.4 (8%)	0.0 (0%)	3.5 (92%)
Municipal Party Secretary	54	43%	0.6 (7%)	0.4 (9%)	3.4 (83%)
Other	12	67%	0.9 (11%)	0.3 (5%)	4.5 (84%)

Note: provincial military leaders are not included in the table.
Data source: online biographical profiles of provincial Standing Committee members as of July 2015

A close look over Table 2.2 leads us to identify two distinct groups of provincial standing committee members in terms of their local connections. Provincial party secretary, governor, vice provincial party secretary, secretary of Disciplinary Inspection Commission, and head of Organization Department belong to the first group characterized by weak local connections. A vast majority of them were not born in the current province, and have spent a considerable number of years in the central government or a different province. For example, only 13 percent of provincial disciplinary leaders serve in their native provinces. After being promoted to the vice-ministry level, on average, a native official who becomes a provincial disciplinary leader spends more than half of the time in a different province or the central government. The second group of officials in the provincial leadership include secretary of Political and Legal Affairs Committee, head of United Front Work Department, head of Propaganda Department, vice governor, secretary general, municipal party secretary, and other positions. Over 50 percent of the official in this group are native, and their political careers are largely confined to their native provinces. For each position in the second group, the overall percentage of local administration experience constitutes at least 75 percent.

The comparison in Table 2.2 shows that the party does not equally enforce the rule of avoidance with regard to all provincial party positions. The party assigns non-native officials to critical provincial positions, such as secretary of Disciplinary Inspection Commission, and native native-officials to secondary positions. Such a dual strategy ensures a balance of power between native and non-native officials in Chinese provinces.

Chinese-Style Federalism

Yingyi Qian and Barry Weingast popularized the term— "Chinese-style federalism"—through a series of works on Chinese fiscal decentralization during the reform era (Jin, Qian and Weingast, 2005; Montinola, Qian and Weingast, 1997). But China has also achieved a higher level of federalism in terms of political institutions (Landry 2008). As Jonathan Rodden argued, federalism is a "process—structured by a set of institutions—through which authority is distributed and redistributed (Rodden 2004, p.489)." One feature of Chinese local politics is shared authorities. A local party institution is often subject to both its counterpart at a higher level and the local party committee. One example is the 1983 reform of party cadre appointment. In 1983, the Central Committee replaced the two-levels-down system with the one-level-down system. From then on, provinces have been able to appoint bureau-level officials[4] without an approval from Beijing, but Beijing still firmly controls the appointment of vice-ministry/ministry-level officials that include all the provincial standing committee members.

According to the party constitution, provincial committees hold elections for provincial party secretaries, vice secretaries, and standing committee members, but the Central Committee reserves the right of vetoing the election results[5]. Such an institutional arrangement allows both provincial and central leaders to affect the composition of provincial standing committees.

Central party leaders are cautious about local officials forming their own cliques, and try to enforce the rule of avoidance, that is, the rule of preventing officials from taking crucial positions in their hometowns (Li 2010). In recruiting new provincial standing committee

[4] In a province, bureau-level officials mainly include all the mayors of municipality-level cities, and departments in charge of certain government functions such as agriculture, commerce, and public security.
[5] For the rules regarding the appointment of provincial committee members, see the Party Constitution, Section 4, Article 26. For the rules regarding the election of provincial standing committee members, see the Party Constitution, section 4, Article 27.

members, however, provincial officials tend to support the candidates who have social ties with them, because they have less trust in strangers than their family members, fellow townsmen, classmates, and other acquaintances. In this sense, the preferences of provincial officials and central leaders are conflicting over the composition of provincial standing committees.

Fiscal Independence and Political Centralization

Since the market-oriented reform in the late 1970s, Chinese local governments have gained greater autonomy in administering their economic affairs. Economic independence is likely to translate into political power of provincial officials. Political leaders of rich provinces have strong bargaining power against the central government, affect national policies, and even become central leaders themselves.

The 2008 world economic crisis heavily struck Chinese economy, significantly slowing down Chinese economic growth. The budget deficits rose significantly for most provincial governments, and provincial economic growth became more reliant on the financial support from the central government. According to the financial data released by the National Bureau of Statistics[6], except for Beijing, the deficit expanded in all Chinese provinces from 2007 to 2008, and the average increase rate was 41%. In 2012, the provinces of highest GDP growth—such as Guizhou and Yunnan—were also those suffering a very high rate of budget deficits.

The rule of avoidance has become a norm in the party, but its enforcement varies across provinces. If a province suffers high deficit and economic dependence, it will be less resistant to the central government's intervention. In this case, the central government is more effective in breaking the cliques based on native ties by manipulating the rankings of provincial standing

[6] http://data.stats.gov.cn/

committee members. Each standing committee member has an official ranking in the standing committee, which reflects their seniority as well as the importance of their role. A hypothesis is proposed with regard to the enforcement of the rule of avoidance: strong native ties are associated with low rankings in the provincial standing committee, especially so in provinces suffering high budget deficits.

Data and Variables

To test the hypothesis, Xi Wang and I collected the data on all the standing committee members in 31 Chinese provinces. The main data source is the Database of Chinese Officials maintained by www.ifeng.com. This database provides the basic biographical and career information on most high-ranking officials. To fill in the missing cases, I also relied on the Database of Chinese Party Cadres and Government Officials maintained by www.people.com. All the regional military officials are excluded with 365 provincial standing committee members remaining in the data set.

Standing Committee Rankings

The dependent variable is the rankings of provincial standing committee members. It is an ordinal variable ranging from 1 to 13 for all the provinces except for Tibet and Xinjiang the ranking can reach 15. The summary statistics of all the variables can be found in Table 2.3

Table 2.3 Summary Statistics of Provincial Standing Committee Members

Variable	N	Mean	Median	SD	Min	Max
Ranking	365	6.7	7	3.7	1	15
Native	365	0.3	0	0.5	0	1
# Ties: provincial standing committee	365	1.6	1	1.7	0	7
# Ties: 17th Politburo Standing Committee	365	0.4	0	0.7	0	3
# Ties: 18th Politburo Standing Committee	365	0.3	0	0.5	0	2
Male	365	0.9	1	0.3	0	1
Ethnic minority	365	0.1	0	0.3	0	1
Age	365	52	52	4	39	62
# Work units	365	1	1	0.9	0	6
# Months: other	365	15	0	37	0	226
# Months: province	365	48	29	55	0	273
# Months: current province	365	64	52	43	1	212

Native Ties

The hypothesis on the enforcement of the rule of avoidance involve an interaction effect between deficit and native ties. Two measures of birth-province ties are used. The first measure is a binary variable, indicating whether a provincial standing committee member is working in the province where he or she was born. On average, four (about 30%) of the standing committee members are native in a province. Native officials are least dominant in the standing committees of Shanghai, Tianjin, and Hainan, each of which has only one native member. In contrast, native officials are most influential in Shandong province where eight provincial standing committee members were born in Shandong.

The second measure on native ties is a count variable, which indicates the number of birth-province ties one shares with other members in a provincial standing committee. If a provincial standing committee is treated as a social network, the second measure is equivalent to the degree centrality (Freeman 1979). In general, provincial standing committee networks are sparse that the median number of native ties is one, and 37 percent of the members have no

native ties. The native-tie network is densest in Shandong province in which the standing committee members on average have 4 native ties.

The two measures of native ties are highly correlated with the correlation coefficient at 0.69. Native members are very likely to form the largest cluster in their provincial standing committee network. But that is not always the case. One example is Shanghai where the officials born in Zhejiang province form the largest cluster in the standing committee. However, the central party leaders intend to restrict provincial officials from establishing a big local clique, whether they are native or not.

Deficit

Deficit is the percentage of the gap between spending and revenue in the budget. To measure provincial deficits, I relied on the fiscal data released by the National Bureau of Statistics of China. I examined the provincial budgets between 2008, the year when the world economic crisis broke out, and 2012, the year when the most recent Central Committee election took place. Deficit is calculated for every province based on the following equation,

$\sum_{t=2008}^{2013} \text{Spending}$ and $\sum_{t=2008}^{2013} \text{Revenue}$ indicate the aggregate budget spending and revenue, respectively, over the years from 2008 to 2013 .

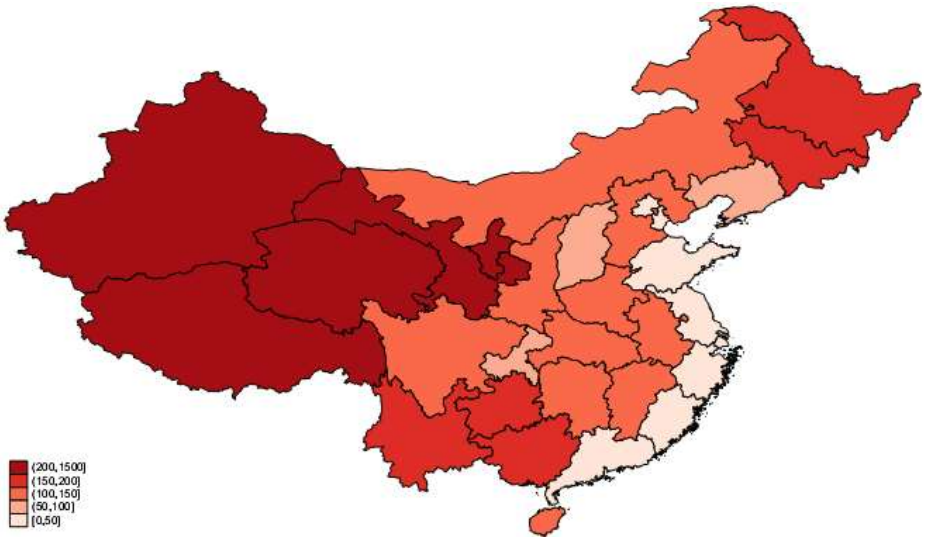
$$\text{Deficit} = 100 \times \left(\sum_{t=2008}^{2013} \text{Spending} - \sum_{t=2008}^{2013} \text{Revenue} \right) / \sum_{t=2008}^{2013} \text{Revenue}$$

Figure 2.1 shows the geographic distribution of deficit in 31 Chinese provinces. Provincial deficits are geographically clustered. The coastal provinces are relatively solvent, and a majority of them had a deficit below 50%. During the reform era, these provinces are the leading forces of economic opening and development. In most inland provinces, the problem of

government deficit is moderately serious, where the deficit did not reach 200%. The provinces deepest in debt are those with a large population of ethnic minorities or those in the Northeastern China.

As the hypothesis suggests, the effect of native ties on the rankings of provincial officials is mediated by the degree of deficit. To capture the interactive effect, I put native ties, deficit as well as the product of these two variables in the statistical models.

Figure 2.1 Geographic Distribution of Deficit in 31 Chinese Provinces, 2008-2013



Data source: The National Bureau of Statistics of China

Notes: $\text{Deficit} = (\sum_{t=2008}^{2013} \text{Spending} - \sum_{t=2008}^{2013} \text{Revenue}) / \sum_{t=2008}^{2013} \text{Revenue}$

Control Variables

Demographic Attributes

The control variables on demographic attributes include age, gender, and ethnicity. The dataset shows that the average age of the 365 provincial standing committee members was 52 at the time when they first joined their current standing committees. The data set also shows that

the youngest member was 39 (Nur Bekri, now the chairman of Xinjiang), and the oldest member was 62 (Sun Chunlan, now the party secretary of Tianjin).

Ten percent of provincial standing committee members are ethnic minorities from 13 different ethnic groups. The percentage is consistent with the national ratio of ethnic minorities to Han people (China's ethnic majority). Ethnic minority members are concentrated in ethnic regions: in Tibet, Xinjiang, and Inner Mongolia, they exceed one third in their standing committees. In the provincial standing committees, the best represented ethnic groups are the Tibetan (9 members), the Hui (8 members), the Mongol (6 members) and the Uyghur (4 members). One interesting fact is that minority members of the same ethnic origin may take high party positions in various provinces. For example, the Hui members are working in 6 different provinces, the Tibetan members 4 provinces, and the Mongolian members 3 provinces.

Only 36 out of the 365 provincial standing committee members are women. Female provincial officials achieve the highest representation in Jiangsu where 3 women serve in the standing committee. In contrast, women's representation is the worst in Shanghai and Tibet where all the standing committee members are male.

Political Career Attributes

The party system in China is highly hierarchical. Political seniority is a key factor in ranking officials. In a provincial standing committee, the party secretary and governor are ministry-level officials, and the other members are vice-ministry-level officials. Therefore, the party secretary and governor are always ranked as the top two. For the rest of the members, their rankings are largely determined by their work experience.

I examine the career history of each provincial standing committee member after he or she became a vice-ministry-level official. The past work experience of provincial officials is diverse: some of them had taken leading positions in a central party institution, some in a central government department, some in a huge bank or state-owned enterprise, and some in multiple provinces. I construct four measures to capture the career diversity before one entered his or her current provincial standing committee. The first measure is the number of years when one was a provincial official at the vice-ministry level or above[7]. The second measure is the number of years when one was a vice-ministry/ministry-level official not in a province. And the third measure indicates the number of ministry-level government agencies in which one had taken a leading position.

The dataset shows that one third of all the members were promoted to the vice-ministry level in their current provincial standing committees. For them, the work experience in their current work unit is particularly important in determining their rankings. Thus, I also create a variable that measures the number of years when one has been serving in the current standing committee.

Ties with Central Party Leaders

Although central leaders take active actions to contain local political networks, they have an incentive to assign key provincial positions to the officials they trust. Social ties are a foundation of interpersonal trust. In measuring social ties with central leaders, again, I focus on native-province ties. I examine the numbers of native-province ties with the members of the 17th

[7] The measures on political career attributes were coded based on the brief biographical records of provincial officials. For a few of them, however, the biographical records missed the months when they were transferred from one work unit to another. To reduce the problem of missing values, I replaced the missing months with June.

Politburo Standing Committee and the 18th Politburo Standing Committee, separately. I find that most provincial standing committee members have no birth-province tie with a central party leader: 66% of the members have no native-province tie with the 17th Politburo Standing Committee members, and 76% of the members have no native-province tie with the 18th Politburo Standing Committee members.

Models and Discussion

I choose to use ordered logistic regressions to test the hypothesis on the enforcement of the rule of avoidance, because the dependent variable, ranking, is an ordinal variable. Table 2.4 presents the results from the estimation. The first and third models examine the provincial standing committee members at all rankings. And the second and fourth models exclude provincial party secretaries and governors. In all the models, the standard errors of coefficients are clustered by provinces.

Table 2.4 Ordered Logistic Regressions: Rankings of Provincial Standing Committee Members

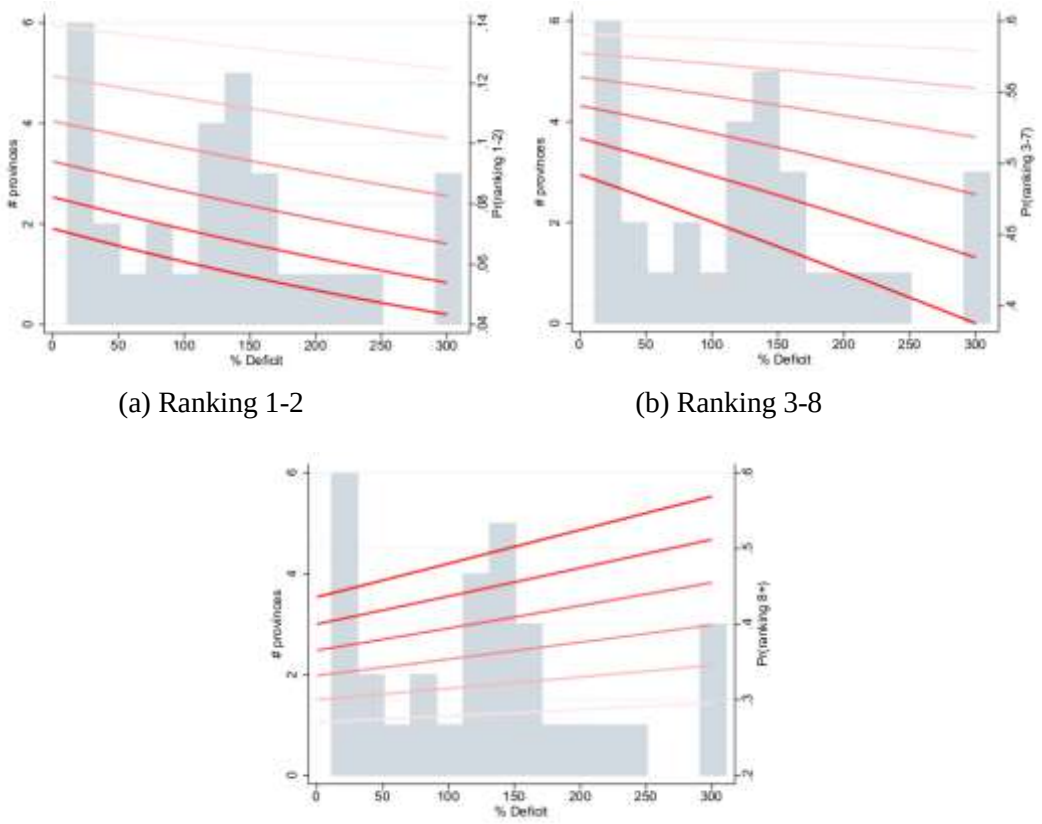
	Model 1 All	Model 2 Without top 2	Model 3 All	Model 4 Without top 2
# Ties: provincial standing committee	0.1397**	0.1720*		
	(0.0513)	(0.0828)		
Native			0.5867*	0.7027**
			(0.2294)	(0.2575)
Deficit	0.0006**	0.0010**	0.0010**	0.0014**
	(0.0002)	(0.0003)	(0.0004)	(0.0003)
Deficit*# Provincial ties	0.0005*	0.0005*		
	(0.0002)	(0.0003)		
Deficit*Native			-0.0003	-0.0008
			(0.0006)	(0.0009)
Male	-0.2929	-0.1442	-0.2998	-0.1524
	(0.2491)	(0.2332)	(0.2504)	(0.2315)
Ethnic minority	-0.0551	-0.0934	-0.0681	-0.0789
	(0.2078)	(0.2776)	(0.1774)	(0.3175)
Age	-0.0536*	-0.0056	-0.0442*	0.0064
	(0.0227)	(0.0280)	(0.0222)	(0.0294)
# Months: province	-0.0037	0.0024	-0.0031	0.0028
	(0.0040)	(0.0052)	(0.0038)	(0.0050)
# Months: other	-0.0162**	-0.0129	-0.0159**	-0.0121
	(0.0034)	(0.0088)	(0.0032)	(0.0084)
# Months: current province	-0.0288**	-0.0338**	-0.0277**	-0.0328**
	(0.0033)	(0.0047)	(0.0033)	(0.0047)
# Work units	-0.7532**	-0.4552	-0.7739**	-0.4950
	(0.2132)	(0.3225)	(0.2068)	(0.3105)
# Ties: 17th Politburo Standing Committee	0.0117	0.1520	0.0266	0.1840
	(0.1123)	(0.1096)	(0.1133)	(0.1086)
# Ties: 18th Politburo Standing Committee	-0.1170	-0.3084	-0.1674	-0.3805
	(0.1634)	(0.2057)	(0.1724)	(0.2283)
N	365	303	365	303
Log-likelihood	-832	-663	-836	-667
Pseudo R^2	0.12	0.10	0.12	0.10

Data source: The Database of Chinese Officials maintained by www.ifeng.com.
Notes: Military officers in provincial standing committees are excluded. * $p < 0.05$, ** $p < 0.01$. Standard errors in parentheses are clustered by provinces. The estimates of the thresholds are not shown in the table.

Model 1 and model 2 test that one's native ties negatively affect the rankings in a provincial standing committee, and especially so in provinces with high deficits. As Table 2.4 shows, the number of birth-province ties with provincial officials is statistically significant in affecting the ranking. Note that higher rankings are associated with lower political status. So, the positive effect of provincial ties on the ranking indicates that strong local ties impose a barrier to provincial leaders from moving forward in their political careers. This empirical evidence verifies that the rule of avoidance is effectively enforced to contain the influence of native officials.

In addition, the interaction effect between native ties and provincial deficit suggests that if a province is deep in debt and in great need of central government's fiscal transfer, the negative effect of provincial ties on political careers is further increased. Figure 2.2 explains the extent how deficit reduces provincial political autonomy. Figure 2.2 is based on the estimates in the first model in Table 2.4. In estimating the probabilities of certain rankings, all the binary independent variables are set to their modes, and all the continuous and count independent variables are set to their means, except for native ties and deficit. Such a data setup reflects an average provincial standing committee member, who is a man of Han ethnicity at the age of 52, and served in a province for 4 years as a vice-ministry- level official before entering the current provincial standing committee.

Figure 2.2 Effects of the Number of Native Ties on the Ranking in a Provincial Standing Committee, Varying the Level of Deficit



(a) Ranking 1-2

(b) Ranking 3-8

(c) Ranking 8+

Notes: The graphs above are based on the estimates from the first model in Table 1. The light blue histograms indicate the distribution of provincial deficits averaged over the years from 2008 to 2013, where the deficits over 300% are coded 300. The 6 red lines from the lightest to the darkest represent the number of provincial ties changing from 0 to 5. The red lines show how the probability of certain rankings (1-2, 3-7, or 8+) varies as the deficit increases from 0 to 300%. In estimating the probabilities, the binary independent variables are set to their modes, and the continuous and count independent variables are set to their means.

The rankings are collapsed into three categories—1 to 2, 3 to 7, and 8 plus. The probability of falling in a ranking category is shown separately in three subgraphs. The background histograms reflect the distribution of deficits in 31 Chinese provinces[8]. In accordance with deficit, provinces are clustered into three groups, low-deficit coastal provinces,

[8] The deficits in Qinghai and Tibet surpassed 300%, but were coded as 300 in making the histograms.

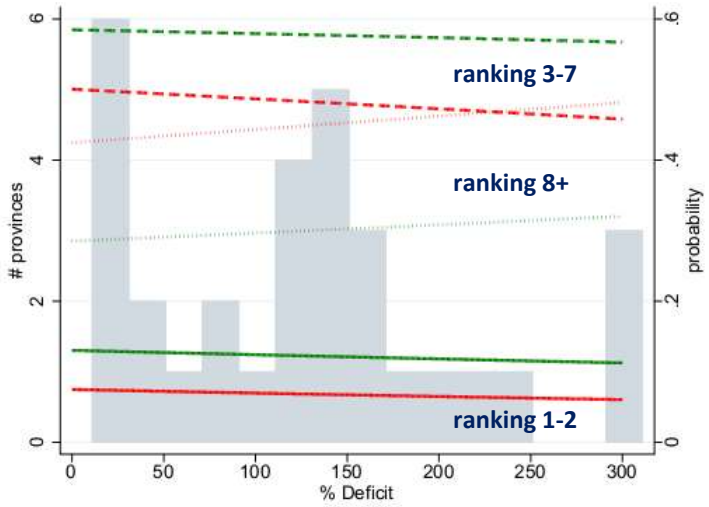
moderate-deficit inland provinces, and high-deficit minority and Northeastern provinces. From the lightest to the darkest, the 6 red lines reflect the number of native ties increasing from 0 to 5. Holding provincial deficits at a fixed level, as one has more birth-province ties with other provincial standing committee members, the probability of gaining a good ranking drops. For example, in a province having no deficit, compared to someone with no naive connections, a provincial standing committee member with 5 native ties is about 7% less likely to gain a ranking at 1 or 2, about 10% less likely to receive a ranking between 3 and 7, and about 17% more likely to end up with a ranking beyond 7. To test the robustness of the findings, I exclude the provincial standing committee members with a ranking at 1 or 2, but the findings still hold that more native ties lead to lower political status. As the change in the coefficients shows, the negative effect of native ties is stronger regarding vice-ministry-level provincial officials than the provincial party secretaries and governors.

The effect of provincial ties on rankings is also conditioned on the provincial deficit. Higher deficit is associated with higher influence of the rule of avoidance, and a stronger negative impact of native ties on rankings. Comparing outsider standing committee members (no native tie) with well-connected members (5 native ties), I find that as the percentage of deficit rises from 0 to 300%, the gap in the likelihood of rankings 1 and 2 increases by over 1%; the increase is more than 9% for the rankings between 3 and 7, and it is about 11% for the rankings behind 7.

Model 3 and model 4 are used to test the hypothesis with the binary native tie variable. The independent variable, *Native*, indicates whether one was born in the province where he or she serves as a provincial standing committee member. The relationship between this variable and the ranking is positive and statistically significant at the 95% confidence level, and the effect

is mediated by the level of provincial deficit. Figure 2.3 shows the substantive effect. For an average provincial standing committee member, moving from his native province to another, if both provinces are perfectly solvent, the chance of being ranked as top 1 or 2 reduces by about 6%, the chance of being ranked between 3 and 7 drops by 8%, and he is 14% more likely to end up with a party position ranking beyond 7. Figure 2.3 also shows that the disadvantage of working in the native province is enhanced by deteriorated provincial fiscal conditions.

Figure 2.3 Effect of Working in the Native Province on the Ranking in a Provincial Standing Committee, Varying the Level of Deficit



Notes: The graphs above are based on the estimates from the second model in Table 1. The light blue histograms indicate the distribution of provincial deficits averaged over the years from 2008-2013, where the deficits over 300% are coded 300. The red lines indicate the provincial standing committee members who work in their native provinces, and the green lines indicate those not working in their native provinces. The pair of solid lines describe the changing probabilities of the rankings 1 or 2, the dash lines are for the rankings 3-7, and the dot lines are for the rankings 8 or above. In estimating the probabilities, the binary independent variables are set to their modes, and the continuous and count independent variables are set to their means.

In contrast to the birth-province ties with provincial officials, the birth-province ties with central leaders—whether in the 17th or the18th Politburo Standing Committee—have no statistically significant effect on the ranking in a provincial standing committee.

Except for age, the demographic variables do not statistically significantly affect the rankings of provincial standing committee members. Older members tend to take higher positions. Holding network and career attributes constant, female and minority members are not discriminated against in terms of their rankings, which may be a result of the party's effort to improve the descriptive representation of various social groups. Nonetheless, I am not able to rule out the possibility that women and ethnic minorities have a disadvantage in obtaining important work experience, such as political seniority and diversity of work units.

The relationship between political career attributes and rankings is complex. First, previous experience in other provinces has no influence on one's current ranking in a provincial standing committee. Second, when I focus on the members other than provincial party secretaries and governors, the number of months when one was a vice-ministry/ministry-level official not in a province becomes a factor not significant. The same finding holds for the career variable the number of work units. It appears that diverse administration experience is a criterion only in selecting provincial party secretaries and governors. And third, what appears to be the most important political career attribute is the length when one stays in his or her current political standing committee.

Summary

Chapter 2 looks at provincial standing committees, the top party institutions at the provincial level. The rule of avoidance has become a norm in the party for personnel management. The rule of avoidance requires that party cadres should not be assigned to important party posts in their birthplaces where they can easily build a faction with their family members, old friends, and long-time colleagues. It is clear that in a provincial standing

committee, non-native officials take almost every critical position such as secretary of party committee and secretary of disciplinary inspection commission, whereas native officials often just take secondary positions. Also, long-time experience in a different province or a central government agency puts provincial officials at an advantage. As a result, a party cadre's ranking in a provincial standing committee is negatively related to the number of birthplace ties to his or her colleagues. However, the rule of avoidance is not equally enforced in every province. It is effectively implemented in deep-in-debt provinces that are highly reliant on the central government for fiscal transfer. But in affluent and solvent provinces, a native official, indeed, has much higher chance to get an important post in his or her provincial standing committee.

CHAPTER 3: POLITICAL CONNECTIONS AND PERFORMANCE OF PROVINCIAL DISCIPLINARY LEADERS

The party fights corruption and abuses of power mainly through the central and local discipline inspection commissions. Chapter 3 presents a quantitative analysis of provincial disciplinary leaders and anticorruption investigations in China. Drawing on an original time-series cross-section data set of disciplinary leaders and corruption cases in 31 Chinese provinces, it shows that the disciplinary leaders with longer local connections are more reluctant in investigating middle-level officials in their provinces. The evidence suggests that breaking-native ties facilitates the implementation of central leaders' initiatives of containing corruption.

Chapter 3 starts with an overview of the history and institutional reforms of the disciplinary inspection system. It continues with a discussion of how strong ties between a disciplinary leader and his or her host province are detrimental to anticorruption investigations. It then demonstrates the decline of native officials in the disciplinary inspection system since late 1980s, followed by a statistical analysis of the factors that contribute to the varied outcomes of provincial anticorruption campaigns.

Evolution of the Discipline Inspection System

The Chinese Communist Party was found under deep influence of Leninist theory on party organization, emphasizing on the importance of disciplinary inspection (Gong 2008). Disciplinary inspection was institutionalized in 1929 when the Central Supervision Commission was created.

After the party came to power in 1949, the discipline inspection system extended in scope. The 1956 Party Constitution established local Supervision Commissions at the provincial

and county levels. However, the Cultural Revolution broke out in 1966, and during the following ten years, many functions of the party, including disciplinary inspection, were in a paralyzed state. The 1969 Party Constitution disbanded Supervision Commissions and removed the terms regarding disciplinary inspection.

In 1978, the party reinstated the Central Discipline Inspection Commission (CDIC)[9]. A branch of CDIC was established in each province, prefecture, county, and township. With one exception, the CDIC is always headed by a Politburo Standing Committee member[10]. Similarly, the leading position of a provincial Discipline Inspection Commission (DIC) is always taken by a member of the corresponding provincial Standing Committee[11].

DICs target a wide range of wrongs of party cadres. Some wrongs, such as embezzlement, taking bribe, and selling official positions, violate not only the party's disciplinary terms but also criminal laws. In dealing with such criminal cases, DICs collaborate with public security forces, procuratorate organs, and courts, but disciplinary action often precedes the legal system (Manion 2009). Some other wrongs do not break laws, but they fail wide-accepted moral standards. For example, extra-marital affairs, once disclosed to the public or central leaders, will often end the political career of the related officials. A golden watch, vintage wine, or other signs of a luxurious life style can also get one into trouble.

The CDIC was reinstated at the same time when China started to reform its economy. The success of the reform has led to economic prosperity and great improvement of living standards but also alarmingly high inequality and widespread corruption (Gong 1997; Guo

[9] 中央纪律检查委员会. The same name was also used for the party's central disciplinary inspection institution between 1949 and 1955.
[10] Wei Jianxing was CDIC secretary between 1992 and 2002, but during the first 5 years, he was a Politburo member not serving in the Politburo Standing Committee.
[11] Gao (2015) has a detailed discussion of the history of the Central Discipline Inspection Commission.

2008). In post-Mao era, corruption has been growing in both quantitative and qualitative terms (Wederman 2004). The number of corruption cases rises quickly, and the forms of corruption become increasingly complex (Gong 1997). Corruption now involves more high-ranking officials (Wederman 2004) and is likely to be committed in a collective manner (Gong 2002; Lu 2000).

Corruption is a genuine concern to the Chinese Communist Party because it triggers a decline in political legitimacy and threatens the very survival of the party. In order to contain corruption, apart from hard-headed anticorruption campaigns, the party has also improved its disciplinary inspection system through institutional reforms (Yang 2004, chapter 7). One crucial feature of these institutional reforms is centralization. In 2009, Central Circuit Inspection Teams were established under the direction of the CDIC. The teams are dispatched to provinces, government departments, and state-owned enterprises for around 3 months to inspect high-level officials. In March of 2015, the CDIC had disciplinary inspection teams stationed in 7 more important political units, reaching the total number of 53 which include the National People's Congress, the Supreme People's procuratorate, and the Supreme People's Court.

One recent institutional change in the disciplinary inspection system consolidates the hierarchy of personnel management. The appointment for leading positions in local DICs was subject to dual leadership, namely, the local party committee and the DIC at a higher level. Due to a strong connection to other local senior party cadres, disciplinary officials feel greatly restricted in performing their duties (Gong 2008; Guo 2014; Manion 2009). The dual leadership was ended in April 2015, when the party issued "The Trial Procedures for Nominating and Inspecting Secretaries and Vice Secretaries of Local Discipline Inspection Commissions"[12]. The

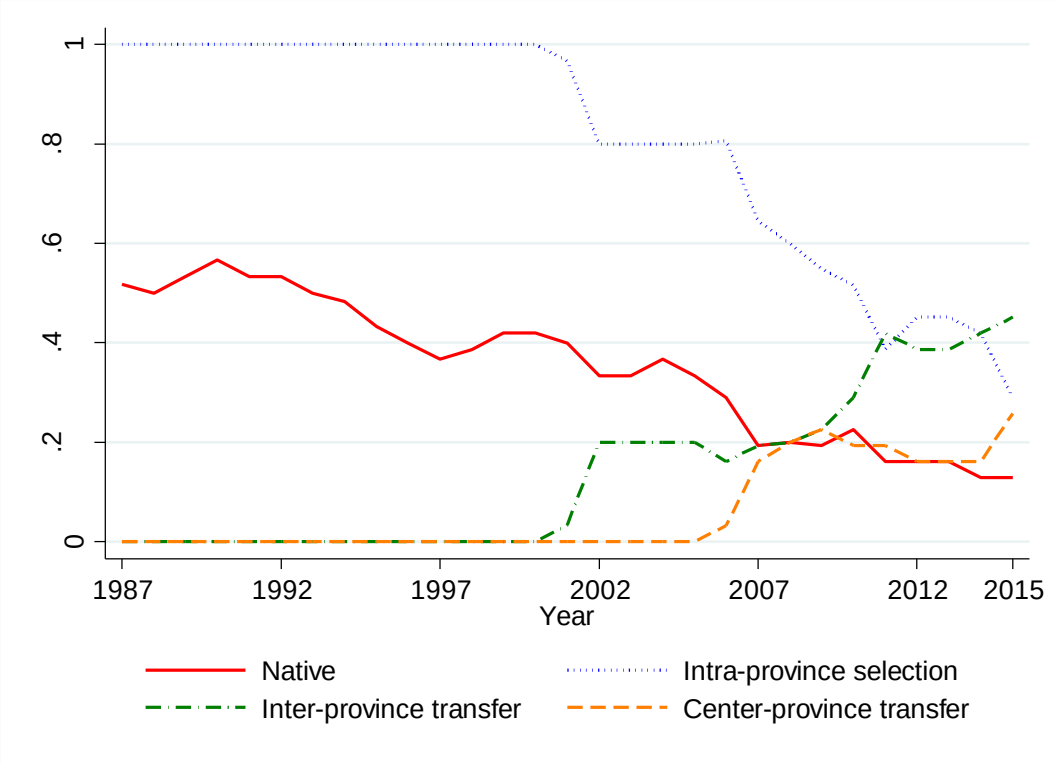
[12]省（自治区、直辖市）纪委书记、副书记提名考察办法（试行）. Xinhua Net, 27 April 2015.

DIC and Organization Department at a higher level became the sole legitimate authorities to nominate local disciplinary leaders, and the local party committee lost its important role in the nomination process.

Characteristics of Provincial Disciplinary Leaders

The party institutionalized a hierarchical control of local disciplinary officials by issuing the "The Trial Procedures for Nominating and Inspecting Secretaries and Vice Secretaries of Local Discipline Inspection Commissions". In practice, however, the party started to break the ties between disciplinary leaders and local officials long before this institutional change. Figure 3.1 compares the political background of provincial disciplinary leaders over the years from 1987 to 2015, drawing on their online official biographical profiles.

Figure 3.1 Decline of Native Officials in Provincial Discipline Inspection Commissions, 1987-2015



Data source: online biographical profiles of provincial disciplinary leaders, 1987-2015

Until mid-1990s, most provincial disciplinary leaders had served in their native provinces. There is, however, a steady decline of native officials in the discipline inspection system. In 2015, among the 31 provincial disciplinary leaders, only four–Chen Chaoying (陈超英) of Hebei, Duojieredan (多杰热旦) of Qinghai, Li Faquan (李法泉) of Shandong, and Guo Yongping (郭永平) of Shannxi–head the local DIC in their native provinces.

Provincial disciplinary leaders have three different origins based on the political career before taking the leading position in a provincial DIC. First, intra-province selection means that a provincial disciplinary leader is chosen from local officials. Inter-province transfer means that an official moves to a different province to take the leading position of the provincial DIC. And

center-province transfer refers to that an official in a central government department or party organization becomes a provincial disciplinary leader.

As Figure 3.1 shows, all provincial disciplinary leaders were local officials until 2001. Two turning points appeared in 2001 and 2006. In October 2001, Wang Shouting (王寿亭), a former vice party secretary of Guizhou, became the secretary of the DIC in Jiangsu. In April 2006, Xu Jingye (徐敬业) left the CDIC and took the leading position in Chongqing DIC. The proportion of the provincial disciplinary leaders through intra-province selection keeps declining quickly, falling to only 29 percent in 2015, whereas those through center-province transfer rose to 26 percent and those through inter-province transfer jumped to 45 percent.

Local Ties: A Barrier to Disciplinary Inspection

Although factionalism prevails in the party's top institutions (Nathan 1973; Shih, Adolph and Liu 2012; Zhang 2014), central party leaders try to contain the political networks of local officials by enforcing the rule of avoidance. The rule of avoidance is a norm that a party cadre should not be assigned with a leading position in his or her hometown (Li 2010). In a province, most middle-level positions are taken by native officials. The logic of rule of avoidance is to break the intimate social connections between high-ranking officials and their subordinates and to ensure a pure work relationship. This is also the logic underlying the institutional reform of centralizing the personnel management of disciplinary officials.

In nominating local disciplinary officials, local and central party leaders have conflicting interests. Since local officials are the direct targets of disciplinary inspection, they have a strong incentive to nominate their fellow colleagues or subordinates whom they can trust as disciplinary leaders rather than strangers from another province or a central government agency. In contrast,

central leaders are concerned with the effectiveness of local disciplinary inspection, and support the officials who are an outsider of the local political network.

The political network is dynamic, which grows and intensifies as one stays in it for a longer time. Due to the dual leadership, long experience in a local DIC strengthens the connection between disciplinary official and other local senior officials, and the disciplinary official will have a stronger identity with his or her local government. Other types of disciplinary experience, especially the experience in the CDIC, is not likely to achieve this effect. The following three hypotheses are about the effects of different types of disciplinary experience on how effective provincial disciplinary leaders carry out anticorruption campaigns in their jurisdictions.

Hypothesis 1: A provincial disciplinary leader who has more experience in his or her current provincial DIC is less active in carrying out disciplinary investigations.

Hypothesis 2: A provincial disciplinary leader who has more experience in the CDIC is more active in carrying out disciplinary investigations.

Hypothesis 3: How the disciplinary experience in a different province affects disciplinary investigations is ambiguous.

A native disciplinary official is deeply embedded in his or her local social network and faces a great obstacle when performing the duty. The reason is that an official under investigation is likely to be disciplinary officials' family member, friend, old colleague, or someone close to them. Here I propose Hypothesis 4 regarding this problem:

Hypothesis 4: Native disciplinary leaders have a worse performance in anticorruption campaigns.

Who Investigate More Corrupt Officials?

In this section, I systematically analyze the factors that contribute to active anticorruption investigations, especially by examining the characteristics of local disciplinary leaders.

In September 2013, the CDIC opened its official website as a propaganda apparatus relatively independent of the Central Propaganda Department. The section "Disciplinary Inspection" releases corruption cases on a daily basis. Most of the cases involve middle-level or high-level party cadres. Each official release comes with a brief description of the corruption case, including the date of disciplinary investigation, the names and positions of the officials involved, and occasionally the details of their misbehavior. The CDIC website allows us to collect a large number of corruption cases and have a better understanding of the anticorruption campaigns in Chinese provinces.

I focus on corrupt middle-level party cadres over 21 months from August 2013 to April 2015. In a province, most middle-level party cadres take leading positions in municipalities, provincial government bureaus, universities, or large publicly-owned enterprises. I choose middle-level party cadres as the subjects of my study for two reasons. First, provincial disciplinary leaders directly participate in the investigation of middle-level party cadres. In contrast, to discipline party cadres at the county level or below, they have to rely on lower-level disciplinary officials, and to discipline high-ranking provincial officials, they need support from the CDIC and central party leaders. Second, the CDIC's official website provides rich information regarding the middle-level officials under disciplinary investigation.

The corruption cases of middle-level party cadres are further filtered for the final sample. First, I only keep the cases where the corrupt party cadres received the highest disciplinary penalty–expulsion from the party–or they were sent to the criminal court system. Second, if the

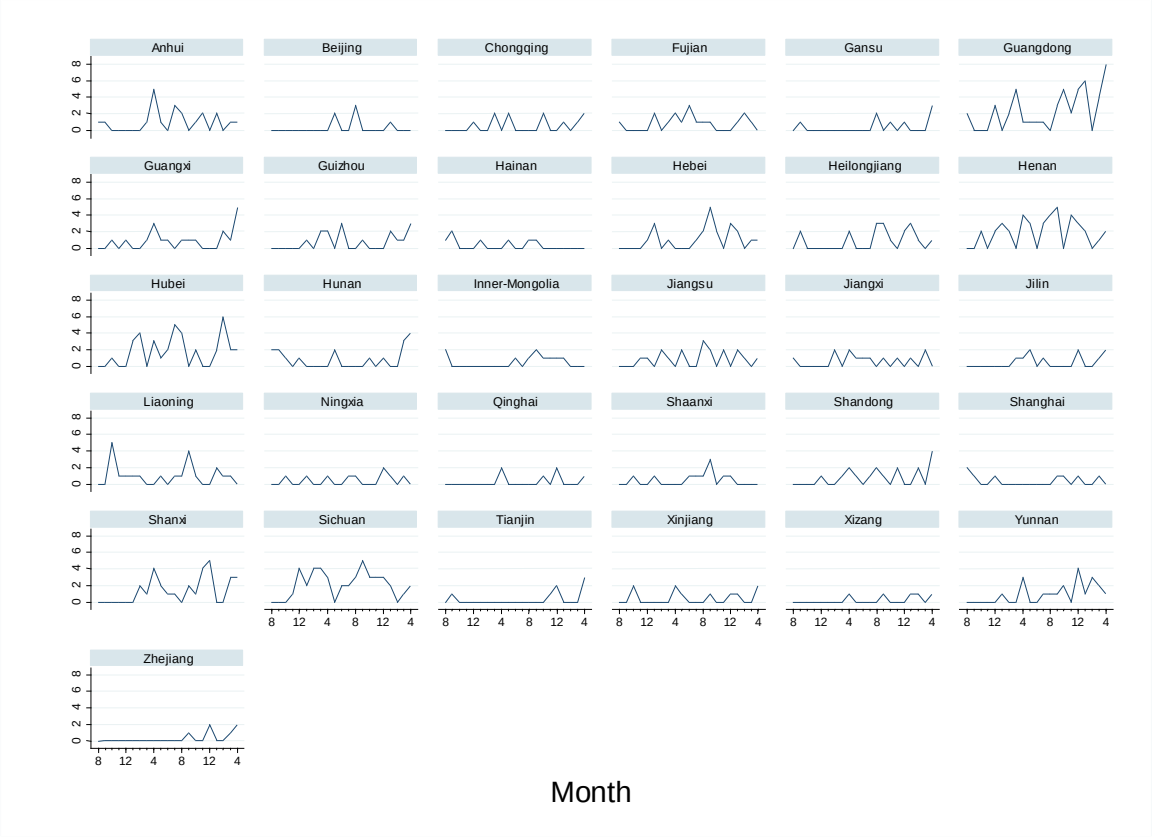
CDIC has multiple records for a party cadre, all but the first one are dropped. As a result, the number of cases for the final empirical analysis is 531.

Two other data sources provide the measurements for a variety of factors that affect the effectiveness of anticorruption campaigns in Chinese provinces. First, online official biographical profiles of provincial disciplinary leaders contain the information on their demographic attributes and career history in the disciplinary inspection system. Second, statistical yearbooks provide the information on the economic conditions of Chinese provinces.

Dependent Variables

In my study, the unit of analysis is province-year. The first dependent variable is the monthly number of middle-level party cadres under disciplinary investigation in a province. Figure 3.2 shows the dynamic pattern of this variable across 31 Chinese Provinces. There exist obvious differences in the outcome of anticorruption campaigns across provinces and over time. In most provinces and months, no middle-level official is investigated for corruption or malfeasance. Guangdong, however, keeps a high record of anticorruption investigations. In April 2015, eight middle-level officials were subject to serious disciplinary action in Guangdong. Five provinces–Guangdong, Sichuan, Henan, Hubei, and Shanxi–stand out among the 31 provinces for their high aggregate levels of corruption. The momentum of anticorruption campaigns has been sustained and increased over time. In April 2015, the CDIC website released 54 corruption cases involving local middle-level party cadres, which was unprecedented by earlier months.

Figure 3.2 Middle-level Officials under Disciplinary Investigation, 2013 August - 2015 April



Data source: online biographical profiles of provincial disciplinary leaders, 1987-2015.

Corrupt middle-level party cadres are further classified into two types–government officials and non-political administrators such as university presidents, hospital directors, and general managers of publicly-owned enterprises. Among the 531 local middle-level party cadres investigated, 81 percent of them were government officials. Since the two types of party cadres face different incentives to commit corruption or abuse their power, they will be examined separately.

Independent Variables

The first three independent variables correspond to the first three hypotheses which specify the expected relationship between disciplinary experience and the effectiveness of provincial anticorruption campaigns. The three variables only consider the years when one is a disciplinary official at the bureau-level or above. Disciplinary experience in the CDIC is measured by the number of years when one served in the CDIC before taking the current position in a provincial DIC. Disciplinary experience in another province is measured by the number of years when one was a disciplinary official in a different provincial DIC. And disciplinary experience in the current province is measured by the number of years when one has been leading disciplinary inspection in the current provincial DIC.

Among the 42 provincial disciplinary leaders examined, 67 percent of them have no disciplinary experience in either the CDIC or a different provincial DIC. Eight secretaries of provincial DICs were "airdropped" from Beijing and five were transferred from a different province. Three provincial DIC leaders are most noteworthy. Ye Qingchun (叶青纯), the disciplinary leader of Beijing, spent 11 years in the CDIC, and Yao Zengke (姚增科), the disciplinary leader of Tianjin, spent 12 years there. Li Faquan (李法泉) was a senior disciplinary official in Tianjin and Jilin for 13 years before he became DIC secretary in Shandong.

The next independent variable corresponds to the fourth hypothesis. It is a dummy variable indicating whether one directs the DIC in the province where he or she was born. In the data set, the percentage of native secretaries of provincial DICs is 14 percent, which is consistent with the demonstration in the above section that the party strictly enforces the rule of avoidance with regard to important positions in provincial party committees.

Control Variables

The outcome of the anticorruption campaign in a province depends on two things. That is, how prevalent is corruption in this province? And how devoted and effective are disciplinary officials to catch corrupt party cadres? This research is mainly interested in the second thing, but without controlling for the prevalence of corruption, we are not able to estimate the role of provincial disciplinary leaders in anticorruption campaigns unbiasedly.

Under a weak legal system, the expansion of Chinese economy facilitates the spread of corruption (Gong 1997). I use yearly investment of fixed asset in a province. Yearly fixed asset investment is highly correlated with provincial GDP ($\rho = 0.88$) and population ($\rho = 0.86$) to control for provincial economic conditions. The most common form of corruption in China is accepting money and gifts from local entrepreneurs who are seeking lands, loans, and preferential policies controlled by local officials. Therefore, it is expected that in a province where economic projects grow at a high rate, more entrepreneurs and companies have an incentive to bribe local officials for preferential treatment. Additionally, a rich province also owns many large enterprises whose leading positions are often taken by middle-level party cadres. Due to direct management of a large amount of money and assets, the leaders of the province-owned enterprises are very likely to be corrupted. In this sense, corruption is more common in a province with a high rate of fixed asset investment.

Another common form of corruption occurs among government officials themselves. In the hierarchical bureaucracy of China, a few high-level officials have great say in the promotion process of government officials. In order to get promoted, low-level officials have an incentive to bribe higher-level officials, and higher-level officials may want to make a profit by selling government positions. It is obvious that the market of government positions is larger in a

province that has more officials. I rely on the number of prefecture-level administrative units in a province to control for the fact that more officials mean more corruption. In a province, there are two major sources of middle-level officials–leading positions in prefectures and provincial-level bureaus. Provincial-level bureaus are in charge of certain government functions at the provincial level, such as education, finance, and public security, thus their number is similar across provinces. But the number of prefectures in a province varies to a great extent that it ranges from three (Hainan) to 38 (Chongqing). I use the number of prefectures to capture how the size of the underlying pool of middle-level officials differs across provinces.

The Chinese President, Xi Jinping, raised a slogan in the current anticorruption campaign: "Fighting both tigers and flies". A common interpretation is that "flies" refer to low-level and middle-level party cadres and "tigers" refer to the party cadres at the vice-ministry level or above. Central party leaders tend to impose higher pressure on anticorruption investigations in the provinces where high-ranking officials get involved in corruption. And in such a province, the disciplinary leader is likely to be replaced with a disciplinary official from another province or CDIC. I control for the monthly number of removed "tigers" in a province in order to address the endogenous relationship between anticorruption investigations and the background of disciplinary leaders.

The other three control variables are at the individual level, that is, age, gender, and Central Committee membership of disciplinary leaders. Most provincial disciplinary leaders are in their late 50s or early 60s. Among the 42 provincial disciplinary leaders examined, six are female party cadres, constituting 14 percent.

The top institution of the party is the Central Committee that consists of full and alternate members. In the data set, four provincial disciplinary leaders, Ni Yuefeng (倪岳峰) of Fujian,

Lin Duo (林铎) of Liaoning, Song Airong (宋爱荣) of Xinjiang, and Xu Songnan (徐松南) of Chongqing, are alternate members in the Central Committee. Some research shows that lower-ranking or disadvantageous officials have a stronger motivation to implement the policies and political campaigns led by central party leaders (Kung and Chen 2011; Shih 2008). It is expected that the disciplinary leaders who sit in the Central Committee feel more secure with their political career and are less active in carrying out anticorruption campaigns to impress central party leaders.

Models and Discussion

How do different types of disciplinary leaders carry out anticorruption campaigns in their provinces? To answer this question, I conduct a statistical analysis of the time-series cross-sectional data set on the anticorruption campaigns in Chinese provinces.

Two types of biases are likely to exist in the findings from time-series cross-sectional data if no proper method is employed. Time-series cross-sectional data set has a temporal dimension and a spatial dimension. An observation rarely changes much over a short period of time, and provinces differ greatly in their social and economic conditions. Such temporal persistence and spatial heterogeneity break the basic assumptions underlying classic linear regression models. In particular, with time-series cross-sectional data, the regular estimation procedures cannot ensure that the standard errors are correct and that hypothesis testing is unbiased.

I use panel corrected standard errors (Beck and Katz 1995, 2011) in my regression analysis of anticorruption investigations in Chinese provinces. This method corrects the biased standard errors in classic regression models using time-series cross-section data. I construct three

linear regression models, which are demonstrated in Table 3.1. The dependent variable in the first model is the monthly number of total middle-level party cadres under disciplinary investigation in a province. The second and third models examine the middle-level party cadres in the government and those outside the government, respectively. The provincial-level control variables, fixed-asset investment and the number of prefectures, are all lagged by one year. To account for the dynamics of disciplinary inspection, each model also includes a one-month lag of the dependent variable[13].

The findings from the first model affirm the negative effect of local connections on anticorruption efforts. Fewer middle-level party cadres are investigated in a province where the disciplinary leader has served in the DIC of this province for a long time. Long work experience in a provincial DIC enables disciplinary officials to get familiar with the procedures and tactics of disciplinary inspection as well as local political circumstance, but it also traps them in the local political network. Ten-year disciplinary experience in the current province reduces the number of inspected middle-level party cadres in a month by 0.85 units. This effect is huge especially given that in a province the average monthly number of middle-level party cadres under investigation is 0.82. In other words, if every disciplinary leader had served in his or her current provincial DIC for ten years, on average no middle-level party cadres would be disciplined for corruption.

[13] The higher-order lags are not used because the Lagrange multiplier test shows that the first-order lag is adequate in eliminating autocorrelation.

Table 3.1 Who Investigate More Corrupt Officials?

	All	Government Official	Other
Disciplinary Experience: CDIC	-0.0048	-0.0076	0.0020
	(0.0126)	(0.0117)	(0.0037)
Disciplinary Experience: Other Province	-0.0278*	-0.0294**	0.0003
	(0.0151)	(0.0126)	(0.0057)
Disciplinary Experience: Current Province	-0.0850***	-0.0773***	-0.0117
	(0.0251)	(0.0220)	(0.0083)
Native	-0.2010**	-0.1746*	-0.0363
	(0.1025)	(0.0908)	(0.0551)
Age	0.0044	0.0013	0.0030
	(0.0152)	(0.0132)	(0.0056)
Female	-0.1136	-0.0981	-0.0309
	(0.1330)	(0.1234)	(0.0465)
Central Committee Membership	-0.4069**	-0.3795***	-0.0248
	(0.1792)	(0.1398)	(0.0806)
# Tigers	-0.0503	-0.0224	-0.0228
	(0.1779)	(0.1653)	(0.0576)
# Prefectures (Year-1)	0.0112	0.0079	0.0032
	(0.0112)	(0.0094)	(0.0035)
Fixed Asset (Year-1)	0.0003***	0.0003***	0.0001***
	(0.0001)	(0.0001)	(0.0000)
Y_{t-1} (All)	0.2146***		
	(0.0768)		
Y_{t-1} (Government Officials)		0.1887**	
		(0.0778)	
Y_{t-1} (Other)			0.0909
			(0.0785)
Constant	0.1720	0.3453	-0.1409
	(0.8409)	(0.7521)	(0.3075)
N	620	620	620
R^2	0.1576	0.1357	0.0568

Note: Panel corrected standard errors are in parentheses. * p < 0.1, ** p < 0.05, and ** p < 0.01.
Data source: Database of Chinese Anticorruption Campaigns, August 2013 - April 2015.

The strategies of inter-province transfer and center-province transfer are not obviously effective. They fail to make the corrupt situation better. They just prevent the situation from being even worse. Past disciplinary experience in the CDIC has no statistically significant impact on the outcome of disciplinary inspection in Chinese provinces. The disciplinary leaders who have experience in a different provincial DIC actually perform worse, though they are better than those working in a single provincial DIC for a long time. In contrast to common expectation, the "airdropped" officials make no apparent difference in local discipline inspection, which suggests that centralizing the management of disciplinary personnel does not necessarily consolidate the implementation of anticorruption campaigns. What contributes to effective disciplinary inspection is breaking local connections. One interesting finding is that all the three variables about disciplinary experience have a negative coefficient, which means that experienced disciplinary officials actually do a worse job. The disciplinary inspection system may function better if it brings in more officials with diverse political backgrounds.

In addition, Table 3.1 shows that native ties are detrimental to anticorruption campaigns in Chinese provinces. Compared to non-native officials, native officials discipline less middle-level officials for corruption. This difference is statistically significant at the 90 percent confidence level. The findings that local connections weaken disciplinary inspection also holds when we focus on middle-level party cadres in the provincial government. But when it comes to the middle-level cadres in non-political sectors, the influence of local connections ceases to exist.

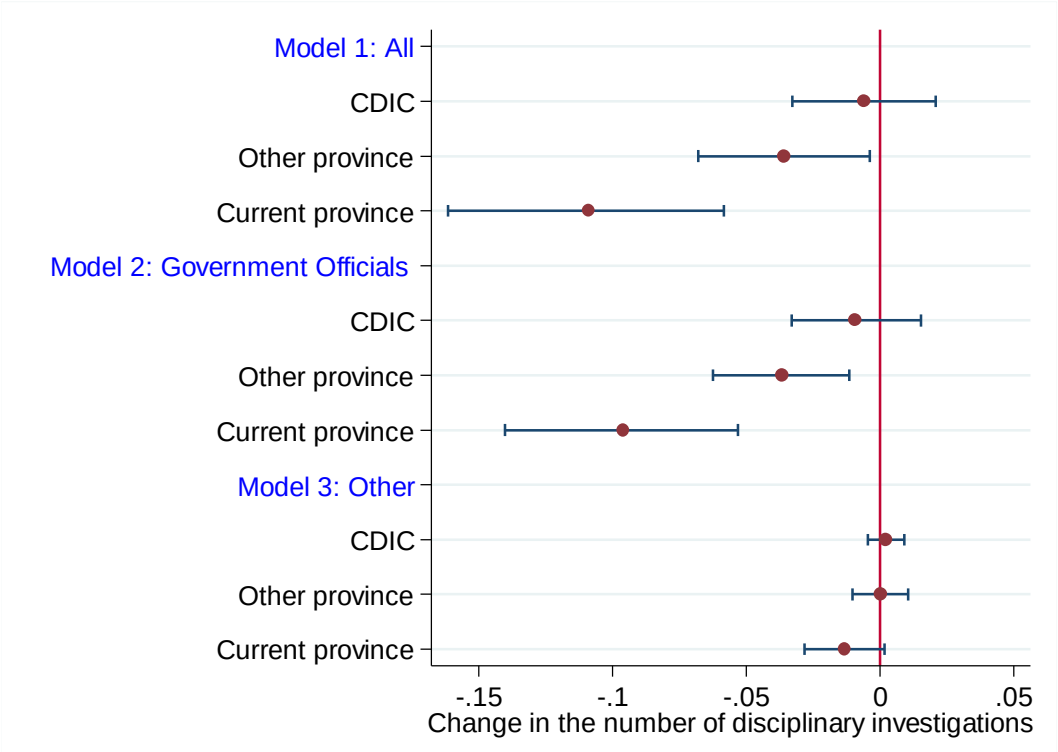
The lags of the dependent variables in the regression models have small coefficients, which means that a strong temporal dependence exists. The degree of disciplinary inspection in a month is highly dependent on that of the previous month. For this reason, the effect of an independent variable gradually decays, but it stays for a number of months. The coefficients

shown in Table 3.1 reflect the instantaneous effects of the independent variables. The long-term effects can be estimated by referring to the following equation:

$$e_X = \frac{b_X}{1 - b_{Y_{t-1}}}$$

where e_X is the long-term effect of X on Y, b_X is the coefficient or instantaneous effect of X, and $b_{Y_{t-1}}$ is the coefficient of the lagged dependent variable. Figure 3.3 demonstrates the confidence intervals at the 95 percent level for the effect of disciplinary experience on anticorruption investigation. A variable is shown to be statistically insignificant, if the vertical line crosses its confidence interval. The long-term effects of the three types of disciplinary experience are consistent with their short-term effects. In the long run, the experience in CDIC does not contribute to a higher level of disciplinary inspection toward middle-level officials, and the experience in a provincial DIC imposes a barrier to effective implementation of anticorruption campaigns. Long-term effects are greater than corresponding short-term effects. The long-term effect of one-month disciplinary experience in the current province is -0.11, 27 percent higher than the corresponding short-term effect.

Figure 3.3 Long-term Effects of Disciplinary Experience on Anticorruption Investigations



Notes: The long-term effects of disciplinary experience are estimated based on the regression models in Table 3.1 through 10000 simulations. The confidence intervals are at the 95% level.

The most robust predictor of the number of anticorruption investigations is fixed asset investment. Its effect is positive and statistically significant across the three regression models. In a province with a high level of economic investment, both party cadres in and outside the local government are likely to be investigated for corruption and malfeasance. This finding confirms the conventional wisdom that corruption is a byproduct of economic development in China.

There is no statistically significant relationship between the number of prefectures and the number of corruption cases in a province. This finding suggests that the proportion of corrupt officials among total middle-level officials varies across regions. Therefore, more officials do not necessarily lead to more corruption.

Age and gender of disciplinary leaders do not affect the implementation of anticorruption campaigns. Central Committee membership is a control variable deserving our attention. The disciplinary leaders who are alternate members in the Central Committee have much weaker incentives to carry out anticorruption campaigns in their provinces.

The negative effect of Central Committee membership is even larger than that of the native tie. One implication of this finding is that making promotion perspective clear to certain officials reduces their incentives for better performance.

Summary

One important role in a provincial standing committee is secretary of disciplinary inspection commission (DIC) that is responsible for investigating corruption and malfeasance as well as monitoring party cadres' immoral activities. Until 2015, provincial disciplinary inspection commissions were under dual leadership that the appointment of a DIC secretary or deputy secretary was jointly decided by the host provincial standing committee and the Central Disciplinary Inspection Commission. In 2015, the party centralized the appointment process of DIC secretaries and deputy secretaries. Hence, the proportion of native provincial disciplinary leaders drastically declined, reinforcing the trend that started years earlier. It appears that the institutional change helps sustain the momentum of the anticorruption campaign initiated by Xi Jinping right after the 2012 CCP leadership transition. Compared to native officials, the officials who were transferred from a different province or a central government agency are likely to investigate much more corrupt party cadres in their jurisdictions.

CHAPTER 4: SOCIAL TIES, ECONOMIC PERFORMANCE, AND THE CAREER ADVANCEMENT OF PROVINCIAL PARTY SECRETARIES

Provincial party secretaries are the most powerful members in provincial standing committees. Meanwhile, they serve as full members in the Central Committee. A few of them are able to reach the top lung of the power ladder, getting into the Secretariat or the Politburo. A lot of studies have focused on cadre promotions in the CCP and they basically follow two research lines—meritocracy and factionalism. Chapter 4 looks at how promotions of provincial party secretaries are attributed to economic performance and social ties to top party leaders.

Social Ties and Promotion

Social ties are an important factor that affects the promotion of Chinese officials. In China, political power is not always concentrated in the hands of a paramount leader. No political elites have absolute power over others, and they have to increase their job security by recruiting more political adherents. Purge of high-rank officials is common in China. Even after the turbulent Cultural Revolution, the general secretary of the Party was twice removed irregularly for mishandling mass protests in 1987 and 1989. Factional bargaining is a major part of Chinese politics in the past, and it plays an even more significant role today. Since 1990s, collective leadership has become a norm in the Party, and political power has been basically distributed between two factions. Li (2010) identified two major factions in the Politburo: the populist coalition and the elitist coalition. He found that many members of the populist faction have no family ties with senior party leaders, and have work experience in the Central Committee of the Chinese Communist Youth League. By contrast, the elitist faction consists of many princelings who are children of veteran party leaders. Many members in the elitist faction

have work experience in Shanghai and a connection with Jiang Zemin, a former CCP general secretary.

The CCP follows the Nonmenklatura system of the Soviet Union that the ruling party assigns government jobs at all levels. In such a system, senior party leaders are able to affect the promotion process regarding key political positions, for example, making their followers political candidates. Li (2001) studies four venues of social ties that connect Chinese political elites: families, colleges, work units, and personal assistantship. Children of veteran party leaders (princelings) enjoy great political resources to gain high-ranking government positions. They also share a common identity among themselves (Li, 2010). An example of princeling the current Chinese president, Xi Jinping, who is a son of Xi Zhongxun, a vice premier and Politburo member in 1980s.

Working in the same government unit provides an opportunity for officials to know each other and helps develop mutual trust. In many cases, factions are defined by work-unit affiliation. For example, the fourth generation of CCP party leaders can be classified into two major factions—former officials in Shanghai (*shanghaibang*) and former secretaries in the Central Committee of the Chinese Communist Youth League (*tuanpai*).

Previous research has mostly focused on the positive role of social ties in political promotion (Shih, Adolph, and Liu, 2012). However, it overlooks the potentially negative role of social ties resulting from the competition between rival factions. I argue that social ties have two conflicting effects on the promotion of provincial party secretaries: social ties send a trust signal to their own faction but a danger signal to the rival faction. Collective leadership requires that the preferences of different factions should be taken into account when provincial party secretaries are introduced into the Politburo. As Li observed, the party has been characterized by two major

factions since late 1990s. The effect of social ties on the promotion of provincial secretaries is conditional on the power distribution between the two factions. If the two factions are balanced, neutral candidates without any faction ties will be promoted more easily and a strong faction will lower the likelihood of promotion. But if one faction becomes more dominant, the candidates strongly connected to this faction will be promoted more easily.

Economic Performance and Promotion

After the Cultural Revolution, the party shifted its fundamental mission from class struggle to economic development. In 1978, the Organization Department of the Central Committee issued "An Opinion on Implementing the System of Check on Cadres[14]", which states that CCP party cadres should be evaluated periodically on "morality, capability, diligence, and achievements," with "achievements" defined as "mainly the direct or indirect contribution to modernization construction" (Guo, 2007). Chinese provincial and local officials are rewarded for good economic performance (Guo, 2007). Previous research has shown that good economic performance contributes to higher likelihood of promotion at the provincial level (Chen, Li, and Zhou, 2005) and the county level (Guo, 2007)). Economic performance being a promotion criterion encourages local officials to create a policy environment conducive to economic growth.

Apart from Politburo, the Secretariat is also an influential party institution. The Secretariat is in charge of ideological propaganda and personnel administration of the officials at the vice-minister-level or above. The Politburo and the Secretariat have many members in common, which suggests that these two institutions share similar criteria in selecting members.

[14]《关于实行干部考核制度的意见》

Promotion in the following statistical analysis means promotion into either the Politburo or the Secretariat. Four hypotheses are formulated based on the meritocratic and factionalist arguments on the promotion of provincial secretaries:

M1: Better educated provincial party secretaries are more likely to be promoted to the Politburo or the Secretariat.

M2: Provincial party secretaries who produce higher GDP growth are more likely to be promoted.

F1: Strong social ties increase the likelihood of promotion.

F2: Strong social ties decrease the likelihood of promotion.

Data and Measurement

Two data sources are used to test the hypotheses on the promotion of provincial secretaries. First, the Central Committee database (Shih, Shan, and Liu, 2008) contains basic biographical and career information of Central Committee members from 1927 through 2002. The second data source is the Statistical Yearbooks of China from 1981 to 2007, issued by the National Bureau of Statistics of China. It provides basic economic and demographic indicators for 31 Chinese provinces.

Most provincial party secretaries are Central Committee members. However, the Central Committee Database missed to record 3% of provincial party secretaries. The small number of missing cases are not examined in the statistical analysis. I focus on the years between 1990 and 2007 when 100 different provincial party secretaries were in office. The characteristics of these provincial party secretaries are show in Table 4.1.

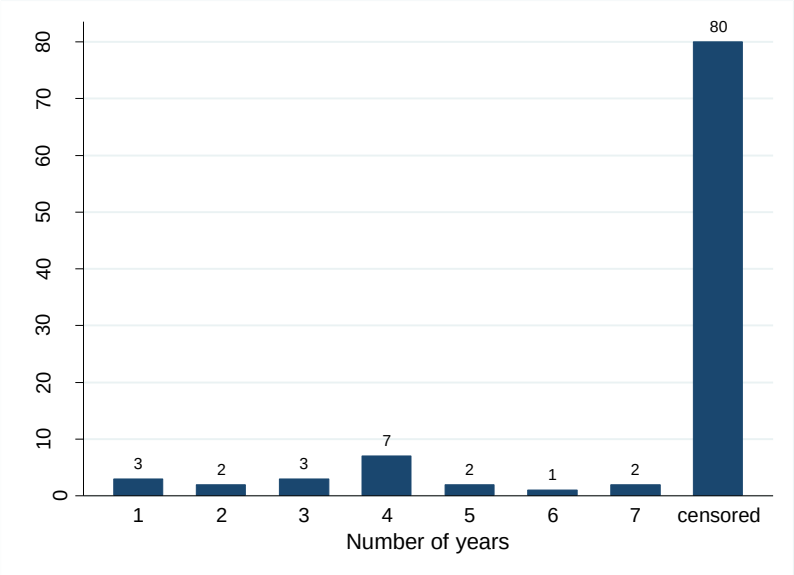
Table 4.1 Characteristics of Provincial Party Secretaries Serving in the Central Committee, 1990-2007

Variable	Mean	Median	SD	Min	Max
Birth Year	1938	1939	8	1920	1957
Ethnic Minority	0.04	0	0.2	0	1
Education	1.9	2	0.7	0	3
Princeling	0.03	0	0.17	0	1
Mishu	0.02	0	0.14	0	1
Birthplace Tie	0.12	0	0.33	0	1
College Tie	0.04	0	0.2	0	1
Job Tie (Binary)	0.37	0	0.49	0	1
Job Tie (Valued)	1.9	0	3.7	0	17

Number of Years before Promotion

The dependent variable, *duration*, measures the number of years between a provincial party secretary taking the office and entering the Politburo or Secretariat. Among the 100 provincial party secretaries examined, 20 were promoted before 2007. Provincial party chiefs can be classified into two groups: promoted and right censored. The censored party chiefs were not promoted until at least 2007. But the data set does not tell whether they would be eventually promoted. As Figure 4.1 shows, it often takes a provincial party secretary 1 to 7 years to be promoted.

Figure 4.1 Number of Years before Promotion



Meritocratic Determinants

Economic performance is a major criterion in evaluating provincial and local officials. GDP growth is a key indicator of economic performance, and is expected to be positively associated with promotion. In the statistical analysis, provincial GDP growth is lagged by one year. Previous research has used tax collection as an indicator of economic performance (Shih, Adolph and Liu, 2012). However, tax collection is not a consistent measurement over the years of my research interest, because the 1994 tax reform changed how fiscal revenues are distributed between provincial governments and the central government (Jin, Qian and Weingast, 2005).

China is divided between affluent coastal provinces and poor inland cities. Out of the 31 provinces, five are Minority Autonomous Regions (Tibet, Xinjiang, Inner Mongolia, Ningxia, and Guangxi[15]) which are all in western China. Tibet, Ningxia, and Xinjiang are three economically backward regions. A great concern for the party regarding those regions is social

[15] Over 90% population in Tibet are Tibetan. In Xinjiang, about 45% of its population are Uigurs, a Muslim ethnic group. Ningxia, Guangxi, and Inner Mongolia are dominated by Hui, Zhuang, and Mongols, respectively.

stability. Party secretaries of Minority Autonomous Regions can be exempted from the punishment for relatively low GDP growth. In addition, four provinces (Beijing, Shanghai, Tianjin, and Chongqing) are Directly Controlled Cities. Politburo members are often assigned to govern these four large cities.

So, it is necessary to add two dummy variables for Minority Autonomous Regions and Directly Controlled Cities, respectively.

The party strictly enforces the age limit on retirement. Central Committee members are subject to "seven up, eight down" that only the members who are 67 years old or younger are eligible to reappointment. For instance, all the Central Committee members who were born before 1940 retired in 2007 (Li, 2010). The new generations of party leaders are better educated than their predecessors. As Li (2001, 2010) has observed, technocrats who are educated to be engineers have been constituting an important part in the party leadership since 1990s. The party now has a higher requirement on education attainment. The Central Committee Database shows that after 1990, 69 of the provincial party chiefs have a college degree and about 14 have a post-graduate degree.

Social Ties

Family ties are measured by a dummy variable called *princeling*, with 1 indicating the children of veteran officials at the ministry level or above. Among the 100 provincial party secretaries examined, only three are princelings. *Mishu* in Chinese means personal assistant. Many current high-ranking officials were actually personal assistants of former party leaders. In the Central Committee Database, the variable *Mishu* specifically refers to the secretary of an

official at the ministry level or above. Mishu are even rarer than princelings: only two out of the 100 provincial party secretaries are Mishu.

Three variables are used to measure social ties between provincial party secretaries and central party leaders. *Birthplace tie* indicates whether a provincial party secretary was born in the same province with one of the top-two party leaders. *College tie* indicates whether a provincial party secretary studied in the same college with one of the top two party leaders. The data set shows that 12 percent of the provincial party secretaries have a birthplace tie with a top party leader, and only 4 percent of them have college tie.

The top two party leaders were Jiang Zemin and Li Peng from 1990 and 2002, and Jiang Zemin and Hu Jintao from 2003 to 2007. They all received support from some veteran party leaders, but veteran leaders are not regarded as top leaders in the statistical analysis. The political influence of veteran party leaders kept declining in 1990s after they left office and stopped finding new protégés. Between 1982 and 1989, Deng Xiaoping and Chen Yun were considered two most power party leaders in China (Lieberthal, 1995). Chen Yun had political experience in provinces, but Deng Xiaoping mostly worked in the central government. Deng Xiaoping had a very few protégées who were his former subordinates in a government agency. The data set shows that less than 2 percent of the provincial party secretaries have job ties with Deng Xiaoping, but 22 percent of them have job ties with Deng Xiaoping's protégés—Hu Yaobang and Zhao Ziyang. So, I use Hu Yaobang and Zhao Ziyang instead of Deng Xiaoping as a top party leader in the statistical analysis[16].

[16] Hu Yaobang was a top party leader between 1982 and 1986, and Zhao Ziyang between 1987 and 1989.

One measurement of job ties is a dummy variable indicating whether a provincial party secretary has worked with either of the top two leaders for at least a year[17]. Compared to birthplace ties and college ties, job ties are relatively abundant social capital. Thirty-seven percent of the provincial party secretaries had common work experience in the past with a top leader. Another measurement of job ties is a count variable which indicates the number of years of shared work experience, ranging from 0 to 17 years[18].

Control Variables

Promising provincial party secretaries are likely to be placed in significant provinces, such as Directly Controlled Cities and provinces with a large population. In terms of population, some Chinese provinces are comparable to large countries in the world. The 2010 census shows that each of the four biggest Chinese provinces (Guangdong, Shandong, Henan, and Sichuan) had more than 80 million residents. It is expected that the provincial party secretaries of a large province or a Directly Controlled City have more opportunities of being promoted.

The party puts equal emphasis on social stability and economic development. Ethnic minorities constitute about 10% of the Chinese population, but only make up 4% of the provincial party secretaries. One major threat to the party's governance is ethnic conflicts. One way to reduce the tension between ethnic minorities is allowing minority political elites to join a

[17] Some political institutions in the data are too broad, vaguely defined, or made up only by top party leaders. They are dropped in coding job ties. These political institutions include the Central Committee, the Central Advisory Committee, unknown military regions and units, temporary organizations/offices/leading groups of the State Council, mass organizations led by the party, abolished Central Committee organs, and party leadership positions.
[18] Another possible indicator for the degree of job ties is the number of Politburo members one is connected with, which is reflected by the binary job ties. Members of a faction usually form ties with each other through a common work place. Examples include *tuanpai*, oil bang, and Shanghai bang. So if one is tied with a faction leader, she is also very likely to be ties with other faction members.

top governing institution. However, from 1990 through 2007, there was solely one person of ethnic minority (Hui Liangyu) serving in the Politburo.

Event History Analysis

Event history analysis is a proper statistical tool when the dependent variable is the duration of time before an event occurs. In analyzing time series data or event history data, it is necessary to control time dependence. In most cases, provincial party secretaries were promoted to the Politburo or the Secretariat every five years when the Central Committee convenes in Beijing. Therefore, the hazard[19] of promotion is periodic that it rises and falls with a cycle of five years. I choose to use Cox event history analysis for its flexibility with modeling time dependence. Cox event history models are semiparametric: the covariates are modeled as in linear regressions, but time is not constrained by any parameters (Box-Steffensmeier and Jones, 2004).

[19] In event history analysis, hazard means the probability that an event happens at time *t* if it did not happen at time *t*-1.

Table 4.2 Cox Event History Analysis of the Promotion of Provincial Party Secretaries

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
GDP Growth	-0.02	0.03	-1.78	2.15	-0.02	-0.64
	(3.67)	(3.67)	(3.32)	(3.87)	(3.66)	(4.23)
Population	0.04**	0.04**	0.04**	0.04**	0.04**	0.04**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Minority Autonomous Region	1.00	0.97	1.06	1.12	0.99	1.05
	(1.10)	(1.09)	(0.98)	(1.16)	(1.10)	(1.12)
Directly Controlled City	5.16***	5.12***	5.33***	5.42***	5.15***	5.17***
	(1.10)	(1.07)	(1.05)	(1.18)	(1.11)	(1.10)
Age	-0.25***	-0.25***	-0.18***	-0.25***	-0.25***	-0.25***
	(0.07)	(0.07)	(0.06)	(0.07)	(0.07)	(0.07)
Ethnic Minority	1.40	1.38	1.13	1.57	1.40	1.36
	(1.17)	(1.16)	(1.11)	(1.18)	(1.17)	(1.17)
Education	0.25	0.28	-0.24	0.47	0.25	0.23
	(0.70)	(0.67)	(0.55)	(0.71)	(0.70)	(0.69)
Princeling	4.56***	4.50***	4.63***	4.82***	4.55***	4.62***
	(1.58)	(1.53)	(1.51)	(1.64)	(1.58)	(1.60)
Mishu	-1.43	-1.39	-1.02	-1.93	-1.42	-1.32
	(1.42)	(1.42)	(1.38)	(1.49)	(1.42)	(1.45)
Birthplace Tie	1.36*	1.36*	1.60**	4.79**	1.35*	1.37*
	(0.71)	(0.70)	(0.68)	(2.11)	(0.71)	(0.70)
College Tie	-5.97***	-5.96***	-5.10***	-6.48***	3.46	-6.00***
	(2.06)	(2.07)	(1.85)	(2.16)	(69.77)	(2.06)
Job Tie (Binary)	0.11		0.63	0.23	0.11	(0.35)
	(0.63)		(0.54)	(0.64)	(0.63)	(1.66)
Job Tie (Valued)		0.01				
		(0.08)				
Birthplace Tie * GDP Growth				-21.86		
				(13.69)		
College Tie * GDP Growth					-71.69	
					(532.07)	
Job Tie (Binary) * GDP Growth						2.73
						(9.03)
N	433	433	589	433	433	433
Log Pseudolikelihood	-56	-56	-72	-55	-56	-56
Pseudo R2	0.30	0.30	0.29	0.32	0.30	0.30

Note: * p < 0.1, ** p < 0.05, and *** p < 0.01. Standard errors are in parentheses and clustered on the id. The time span is 1982 through 1989 for Model 3, and 1990 through 2007 for the other models.

Data source: Central Committee Database.

Findings and Discussion

Table 4.2 compares the results from six Cox event history models. Model 1 is the baseline model that examines the promotion of provincial party secretaries from 1990 to 2007 and measures job ties with a dummy variable. Model 2 replaces measures job ties with a count variable. Model 3 extends the time span backward to 1982 and includes more cases. Model 4 to Model 6 include interaction terms of GDP growth with job ties, college ties, and birthplace ties. The standard errors are clustered by provincial party secretaries.

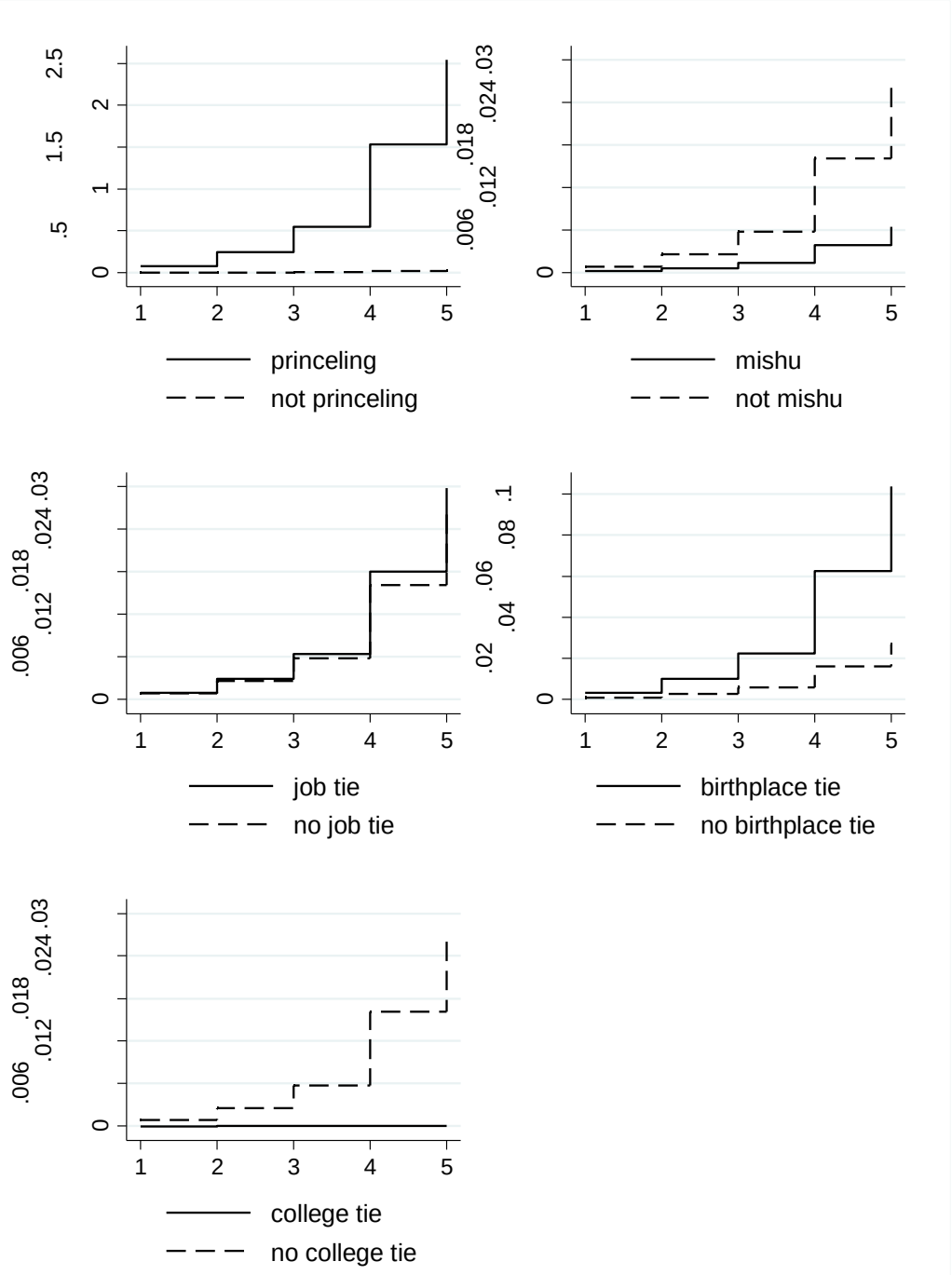
Table 4.2 shows that the results are robust across different model specifications. Except for age, the meritocratic argument of the promotion of provincial party secretaries does not hold well in the event history analysis. The effect of age on promotion is negative and statistically significant at the 99% confidence level, which suggests that the age limit on retirement is effectively implemented. But most other meritocracy-related variables have no statistically significant effect on the promotion of provincial party secretaries. Higher GDP growth does not increase the likelihood of promotion and neither does education attainment. However, the party secretaries of important provinces—including Directly Controlled Cities and populated provinces—have higher chance of promotion. In contrast, neither Minority Autonomous Regions and minority party secretaries are better represented in the Politburo or the Secretariat.

Five different forms of social ties are used to test the factionalist argument on the promotion of provincial party secretaries. The effects of social ties are complex. Some social ties (family, job, and birthplace ties) play a positive role, but the others (mishu and college ties) play a negative role. The mixed effects of social ties have also been observed by Zeng (2013). He analyzed the 2012 leadership transition of the Politburo Standing Committee and argued that

"candidates' patron-client ties with senior leaders did play a role but they are not always positive in terms of the career advancement of candidates (223)".

Based on baseline model (Model 1), Figure 4.2 presents the substantive effects (accumulative hazard) of different social ties on the promotion of provincial party secretaries. In Figure 4.2, the accumulative hazard gives an idea about how likely a provincial party secretary is promoted after a certain number of years. Mishu and job tie are not statistically significant in Model 1 but I still graphed their accumulative hazards to make a more general comparison. In estimating accumulative hazards, provincial GDP growth and population are set to their means, and all the other independent variables are set to their medians. The values of the variables are set in a way that they indicate an average provincial party secretary, who is a male Han Chinese at the age of 60, college-educated, and without any social ties with a top party leader.

Figure 4.2 Social Ties and Accumulative Hazards of Promotion



Note: The curve is based on the Cox baseline model using binary job ties. GDP and population are set to their means. All binary and categorical independent variables are set to their medians

In terms of statistical significance, family ties, college ties, and birthplace ties matter. In terms of substantive significance, only family ties and birthplace ties have a big impact. In Figure 4.2, the solid line indicates the accumulative hazard with a certain social tie, and the dash line indicates the accumulative hazard without it. Whether a social tie alters the likelihood of promotion in not obvious in the beginning years, but it becomes apparent as time goes on. The substantive effect of mishu, job ties, and college ties are very small: with 5 years elapsed, such a social tie makes a small difference (< 0.3%) in the accumulative hazards of promotion. In contrast, the substantive effects of birthplace and family ties are statistically significant and relatively large. For instance, with 5 years passed, a birthplace tie increases the gap in the accumulative hazards of promotion to be as wide as 8%. The princeling status substantially raises the odds of promotion: for a princeling the accumulative hazard of promotion rises to 1 within 4 years, but for a normal provincial party secretary it remains at around 0 over time.

Earlier studies have also examined the relationship between family ties and promotion but came to different conclusions. The importance of family ties becomes weaker over time, as a result from that the party institutionalized the procedures of leadership transition. Shi, Adolph, and Liu (2012) have shown that princeling status was clearly associated with higher rankings in the Central Committees from 1982 to 1992. However, they have also found that the advantage of princelings started to decline since 1992 and no longer existed in 1997 and 2002 (Shi, Adolph, and Liu, 2012). Zeng (2013) found that princeling status was not a criterion in selecting the members of the Politburo Standing Committee in 2012. Some studies did not conduct a year-by-year analysis, so they overlooked the heterogeneous effects of social ties over time. For example, Choi (2012) pooled the data on provincial leaders between 1989 and 2009 and found no effect of family tie on promotion. In contrast, by examining the promotion of provincial party secretaries

from 1990-2002, I find that family tie is the strongest factor among all the social ties in affecting the promotion outcome. Choi's findings and my findings are not conflicting because his research studied more recent years when princelings have lost their political advantage due to the institutionalization of leadership succession. The institutionalization is aimed at maintaining the legitimacy of the party under increasing domestic and foreign challenges (Nathan, 2003). Age requirement, tenure limit, and other norms or regulations have replaced faction ties as a major concern in the CCP leadership succession (Guo 2013).

Summary

The most important role in a provincial standing committee is secretary of party committee. China is a single-party state where at all levels, party leaders always have more power than government heads. In most cases, provincial party secretaries serve as full members in the Central Committee which is the top national institution of the party. A few provincial party secretaries are able to climb to the highest rung of the power ladder—the Politburo, and even become party general secretary. Chapter 4 compares the effects of economic performance and factional ties on promotion outcomes of provincial party secretaries. The findings are that economic performance such as provincial GDP growth has no significant impact and the effects of factional ties are mixed. For example, family ties to a top leader greatly increase the likelihood of promotion, but college ties disadvantage the candidates. It appears that a factional tie is a signal of trustworthiness to one's own faction but it is also a signal of challenge to the rival faction. The Presidium serves as the party institution in charge of selecting candidates for the Central Committee and the Politburo. In the Presidium, major factional leaders—regardless of retirement—are invited to negotiate and find an acceptable solution that balances every side's requests.

CHAPTER 5: CENTRAL COMMITTEE NETWORKS AND POLITBURO TRANSITIONS

In most established authoritarian regimes, old men rule. A dictator often lacks trust in other leaders and refuses to retreat from ruling until the last of day of his life. In many single-party states, power is shared among a few party leaders, but they are considerably older than junior party leaders. Gerontocracy became a serious concern to the CCP's leaders in 1980s. The party established the reserve cadre system to cultivate young party cadres for future leadership succession. Also, age limits were set on government and party positions at all levels. Chapter 5 studies how age limits constrain the expansion of political factions.

Factions and Politburo Transitions of the Chinese Communist Party

In post-Deng China, collective leadership has become a norm through regular Politburo meetings, national party congresses, limited governing terms, and other institutional reforms to enforce intra-party democracy.

Faction is an important concept in the literature of Chinese elite politics. In this research, I rely on Andrew Nathan's definition of faction. Based the observation of the Cultural Revolution, Andrew Nathan (1973) identified a few important features of factions in China: a faction involves two sides, a leader and a follower, who are unequal in status and power exchange different political resources. Nathan defines faction in a way that it resembles egocentric network. An egocentric network is centered around a single person with all the others in the network connected to him or her. An example of egocentric network is one's Facebook friendship network. Nathan's definition differs from the definition of faction in social network

analysis where faction refers to an exclusive group with all the members mutually connected but no member linked to an outsider (Wasserman 1994).

Factions are nested in social networks. The sources of social ties are family, hometown, college, work unit, and other social settings in which people can interact closely and develop mutual trust (Li 2001). Family, hometown, and college ties are static, so they have limited power in extending one's social network to reach a diverse group of people.

Among various social ties, vertical job ties are the most important in constructing the complex network of Chinese political elites. In a party institution or government agency, a leader and his or her subordinate maintain a hierarchical but close relationship. They communicate frequently, know each other well, and are bounded by the same bureaucratic interests. Leaders rely on their subordinates for policy implementation, and subordinates rely on their leaders for career advancement. As a leader moves from a political sector to another, he or she is able to recruit a new group of political followers and gain broader political influence. In China, top party leaders often have experience of leading positions in multiple provinces, government departments, or party institutions.

Factionalism prevails at the top level of Chinese politics (Nathan 1973). Research has found that change in national economic policies corresponds to change in the power distribution between political coalitions of high-ranking officials (Dittmer & Wu 1995; Shih 2008). The literature of Chinese leadership succession follows two research lines—meritocracy and factionalism. In analyzing the factors that may affect the rankings of provincial party leaders in the Central Committee, Shih, Adolph, and Liu (2012) found that GDP growth and other meritocratic variables are not significant, but social ties with central party leaders exert a substantial and positive influence.

In Chapter 5, I will focus on the leadership turnover in the CCP Politburo 1992, 1997, and 2002. During the three leadership transitions, Jiang Zemin was the incumbent CCP general secretary. Appendix A shows the central structure of the party where the Politburo is the top decision-making institution. The term of each Politburo is 5 years, and it consists of around 25 members who are elected by more than 200 Central Committee members. Central Committee members themselves constitute the pool of potential candidates, because full Central Committee membership is a requirement for running for the Politburo. However, until the most recent leadership turnover in 2012, the Politburo election only allowed a single candidate for each seat. Therefore, it is basically the nominators rather than the voters who determine the election outcomes. In each Politburo election, the Presidium is responsible for nominating the candidates. The Presidium Standing Committee is mainly composed of incumbent and retired Politburo members.

The Central Committee network is a hierarchical network of high-ranking Chinese officials. Those who take a central structural position in this network are likely to have many followers and gain greater influence in the party. The position in a political network is a source of political capital, and the informal power from political ties can translate into formal power such as Politburo membership. But unlike formal power, informal power can only be obtained via frequent interpersonal interactions over a long time. Two hypotheses on the relationship between party seniority, network centrality, and formal ranking in the party are derived as follows:

H1. In the Central Committee, a member's network centrality is positively associated with his or her seniority in the party.

H2. A potential candidate for the Politburo who has higher network centrality in the Central Committee network is more likely to get a seat in the Politburo.

In 1992, Deng Xiaoping yielded Chair of Central Military Commission to Jiang Zemin. And in the same year, the Central Advisory Commission, a transitional party organization where many veteran party leaders stayed, was abolished. Since then, veteran party handed over their formal power to the new generation of party leaders, but they could still exert political influence through their past followers. However, as time went on, their political networks stopped growing and started to wither, which allowed the new party leaders to gain higher political influence. In accordance with the dynamics of the power distribution between veteran and incumbent party leaders, two hypotheses are formulated:

H3. As time goes on, the tie to a retired Politburo member in the Presidium will become less important in the Politburo election.

H4. As time goes on, the tie to a retired Politburo member in the Presidium will become less important in the Politburo election.

Data and Measurements

The statistical analysis uses the Central Committee Database (Shih, Shan, and Liu 2008) and focuses on the 14th, 15th, and 16th Central Committees. Additional data were collected for the Presidium Standing Committee members who are not included in the Central Committee Database.

In each transition of the Politburo, Presidium members nominate the candidates of Politburo members and Central Committee members cast their votes to decide the final outcomes. In the Central Committee network, the nodes are Presidium Standing Committee

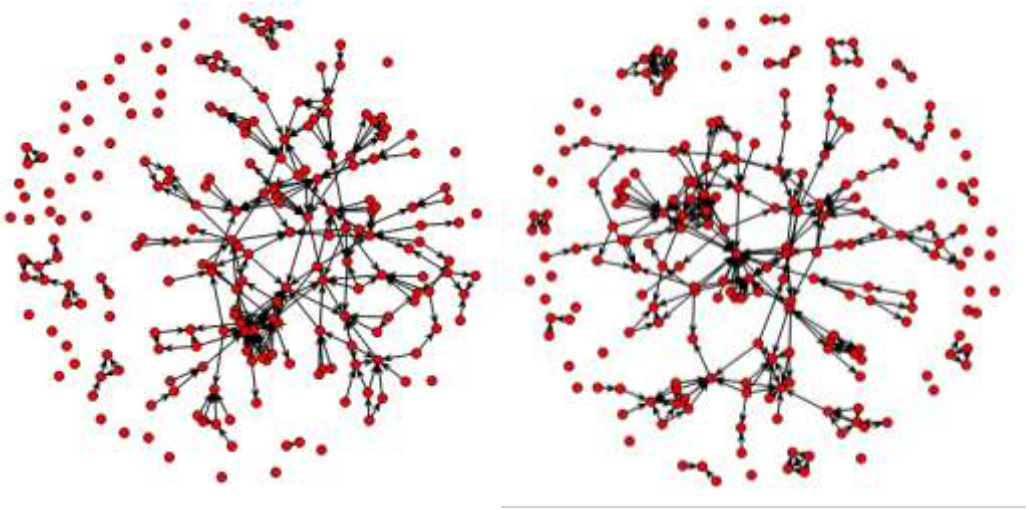
members and Central Committee members, and they are connected via vertical job ties. The vertical job tie is directed with the arrow going from a follower to a leader, and it must meet two conditions: (1) the two officials have worked in the same province, government department, or party organization for at least 5 years; and (2) one official is subordinate to the other (e.g., a mayor and a provincial party secretary) [20]. Unlike those with the same ranking, two officials with a vertical job tie are not likely to compete for promotion opportunities, since they are not placed in different games. Vertical job ties are robust and maintain mutual accountability. The data set shows that a very few Central Committee members have common work experience in multiple provinces, departments, or party organizations. For instance, Zeng Qinghong worked under Jiang Zemin in a Machinery Ministry for 5 years, and subsequently in Shanghai for 5 years. When Jiang Zemin became the party general secretary, Zeng Qinghong was also transferred to Beijing to take the position of the Deputy Director of the Office of the Central Committee.

Figure 5.1 demonstrates the three Central Committee networks between 1994 and 2002, and the Central Committee networks in 2007 and 2012 can be found in Appendix B. The size of the Central Committee network grew over time, from 208 in 1994, to 211 in 1997, and to 220 in 2002. The Central Committee network is well connected. In the network of the 14th Central Committee, only 21% of the nodes are isolates that they have no links to any other nodes. The percentage of isolates was even lower in the other two networks—16% in the 15th Central Committee and 18% in the 16th Central Committee. Degree centrality is the total number of ties that a node has, regardless of the directions of the ties. Across the three Central Committee networks, the median degree centrality is 2, 2, and 3, respectively. Additionally, every Central

[20] An official may take multiple positions in a province, government department, or party organization, but only the position with the highest ranking is kept in the statistical analysis. Another problem is reciprocal job ties which occurs when a low-ranking official is quickly promoted and gains higher ranking than his or her previous leader. The reciprocal job ties are broken by just keeping the job tie that is formed later.

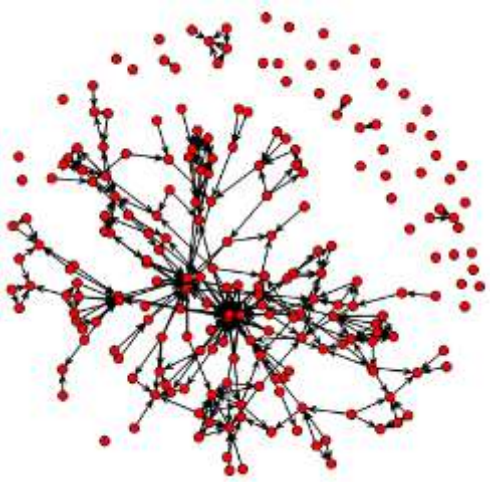
Committee network has a giant component in which everyone can find a way to connect with everyone else through direct ties or intermediaries. The giant component engulfs 67% of the nodes in the 14th Central Committee, 64% of the nodes in the 15th Central Committee, and 75% of the nodes in the 16th Central Committee.

Figure 5.1 Central Committee Networks, 1992 – 2002



The 14th Central Committee, 1992 The 15th Central Committee, 1997

Figure 5.1 Central Committee Networks, 1992 – 2002 (Continued)



The 16th Central Committee, 2002

Notes: each node represents a Central Committee or Presidium member. Two nodes are linked if they share work experience in a province, government department, or party organization for at least 5 years. The arrow points from a subordinate to his or her leader.

PageRank Centrality

An important concept in the first two hypotheses is network centrality. Network centrality describes how central a node is in a network. In social network analysis, researchers have created various measurements of network centrality, such as degree centrality, closeness centrality, betweenness centrality, eigenvector centrality, to name just a few (Wasserman 1994).

The Central Committee network has a hierarchical structure like a tree. A few central nodes have a lot of followers, and some of those followers have their own followers, and so on. Therefore, a simple and natural centrality measurement appears to be indegree centrality (the number of ties that a node receives). One's indegree centrality is equal to the number of his or her direct followers. Indegree centrality assumes that follwers are equally important. In many cases, this assumption does not hold because followers differ in their own indegree centrality scores. Indegree centrality overlooks the fact that one's structural importance in a network

depends not only on how many followers he or she has but also on how central his or her followers are in the network. PageRank centrality addresses this problem with indegree centrality.

PageRank is the algorithm under the Google search engine (Brin and Page 1998). Internet webpages make up an enormous network via hyperlinks. Sergey Brin and Lawrence Page (1998), the founders of Google, created PageRank centrality to identify the core webpages regarding a certain topic and refine online search results. Two types of webpages have high PageRank centrality: (1) webpages with many inward links, and (2) webpages with a few inward links that have many inward links themselves. Appendix C provides a formal definition of PageRank centrality. Like eigenvector centrality (Bonacich 1987), PageRank centrality captures the endogenous nature of network centrality that the centrality scores of two linked nodes are mutually reinforcing. PageRank centrality has also been used to measure authority and prestige in a hierarchical social network (Zhang, Ackerman and Adamic 2007).

To test the first two hypotheses, PageRank centrality is used as a measure for centrality in the Central Committee network[21]. It is multiplied by 100 times because even the maximal value is below 0.1 for Central Committee networks. The distribution of PageRank centrality is extremely skewed, where it is close to zero for most of the officials, but substantially higher for a handful of party leaders at the center of Central Committee networks.

Vertical Job Ties with Presidium Standing Committee Members

The Presidium of National Party Congress, and especially its Standing Committee, is in charge of drafting the list of candidates for the Politburo. A Presidium Standing Committee

[21] In calculating the PageRank centrality scores for Presidium and Central Committee members, the damping factor is set to its default at 0.85. For the meaning of damping factor, see Appendix C.

consists of three types of members—incumbent Politburo members, retired Politburo members, and other less important party leaders[22]. A time line is created to address potential confusion about the differences among retired, incumbent, and new Politburo members. In Figure 5.2, P_t is the Politburo right before the Politburo election and its members are considered as incumbent Politburo members; P_{t+1} is the newly elected Politburo and its members are regarded as new Politburo members; and retired Politburo members are those who retired prior to P_t.

Figure 5.2 Retired, Incumbent, and Politburo Members

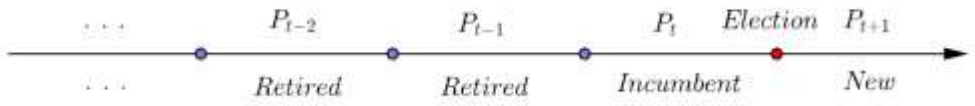


Table 5.1 shows the distribution of the three types of Presidium Standing Committee members in 1992, 1997, and 2002. A majority of Presidium Standing Committee members are incumbent Politburo members. After 1992, the Politburo became one and half times as large as before, and incumbent Politburo members started to take more seats in the Presidium Standing Committee. In contrast, retired Politburo members constitute a small but stable proportion in the Presidium, and the number of non-Politburo members keeps declining.

[22] Presidium Standing Committee members falling into this category include Secretariats of the Central Committee, vice chairmen of Central Military Commission, deputy secretaries of Central Discipline and Inspection Commission, and vice chairmen of the Peoples' Political Consultative Conference.

Table 5.1 Three Types of Presidium Standing Committee Members, 1992-2002

Presidium Members	1992	1997	2002
Incumbent Politburo Member	54%	68%	77%
	(14)	(21)	(23)
Retired Politburo Member	19%	13%	13%
	(5)	(4)	(4)
Other	27%	19%	10%
	(7)	(6)	(3)

Data source: http://cpc.people.com.cn

Accordingly, job ties between Central Committee members and Presidium Standing Committee members are classified into three categories: ties with incumbent Politburo members, ties with retired Politburo members, and ties with non-Politburo members. In 1992, 24% of the Central Committee members had a job tie with incumbent Politburo members in the Presidium, and 13% had a job tie with retired Politburo members in the Presidium. Since then, the job ties between Central Committee members and Politburo members have become increasingly tighter. In 1997, 32% of the Central Committee members had a job tie with incumbent Politburo members, and in 2002, this percentage rose to 41%. In contrast, after 1992, job ties between Central Committee members and retired Politburo members remain at a stable level: in both 1997 and 2002, 8% of the Central Committee members had a job tie with Presidium members who at the time retired from the Politburo. It appears that the change in the job ties corresponds to the power distribution between incumbent and retired Politburo members.

Outcome of the Politburo Turnover

The dependent variable in the first and the last two hypotheses is whether a Central Committee member becomes a Politburo member. Politburo membership contains three tiers: alternate membership, full membership, and Standing Committee membership. However, here

the dependent variable is a dummy variable that it does not distinguish among the three tiers of Politburo membership. Across the three Politburo turnovers in 1992, 1997, and 2002, the number of Politburo members slightly increased from 22 to 25. Central Committee members are potential candidates for the Politburo and their number just slightly changes, so the probability to enter the Politburo stays at a stable level around 0.13.

Party Seniority

Party seniority is measured by the number of years when one is a CCP member. The median party seniority of Central Committee members was 40 years in 1992 and 36 years in 1997 and 2002. Party seniority has a wide range, but the range keeps shrinking because the age limit on retirement has been strictly enforced. For Central Committee members, the range of party seniority was 54 years in 1992, 46 years in 1997, and 39 years in 2002. In 1992, the most senior Central Committee member had been a party member for 62 years, but in 2002, the most senior member had been only in the party for 49 years.

Control Variables

Chapter 5 focuses on the influence of political networks in CCP Politburo transitions, but the literature of Chinese leadership succession suggests that some other factors such as gender, ethnicity, and education also need to be taken into account.

The party advocates an egalitarian ideology that calls for an equal representation of different social groups in China. As the Central Committee Database shows, between 1992 and 2002 the percentage of ethnic minorities among all the Central Committee members was around 9%, which approximately matched the ratio of minority population in China. But the

representation of women in the Central Committee got worse over time. Despite that the overall size of the Central Committee increased, the number of female members dropped from 12 in 1992 to 3 in 2002. Male Han Chinese dominate in the Politburo to the extent that there were only one female Politburo member and one ethnic minority Politburo member between 1992 and 2002.

Education attainment is an important criterion in recruiting and promoting party cadres. To measure education attainment, three dummy variables are used—college degree and graduate degree. Some party cadres obtained a college degree through full-time education, while some of the other via part-time education or a party school. Li and Walder (2001) found that the party regards all the college degrees as valid, so in the statistical, I do not distinguish between the venues of getting a college degree. The data set shows that college and graduate degrees have become increasingly common among Central Committee members. In 1992, 81% of the Central Committee members graduated from a college and 8% received a graduate degree. Ten years later, 99% of the Central Committee members obtained a college degree and 20% obtained a graduate degree. It is expected that higher education increases the likelihood of getting into the Politburo.

Party Seniority and Centrality in the Central Committee Network

This examines how party seniority is associated with centrality in the Central Committee network. Like the Politburo, the turnover of Central Committee members occurs every five years, thus the Central Committee network does not change over a short period of time. As time goes on, a senior member's subordinates are likely to become Central Committee members

themselves, which helps the senior member reach a more central structural position in the Central Committee network.

Table 5.2 conducts a linear regression analysis on PageRank centrality in the Central Committee network. It finds that party seniority has a substantial effect on PageRank centrality, which is statistically significant at the 99% confidence level. Moreover, ten years of party seniority can raise PageRank centrality by 0.1 in 1992, 0.14 in 1997, and 0.08 in 2002. Given that most Central Committee members have PageRank centrality at a value close to zero, such a substantive effect of party seniority is huge.

Table 5.2 Linear Regression Analysis of Party Seniority and PageRank Centrality

	1992	1997	2002
Party Seniority	0.010***	0.014***	0.008***
	(0.003)	(0.004)	(0.002)
Male	0.023	-0.129	0.141
	(0.084)	(0.164)	(0.136)
Ethnic Minority	-0.005	-0.056	0.024
	(0.073)	(0.119)	(0.060)
College Education	0.007	0.057	0.060
	(0.054)	(0.135)	(0.166)
Graduate Education	-0.027	-0.025	0.040
	(0.089)	(0.164)	(0.171)
Constant	-0.010	0.029	-0.120
	(0.152)	(0.286)	(0.237)
N	194	198	200

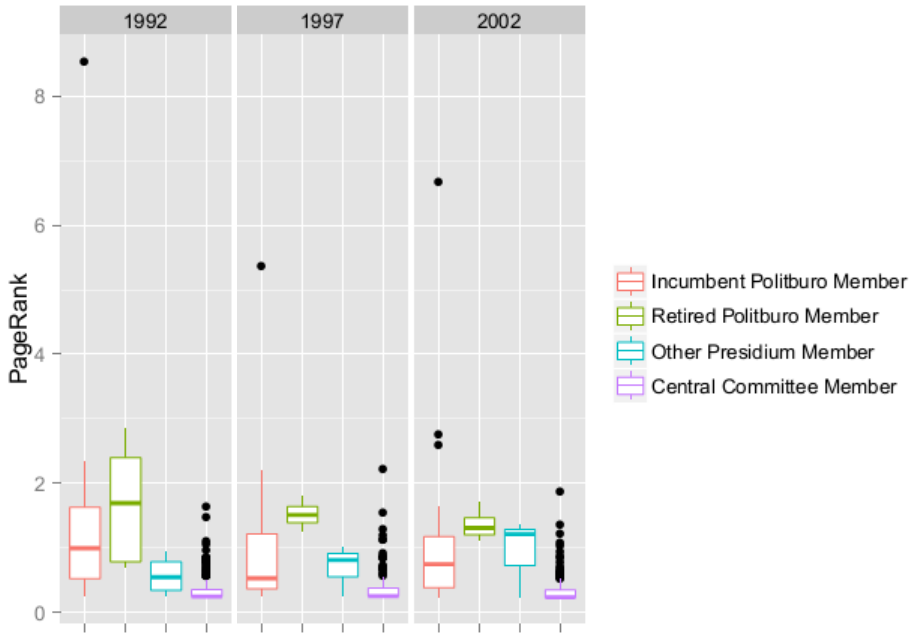
Notes: standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A senior party leader is able to increase his influence in the Central Committee by helping the followers become Central Committee members and expand their own political follower networks. However, when the senior party leader retires and leaves the Politburo, his influence will start to decline. Without a formal position in the party, he has to rely on previous

subordinates to exert his power. The subordinates are likely in their late political careers, and when they retire, it is difficult for the senior party leader to affect Central Committee members who are taking critical government positions. In this sense, party seniority is only positively associated with centrality in the Central Committee till retirement.

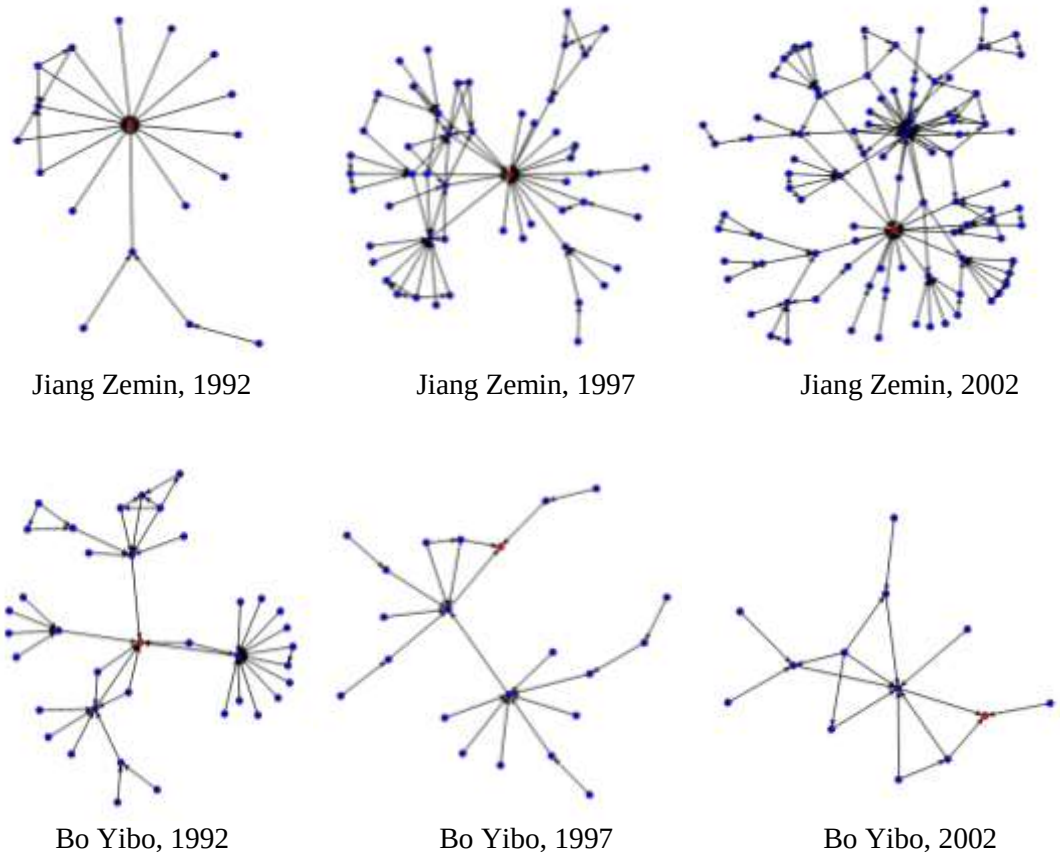
Figure 5.3 portrays how Politburo members' PageRank centrality values in the Central Committee network change across the three Central Committee networks. The box plots demonstrate the distributions of PageRank centrality values regarding different types of Presidium Standing Committee members as well as regular Central Committee members. The black points in Figure 5.3 represent the outliers who have extremely high PageRank centrality in the Central Committee network. There existed such outliers among incumbent Politburo members but not among retired Politburo members. It appears that the distribution of PageRank centrality values is relatively even regarding retired Politburo members, but highly skewed regarding incumbent Politburo members. On average, retired Politburo members had higher PageRank centrality than incumbent Politburo members. However, the gap kept decreasing from 1992 to 2002, and the Politburo members that have very high PageRank centrality are all incumbent.

Figure 5.3 PageRank Centrality across Central Committee Networks



To better explain how centrality in the Central Committee network varies in line with party seniority, Figure 5.4 illustrates two individual cases of Politburo members. Jiang Zemin was a Politburo Standing Committee member and the CCP general secretary from 1992 to 2002 and is a case of incumbent Politburo members. Bo Yibo is a case of retired Politburo members. He was an alternate Politburo member until the Cultural Revolution, retired from the position of Vice Chairmen of Central Advisory Commission in 1992, but served in the Presidium Standing Committee till 2002.

Figure 5.4 Evolving Reachability Networks of Jiang Zemin and Bo Yibo in the Central Committee Network



Jiang Zemin, 1992 Jiang Zemin, 1997 Jiang Zemin, 2002

Bo Yibo, 1992 Bo Yibo, 1997 Bo Yibo, 2002

Notes: Jiang Zemin was a Politburo Standing Committee member and the CCP general secretary from 1992 to 2002. Bo Yibo was a retired Politburo member and served in the Presidium from 1992 to 2002. Their networks of reachability are extracted from the complete Central Committee networks in Figure 5.1. The red nodes indicate Jiang Zemin and Bo Yibo.

In network analysis, reachability refers to the ability to get from one node to another in a network. Politburo members can reach their own direct followers, their followers' followers, and so on. Figure 5.4 portrays Jiang Zemin's and Bo Yibo's networks of reachability where all the nodes are connected to one of them via direct links or intermediaries. For Jiang Zemin, the initial network of reachability was simple and it was mainly composed of his direct followers. As time passed, his inner circle remained intact, and the overall network reachability grew fast. The expansion of Jiang Zemin's network of reachability is attracted to that the followers of Jiang

Zemin's direct followers began their membership in the Central Committee. Jiang Zemin's network of reachability developed from a simple faction to a complex faction that consisting of several sub-factions. Meanwhile, his PageRank centrality in the Central Committee network also kept increasing. In contrast, Bo Yibo's network of reachability in 1992 had a deep structure. However, more and more of his direct followers left the Central Committee, and his network of reachability kept contracting. As a result, Bo Yibo was no longer in the very center of his network of reachability and lost connections to many incumbent Central Committee members.

Network Centrality, Job Ties and Politburo Turnover

Logistic regression models are utilized to examine the turnover of Politburo membership in 1992, 19987 and 2002. The first two models focus on 1992. Yang Shangkun, a veteran party leader close to Deng Xiaoping, is a special case. Yang Shangkun was an incumbent Politburo member during the Politburo election in 1992, but he was 85 years old then, even older than all the retired Politburo members who served in the Presidium Standing Committee. The first model regards Yang Shangkun as an incumbent Politburo member, and to check the robustness of the findings the second model regards him as a retired Politburo member.

Table 5.3 presents the results from the logistic regression analysis of the Politburo turnover. The results confirm that PageRank centrality is strongly associated with the outcome of the Politburo turnover. The effect of PageRank centrality on the Politburo membership is positive and statistically significant at the 99% confidence level across the three Politburo turnovers.

Table 5.3 Logistic Regression Analysis of Network Centrality, Job Ties and Politburo Turnovers

	Model 1 (1992)	Model 2 (1992*)	Model 3 (1997)	Model 4 (2002)
PageRank Centrality	1.93**	1.91**	1.93***	2.33***
	(0.83)	(0.83)	(0.71)	(0.83)
# Ties: Incumbent Politburo Members	0.75**	0.64	-0.85	0.78***
	(0.38)	(0.40)	(0.57)	(0.26)
# Ties: Retired Politburo Members	0.91*	1.06**	1.69**	-0.08
	(0.49)	(0.51)	(0.72)	(0.90)
# Ties: Other Presidium Members			-0.39	
			(0.92)	
Party Seniority	0.01	0.00	0.1**	0.05
	(0.04)	(0.04)	(0.04)	(0.04)
Male			1.26	-0.81
			(1.33)	(1.36)
Ethnic Minority				-0.68
				(1.09)
College Education	1.86*	1.84*	1.89	
	(1.11)	(1.11)	(1.43)	
Graduate Education	1.55	1.57	1.98	
	(1.55)	(1.55)	15.90	
Constant	-5.04***	-4.81***	-9.51***	-4.28**
	(1.84)	(1.86)	(2.89)	(2.03)
N	194	194	198	200
Log-likelihood	-51.21	-51.07	-50.58	-60.90

Notes: standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Yang Shangkun is coded as an incumbent Politburo member in the first model but a retired Politburo member in the second model.

As the last three models show, incumbent Politburo members became more influential, while the importance of retired Politburo members declined. Before 2002, job ties with retired Politburo members increased the chance of winning the Politburo election, but job ties with incumbent Politburo members did not at least in terms of statistical significance. But the situation was flipped in 1992 where job ties with incumbent Politburo members gave potential candidates an advantage whereas job ties with retired Politburo members did not. These findings suggest that job ties with Presidium Standing Committee members play a role and the impact of incumbent and retired Politburo members depend on their influence in the Party. Since 1992 when Deng Xiaoping handed over all of his party positions, the age limit on retirement has been strictly enforced. As a result, party elders lost their formal power and their follower networks started to wither. In contrast, younger incumbent party leaders got a chance to fill the power vacuum and the freedom to expand their follower networks.

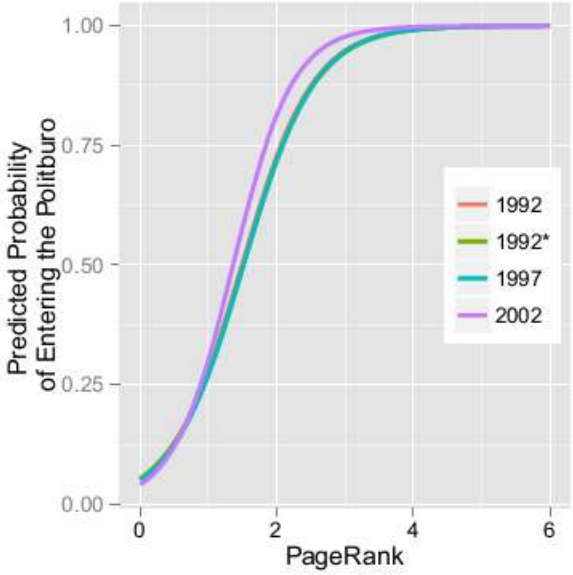
Unlike the second model, the first model shows that job ties with incumbent Politburo members were associated with a higher chance of getting into the Politburo in 1992. The different results from the two models are attributed to the way how the case of Yang Shangkun is coded.

Most control variables have no statistically significant effect on the Politburo turnover. The only two exceptions are college education in the case of 1992 and party seniority in the case of 1997, but their effects are not consistent over time. When the models are estimated, some control variables suffer the problem of quasi-complete separation: some values perfectly predict the outcome, though the other values correspond to mixed outcomes. For instance, in 1992 no female or ethnic minority candidates became new Politburo members. When quasi-complete separation occurs, the coefficient of the affected variable will have a very high standard error,

and it is likely to be dropped from the regression model by statistical software. In the cases of gender and ethnicity, quasi-complete separation suggests that different social groups are not equally represented in the Politburo.

Based on the models in Table 5.3, Figure 5.5 portrays how PageRank centrality affects the predicted probability of becoming a Politburo member. When estimating the predicted probabilities, all the binary independent variables are set to their modes, and all the continuous independent variables are set to their means. The estimates are based on 10000 simulations. The curves represent the relationship between PageRank centrality and the probability of joining the Politburo. It appears that the effect of PageRank centrality is quite similar in the four logistical regression models.

Figure 5.5 PageRank Centrality and the Politburo Turnover



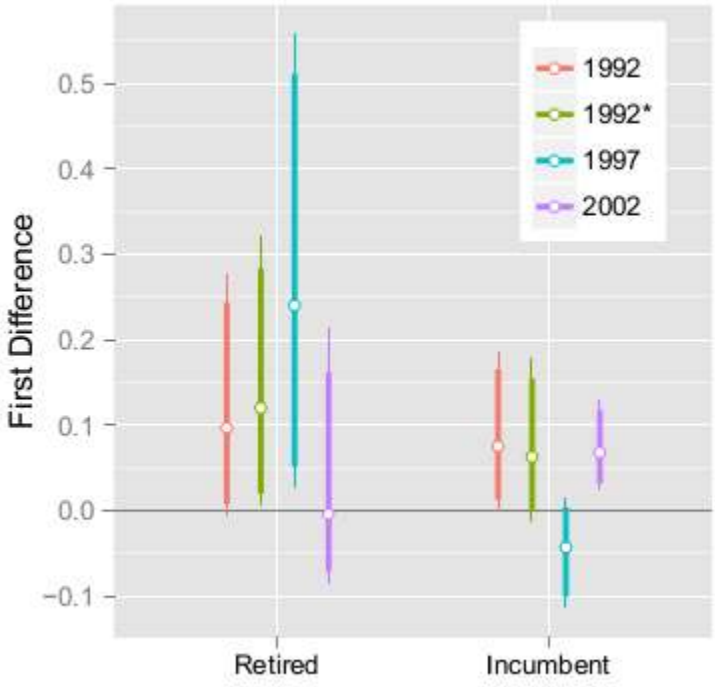
Notes: This graph is based on the logistic regression models in Table 5.3. The curves demonstrate the relationship between PageRank centrality and the probability of becoming a Politburo member. When estimating the predicted probabilities, all the binary independent variables are set to their modes, and all the continuous independent variables are set to their means. The estimates are based on 10000 simulations.

Figure 5.5 shows that PageRank centrality substantially increases the chance of winning seat in the Politburo. Take the 2002 Politburo turnover as an example. If PageRank centrality is equal to zero, the probability of getting into the Politburo is 0.05. As PageRank centrality rises to one, the probability will be increased by 0.23, and as PageRank centrality reaches two, the probability will be further increased by 0.45. When PageRank centrality exceeds three, the probability will stay at around one. Most potential candidates have very low PageRank centrality, and a tiny increase in PageRank centrality can put a candidate at great advantage.

The first differences of job ties are estimated based on the results from the logistic regression models in Table 5.3. The first difference shows the change in the probability of getting into the Politburo when one gets a job tie with a retired or incumbent Politburo member. In Figure 5.6, a white point indicates the median value of a first difference, a thick vertical line indicates a 95% confidence interval, and a thin vertical line indicates a 99% confidence interval.

The horizontal line represents the first difference at zero. When estimating the first differences, all the binary independent variables are set to their modes, and all the continuous independent variables are set to their means. The estimates are based on 10000 simulations.

Figure 5.6 First Differences of Job Ties with Presidium Standing Committee Members



Notes: This graph is based on the logistic regression models in Table 5.3. The first difference shows the change in the probability of getting into the Politburo when one gets a job tie with a retired or incumbent Politburo member. A white point indicates the median value of a first difference, a thick vertical line indicates a 95% confidence interval, and a thin vertical line indicates a 99% confidence interval. The horizontal line represents the first difference at zero. When estimating the first differences, all the binary independent variables are set to their modes, and all the continuous independent variables are set to their means. The estimates are based on 10000 simulations.

As Figure 5.6 shows, the job tie with a retired Politburo member increased the probability of entering the Politburo by 0.12 in the case of 1992 (Yang Shangkun as a retired Politburo member) and 0.24 in the case of 1997, whereas the job tie with an incumbent Politburo member made no difference. However, in 2002 a potential candidate was not advantaged due to his or her job ties with retired Politburo members, and instead the job tie with an incumbent Politburo

member was associated with an increase of 0.07 in the probability of getting a seat in the Politburo. These findings confirm the last two hypotheses that as time goes on, incumbent Politburo members are likely to replace their retired counterparts as the most important actors in nominating new Politburo members.

Summary

Chapter 5 continues to examine the outcomes of the Politburo turnover. It focuses on all the full members in the Central Committee and utilizes more sophisticated tools of social network analysis. Work experience in provinces and specialized bureaucracies connects Central Committee members. Central Committee members (nodes) and their job ties (edges) make up the Central Committee network. Centrality in this network is a very strong predictor of the outcome of a Politburo election. Here, network centrality is measured by PageRank centrality, a metric used by the Google Search Engine to find the most important webpages related to a topic. In many ways, the Central Committee network resembles the Internet. PageRank centrality in the Central Committee network is positively associated with party seniority, but due to age limits, it cannot grow with no ceiling. As the case of Bo Yibo shows, although retired Politburo members are an important force affecting leadership succession, their influence keeps declining once they leave their formal posts in the party.

CHAPTER 6: CONCLUSION AND FUTURE WORK

Conclusion

The survival of an authoritarian regime in a large part depends on how power is shared among political elites (Bueno de Mesquita et al. 2003). A few waves of severe factional confrontation almost killed the nascent Chinese Communist Party (Shih 2016), and Mao's dictatorship led to a series of disastrous policies such the Great Leap Forward and the Cultural Revolution. In 1980s, drawing on past failures the party began to take a road of market economy and institutionalization. Institutions prevent a single party leader from seizing dominant power and allow rival factions to resolve conflicts through peaceful channels.

Utilizing social network data and tools, the dissertation attempts to explore how institutions limit factions in Chinese elite politics. It first looks at provincial standing committees, the top party institutions at the provincial level. The rule of avoidance has become a norm in the party for personnel management. The rule of avoidance requires that party cadres should not be assigned to important party posts in their birthplaces where they can easily build a faction with their family members, old friends, and long-time colleagues. It is clear that in a provincial standing committee, non-native officials take almost every critical position such as secretary of party committee and secretary of disciplinary inspection commission, whereas native officials often just take secondary positions. Also, long-time experience in a different province or a central government agency puts provincial officials at an advantage. As a result, a party cadre's ranking in a provincial standing committee is negatively related to the number of birthplace ties to his or her colleagues. However, the rule of avoidance is not equally enforced across provinces. It is effectively implemented in deep-in-debt provinces that are highly reliant on the central

government for fiscal transfer. But in affluent and solvent provinces, a native official, indeed, has much higher chance to get an important post in his or her provincial standing committee.

One important role in a provincial standing committee is secretary of disciplinary inspection commission (DIC) that is responsible for investigating corruption and malfeasance as well as monitoring party cadres' immoral activities. Until 2015, provincial disciplinary inspection commissions were under dual leadership where the appointment of a DIC secretary or deputy secretary was jointly decided by the host provincial standing committee and the Central Disciplinary Inspection Commission. In 2015, the party centralized the appointment process of DIC secretaries and deputy secretaries. Hence, the proportion of native provincial disciplinary leaders drastically declined, reinforcing an earlier trend. It appears that the institutional change helps sustain the momentum of the anticorruption campaign initiated by Xi Jinping right after the 2012 CCP leadership transition. Compared to native officials, the officials who were transferred from a different province or a central government agency are likely to investigate much more corrupt party cadres in their jurisdictions.

The most important role in a provincial standing committee is secretary of party committee. China is a single-party state where at all levels, party leaders have more power than government heads. In most cases, provincial party secretaries serve as full members in the Central Committee which is the top national institution of the party. A few provincial party secretaries are able to climb to the highest rung of the power ladder—the Politburo—and even become party general secretary. Chapter 4 compares the effects of economic performance and factional ties on promotion outcomes of provincial party secretaries. The findings are that economic performance such as provincial GDP growth has no significant impact and the effects of factional ties are mixed. For example, family ties to a top leader greatly increase the likelihood

of promotion, but college ties disadvantage the candidates. It appears that a factional tie is a signal of trustworthiness to one's own faction but it is also a signal of challenge to the rival faction. The Presidium serves as the party institution in charge of selecting candidates for the Central Committee and the Politburo. In the Presidium, major factional leaders—regardless of retirement—are invited to negotiate and find an acceptable solution that balances every side's needs.

Chapter 5 continues to examine the outcomes of the Politburo turnover. It focuses on all the full members in the Central Committee and utilizes more sophisticated tools in social network analysis. Work experience in provinces and specialized bureaucracies connects Central Committee members. Central Committee members (nodes) and their job ties (edges) make up the Central Committee network. Centrality in this network is a very strong predictor of the Politburo elections. Here, network centrality is measured by PageRank centrality, a metric used by the Google Search Engine to find the most important webpages related to a topic. In many ways, the Central Committee network resembles the Internet. PageRank centrality in the Central Committee network is positively associated with party seniority, but due to the age limits, it cannot grow with no ceiling. As the case of Bo Yibo shows, although retired Politburo members are an important force affecting leadership succession, their influence keeps declining once they leave their formal posts in the party.

Future Work

Faction Detection via Semi-Supervised Clustering

In social network analysis, faction is a very strict concept that in reality very few network structures perfectly fit its definition. Another network concept that is closely related to factions

in Chinese elite politics is community. It is defined in a loose way that community members are well connected to each other but not so to people outside the community. Social physics has great interest in community detection, and many new algorithms have been recently developed. Fortunato (2010) offers a thorough review for community detection in networks.

Actually, I originally planned to study how power distribution of factions affects their strategies in selecting leadership successors. However, that research project got stuck because the factions identified via popular community detection algorithms always misclassify some important cases and are not convincing to other researchers. A community detection algorithm is a graph-based clustering algorithm, and it is completely dependent on unlabeled[23] data. Recent advancements in machine learning show that a few labeled data points can significantly improve the performance of clustering algorithms (Bassu et al. 2002; Bassu et al. 2004; Bilenko et al. 2004; Grira et al. 2004). Such machine learning methods are called semi-supervised clustering. Factional affiliations of some elites are obvious and can be used as labeled data or constraints in semi-supervised clustering for faction detection. Community detection can also be done through two steps. At the first step, a network is built based on strictly defined factional ties, for example, common work experience in at least two different provinces or specialized bureaucracies. At the second step, using strictly defined factional ties, semi-supervised clustering is performed on a network based on loosely defined factional ties, such as shared work experience in at least one province or government agency. It is possible that semi-supervised clustering with some prior knowledge can produce more reliable results for faction detection.

[23] Unlabeled here means that the factional affiliation is unknown.

Party Institutionalization Driven by Factional Conflicts

Factions and institutions interact in complex ways. However, the dissertation just concentrates on how formal and informal party institutions limit the power of factions. In an authoritarian regime, institutions are malleable and are often used as a strategy by a powerful faction to constrain its challengers. Hence, institutional reforms in some cases may be driven by factional conflicts. Wang and Vangeli (2016) told an interesting story to illustrate this point. The story involves multiple party elites, and Table 6.1 briefly describes their connections and party positions.

Table 6.1 Main Characters in Wang and Vangeli's (2016) Story

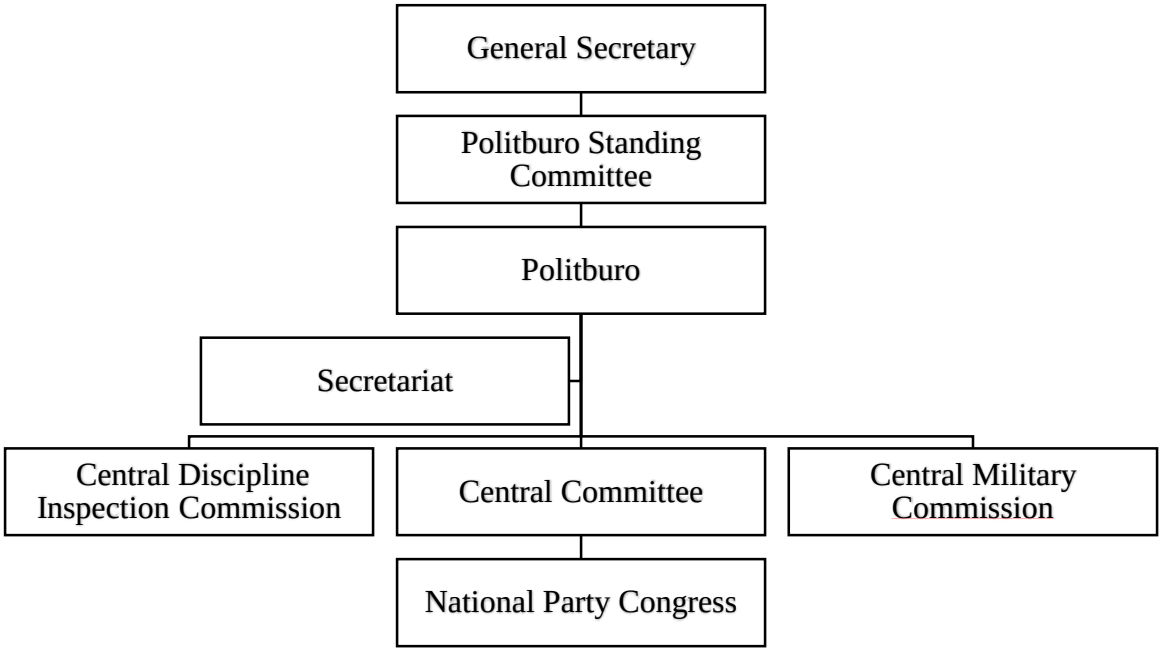
Name	Description
Jiang Zemin	• Party general secretary, 1990-2002
Xi Jinping	• Party general secretary, 2012- • Candidate for party general secretary in 2007, relatively neutral
Zeng Qinghong	• President of the Central Party School, 2002-2007 • Jiang Zemin's protégé and strategist
Hu Jintao	• Party general secretary, 2002-2012
Li Keqiang	• Premiere, 2012- • Candidate for party general secretary in 2007 • Hu Jintao's protégé

In 2007, as the 2012 National Party Congress was getting close, the party had to decide the successor for party general secretary. The choice boiled down to Li Keqiang and Xi Jinping. Li Keqiang is a long-time protégé of Hu Jintao, the current party general secretary at the time. And Xi Jinping is a princeling, a son of a former Politburo member. Although Jiang Zemin was a retired party general secretary, through protégés in power, he still had great influence over the

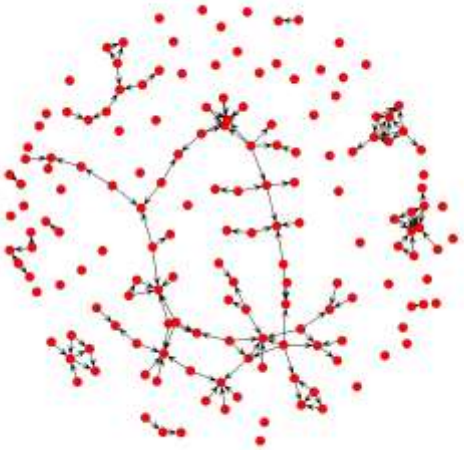
party's big decisions. Jiang Zemin could not accept Li Keqiang as the successor because it would tip the balance between Jiang Zemin's and Hu Jintao's factions. Therefore, Jiang Zemin threw his support behind Xi Jinping who was relatively neutral to both factions. In June 2007, Zeng Qinghong, Jiang Zemin's close protégé, orchestrated a straw poll at the Central Party School where about 400 alternate and full Central Committee members cast their votes. It turned out that Xi Jinping received much more votes than Li Keqiang. Using this result, Jiang Zemin was able to make a deal with Hu Jintao that Xi Jinping would succeed as the party general secretary and Li Keqiang as the premier. Wang and Vangeli (2016) argued that such a straw poll is likely to become another institutional check in future party leadership successions.

There were many such stories when institutional innovations were introduced in the party. Institutional change may result from factions' competition for power, but once rule and norms are adopted, it is difficult to reverse them due to path dependence (Mahoney 2000; Pierson 2000). The dissertation project will continue to study the roles of factional competition in institution building in the Chinese Communist Party.

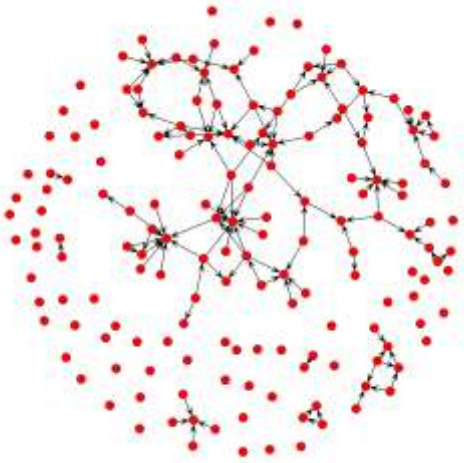
APPENDIX A: STRUCTURE OF THE CHINESE COMMUNIST PARTY



APPENDIX B: CENTRAL COMMITTEE NETWORKS, 2007 AND 2012



The 17th Central Committee, 2007



The 18th Central Committee, 2012

APPENDIX C: A FORMAL DEFINITION OF PAGERANK CENTRALITY

PageRank centrality is defined as follows:

$$PR(p_i) = \frac{(1-d)}{N} + d \sum_{p_j \in M(p_i)} \frac{PR(p_j)}{L(p_j)}$$

where $M(p_i)$ is the set of nodes that link to node p_i, $L(p_j)$ is the number of outbound links from p_j, namely the outdegree of p_j, and *d* is the damping factor. The PageRank centrality of a webpage p_i reflects the probability that a random surfer lands on p_i (Brin and Page 1998).

When the random surfer gets bored, he may click the link to a new webpage with the probability at d, or randomly choose a webpage with the probability at $1-d$. Suppose p_j is a webpage linked to p_i and $PR(p_j)$ is the probability that p_j is visited. Webpage p_j has $L(p_j)$ links to other webpages and clicking a link on p_j is a random process with the probability at $\frac{1}{L(p_j)}$. So, the probability that the random surfer opens p_i from p_j is $\frac{PR(p_j)}{L(p_j)}$. If a webpage has no links to other webpages ($L(p_j) = 0$), it becomes a sink and terminates the random surfing process. To keep random surfing going, all the sink webpages are assumed to be linked to all the other webpages.

APPENDIX D: SUMMARY STATISTICS: ATTRIBUTES OF CENTRAL COMMITTEE MEMBERS

The 14th Central Committee (1992)

Variable	N	Mean	Median	SD	Min	Max
Politburo Member	194	0.11	0	0.32	0	1
# Ties: Incumbent Politburo Members	194	0.29	0	0.56	0	2
# Ties: Retired Politburo Members	194	0.15	0	0.41	0	2
# Ties: Other Presidium Members	194	0.10	0	0.34	0	2
PageRank Centrality	194	0.39	0.25	0.28	0.25	2.27
Party Seniority	194	39	40	8	8	62
Male	194	0.94	1	0.24	0	1
Ethnic Minority	194	0.09	0	0.44	0	1
College Education	194	0.74	1	0.44	0	1
Graduate Education	194	0.08	0	0.27	0	1

The 15th Central Committee (1997)

Variable	N	Mean	Median	SD	Min	Max
Politburo Member	198	0.12	0	0.32	0	1
# Ties: Incumbent Politburo Members	198	0.39	0	0.62	0	3
# Ties: Retired Politburo Members	198	0.09	0	0.30	0	2
# Ties: Other Presidium Members	198	0.13	0	0.42	0	2
PageRank Centrality	198	0.43	0.26	0.46	0.26	5.36
Party Seniority	198	35	36	9	13	59
Male	198	0.96	1	0.20	0	1
Ethnic Minority	198	0.08	0	0.27	0	1
College Education	198	0.81	1	0.39	0	1
Graduate Education	198	0.12	0	0.33	0	1

The 16th Central Committee (2002)

Variable	N	Mean	Median	SD	Min	Max
Politburo Member	200	0.13	0	0.33	0	1
# Ties: Incumbent Politburo Members	200	0.58	0	0.84	0	4
# Ties: Retired Politburo Members	200	0.08	0	0.26	0	1
# Ties: Other Presidium Members	200	0.11	0	0.31	0	1
PageRank Centrality	200	0.36	0.24	0.24	0.24	1.87
Party Seniority	200	34	36	7	10	49
Male	200	0.99	1	0.12	0	1
Ethnic Minority	200	0.09	0	0.28	0	1
College Education	200	0.80	1	0.40	0	1
Graduate Education	200	0.19	0	0.39	0	1

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