

**The Promotion Mechanism of Political Elites
in Reforming China**

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Abstract

This thesis attempts to study how human capital and social capital affect political elite upward mobility in China. The analysis of human capital or social capital has long been at the crux of the studies on status attainment, career mobility and social stratification. Previous literature has emphasized the notable career returns to either capital. Yet little is understood about whether the effect of either capital can be also observed in upward mobility for political leaders, to what extent either capital is rewarded in promotion dynamics over different career stages or how both capitals interrelate in the process of career mobility. This thesis attempts to answer the first two research questions and leaves the third issue unresolved for future research. Thus, it develops promotion models for Chinese provincial leaders from 1990 to 2013. The promotion analyses in this thesis addresses two specific research questions: how do human capital and social capital affect promotion outcomes? And how do these effects change across administrative ranks and over different historical periods?

Based on education and career histories of a sample of 1,891 provincial leaders drawn from 31 provincial-level administrations in China, this thesis extends the understanding of provincial leadership transformation from 1990 to 2013 and the role of human capital and social capital in the promotion dynamics. By applying event history analysis, this thesis also contributes to the empirical studies of Chinese elite mobility and stratification by providing insights into the promotion dynamics from a life course perspective and through historical comparisons of promotion models in the pre-Jiang era (before 1990) and under the Jiang period (1990-2002).

The major findings in this thesis show that Chinese provincial leadership transformation is characterized by the emergence of technocrats in the 1990s and the rise of career bureaucrats since 2000. In the investigation of political upward mobility processes, provincial leaders are considered as fast runners in mobility competitions across administrative ranks. In the analyses of promotion dynamics,

both human capital and social capital are responsible for upward mobility in Chinese politics. Specifically, relative to high school or below, higher education is significantly rewarded in career advancement within the political hierarchy. The impact of specific educational degrees on promotion differs modestly. Political officials trained in science and engineering are not distinguished from those majoring in humanities and social sciences in promotion dynamics. Public service seniority plays an important role in political upward mobility. Social capital contributes to the promotion dynamics towards different administrative ranks in a similar way. In addition, the promotion analyses also demonstrate the historical persistence and changes in the career rewards for either human capital or social capital. There are significant variations in the impact of educational levels between the rank-specific promotion dynamics before and under Jiang. However, the rank-specific promotion dynamics before and under Jiang tend to be similar regarding the effects of academic disciplines, public service seniority and social capital.

Based on these findings, the provincial leadership transformation in this thesis is interpreted by the institutional mechanisms of leadership selection and cadre management. Individual life chances for political leaders--such as education and career opportunities--are shaped by the macro-sociopolitical transformation and the state policy shifts in China.

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List of Abbreviations

CC	Central Committee
CCDI	Central Commission for Discipline Inspection
CCP	Chinese Communist Party
CCYL	Chinese Communist Youth League
CMC	Central Military Commission
CPLC	Central Politics and Law Commission
CPPCC	Chinese People's Political Consultative Conference
CR	Cultural Revolution
GDP	Gross Domestic Product
GEE	Generalized Estimating Equations
MPC	Municipal People's Congress
NPC	National People's Congress
NUFE	Northeast University of Finance and Economics
PLA	People's Liberation Army
PPC	Provincial People's Congress
P.R.C.	People's Republic of China
SASAC	State-owned Assets Supervision and Administration Commission
SOE	State-owned Enterprise
SPC	Supreme People's Court
SPP	Supreme People's Procuratorate
SPSS	Statistical Package for the Social Sciences
U.S.A.	The United States of America

Chapter 1 Introduction

The post-Deng era has witnessed peaceful power transfers and regime stability for two decades in China. At the time when this research project was conceived in 2011, a new wave of personnel reshuffling at the local levels was initiated. There were a total of 31 provinces, 361 cities, 2,811 counties and 34,171 townships choosing their new party leaders and completing the handover of power between 2011 and the first half of 2012¹. Such large-scale leadership selection increasingly caught the eyes of China observers who were not only interested in who ultimately rose to power, but also in how they were chosen and succeeded in the mobility competitions in the party-state of China.

That is the subject of this thesis: how do political officials in China climb from the bottom to the top within the political hierarchy and what are the key assets for their career success in the reform-era China? Such questions help to open the black box of leadership selection in Chinese elite politics by asking who is running China. To seek the answers to these questions, this thesis examines the processes of political upward mobility in the Chinese context and traces career trajectories for individual political leaders and for cohorts of leaders from a life course perspective. Despite the proliferating research on Chinese political elite mobility due to the growing availability of leadership biographies, the empirical study pertaining to the promotion dynamics across administrative ranks is still in its infancy. This thesis attempts to fill this research vacuum by examining the variations in the way in which promotion opportunities are distributed over different career stages. The study of rank-specific promotion dynamics in this thesis—the attainment of higher administrative ranks for political officials or the process of assigning viable candidates to elite status and positions for the party-state—provides a sound basis

¹ See the website of “neidi dangwei huanjie wancheng” (The Completion of Leadership Changes in Mainland China, 内地党委换届完成), ifeng.com (凤凰网), accessed on 12 June, 2015 at <http://news.ifeng.com/mainland/special/dangweihuanjie/>.

for explaining the promotion patterns and understanding the dependence of individual life chances on the state, particularly the shifts of state policies.

A wealth of current academic literature on Chinese political elite mobility generally follows three research lines: the factionalism model (Dittmer, 1978, 1995, 2003; Huang, 2000; Nathan, 1973; Nathan & Tsai, 1995; Tsou & Nathan, 1976), the performance approach (Bo, 2002; Chen, Li & Zhou, 2005; Choi, 2012; Landry, 2008; Landry, Lu & Duan, 2015; Li & Zhou, 2005; Shih, Adolph & Liu, 2012) and the human capital theory or the meritocratic argument (Lee, 1991; Lin, 2012; Huang, 2009; Shih, Adolph & Liu, 2012; Walder, 1995; Walder, Li & Treiman, 2000; Zang, 2001; Zeng, 2013; Zhang, 2014; Zhou, Tuma & Moen, 1996, 1997). The recent and ongoing empirical studies along the above three strands of literature not only separately incorporate factional ties, economic performance or human capital variables into the promotion determination dynamics, but also take impressive efforts to develop mixed analytical models (Choi, 2012; Jia, Kudamatsu & Seim, 2015; Lin, 2012; Shih, Adolph & Liu, 2012; Zhang, 2014). However, these quantitative endeavors are still in their early stages. They produce mixed empirical results to explain the dynamics of political selection in China. There is little intellectual consensus or conclusive evidence as to whether and how factional ties, economic performance or the accumulation of human capital bolsters the promotion chances in Chinese politics. For example, family connections or princeling status guarantee political rewards with career advancement in Zhang's (2014) study of provincial party chiefs from 1990 to 2007 whereas exert no significant impact on upward mobility for both provincial party secretaries and governors from 1989 to 2009 (Choi, 2012)². As another example, regarding the career returns to economic performance, the contribution of provincial GDP growth does not exist in the empirical studies as to provincial leadership selection from Bo (2002) and Zhang (2014). However, as observed by Chen, Li and Zhou (2005) along with Li and Zhou (2005), provincial leaders with

² Zhang (2014) discusses the divergence between his finding on the role of princeling ties and Choi's (2012). He notes that both results "are not conflicting because Choi's research covered more recent years when princelings have lost their political advantage" (Zhang, 2014: 262).

better economic growth records are more likely to get ahead along the political ladder. Likewise, the bulk of the meritocratic models reaches different conclusions and warrants careful interpretation over the association of human capital with political career success. In Bo's (2002) examination of provincial leaders from 1949 to 1998, earning a college degree generates a lower promotion rate. On the contrary, college graduates are favored in the political elite mobility competition by studying the career trajectories of the Central Committee members from 1982 through 2002 (Shih, Adolph & Liu, 2012). Strikingly, according to the empirical evidence from Zhang (2014), there is no significant linkage between educational qualifications and upward mobility. In summary, a substantial body of the existing literature on Chinese leadership selection present inconsistent or even opposing findings. It is, thus, premature to conclude how elite upward mobility is affected by factional or social connections, economic achievement and human capital.

Drawing on the existing academic literature pertaining to Chinese elite mobility, this thesis grounds the leadership promotion analyses on the personal resources possessed by individual political officials, rather than their interactions with factional ties, their positions in power struggles, their economic performance records or the vacancy-chain effects from a structural perspective. Specifically, this thesis focuses on the competitive advantages of career advancers by analyzing how their accumulation of human capital and social capital creates promotion opportunities in Chinese politics. Human capital and social capital are universal norms in understanding status attainment and career mobility. This provides a solid foundation for comparing the promotion patterns and dynamics in different societies and cultures. As elaborated in Chapter 2 below, human capital is assessed in light of educational levels, academic majors and public service seniority. Social capital is concerned with the fundamental characteristics of social networks developed from formal work relationships, including network size, network diversity and upper reachability (i.e. the highest rank accessible). It is worth noting that social capital here by no means touches on whom political officials interact with or which group or faction they belong to. Instead, it gives special attention to the configuration of social networks under the assumptions that: (1) social networks

expand with the changes in workplaces, organizations, occupations, the job shifts from the leadership post to the non-leadership post, and so forth; (2) social networks become diverse when political officials work across varying career patterns, e.g., from finance/budgeting to public security, or from party work to government administration; and (3) upper reachability grows with the accessibility of the superiors at higher administrative ranks through work connections.

By comparing three research lines as introduced previously, on one hand, the above analytical framework in this thesis shows the remarkable consistency in evaluating the effect of human capital on promotion in China. It provides additional evidence with respect to the role of human capital in Chinese promotion dynamics. Besides, it extends the earlier empirical work by considering the variations in the promotion determination patterns over different career stages. On the other hand, this study departs from the existing literature in terms of the incorporation and the measurement of social capital in the promotion models. A strong body of the current scholarly research locates the study of Chinese political mobility in the context of factional politics. Accordingly, it focuses analytic attention on the factional affiliation with specific factional camps or superior leaders (Choi, 2012; Li, 2002; 2012; Li & Pye, 1992; Lin, 2012; Zhang, 2014), family backgrounds or blood ties (Choi, 2012; Tanner & Feder, 1993; Zeng, 2013; Zhang, 2014), and social connections accumulated through shared birthplaces, educational institutions or work units (Jia, Kudamatsu & Seim, 2015; Li, 1994; Shih, Adolph & Liu, 2012; Zhang, 2014). In comparison, as mentioned above, social capital in this thesis is related to the configuration of social network arising from formal work contacts. Such an analysis implicitly assumes that the acquisition of network resources hinges on the expansion of network size, the increase in network diversity and social ties to dominant leaders. In this way, this thesis goes beyond the focus on informal politics, factional conflicts and specific interpersonal relationships. Instead, it situates the promotion analyses within the framework of institutionalization and individual-oriented personal resources in reform-era China. This offers an important contribution to the previous academic literature on Chinese elite mobility, which will be emphasized once again in the concluding chapter.

To understand the leadership promotion dynamics in terms of human capital and social capital, more specific research questions arise. For example, how are human capital and social capital rewarded in the opportunity structure of leadership upward mobility? Is there any variation in the way in which either capital contributes to career advancement across administrative ranks? How has the role of either capital in the promotion dynamics evolved over time? To address these vital questions, this thesis develops the temporal dynamics of political upward mobility processes by studying 1,891 provincial leaders from 1990 to 2013, including party secretaries, provincial governors, deputy party secretaries and vice governors. This sample accounts for 85.10% of the total provincial leadership from 1990 to 2013.

Why are provincial leaders from 1990 to 2013 an appropriate group for the leadership promotion analyses? The reasons for this are threefold. First, provincial leaders are competitive political players in the fierce rivalry for national power and top leadership positions in the power center. The leadership experience as provincial leaders has been increasingly considered as a pivotal stepping-stone or an essential prerequisite to become prominent central leaders thus far (Lin, 2012: 5-7; Naughton & Yang, 2004: 12). In addition, provincial leaders constitute a group of political actors who exercise substantial control over policy making and personnel decisions at the local levels in response to the trend of power decentralization to provinces (Bo, 2002: 3). At the same time, they prove to be adept at implementing public policies, enhancing economic performance and maintaining social stability. Given all of these factors, it is worthwhile to study provincial leaders who play a crucial role in Chinese politics.

Second, the sample of provincial leaders provides an ideal data source for the promotion analyses and fits readily into the research purposes in this thesis. As mentioned earlier, the primary focus of this thesis is on the paths to the top within the political hierarchy and the possible differentiated promotion dynamics across administrative ranks for political leaders. On one hand, the career histories of provincial leaders allow for a systematic analysis of occupational upgrading from the

grassroots level to the vice-provincial/ministerial level or the provincial/ministerial level. On the other hand, although they have occupied the authority positions in the party or government systems at the provincial level, there still exists noticeable variance in the highest administrative rank they have ultimately reached throughout their political careers. Only a very small number of provincial leaders successfully rise to state power. This makes it possible to observe the differences in the level cap in the processes of career progress. Meanwhile, the accumulated possession of human capital and social capital can be compared between career advancers and stayers for the promotions towards a given rank. To summarize, the selection of provincial leaders satisfies the indispensable prerequisites as to the sufficient career moves from the lower levels to the upper levels and the variations in the promotion opportunities in terms of the highest rank obtained and the timing of promotion events occurring. After considering the strengths of choosing provincial leaders under study, this thesis comes to recognize the relative limitations of selecting the other leadership groups as compared to provincial leaders. As to the municipal- and county-level cadres, they fail to provide complete and sufficient longitudinal career data describing the paths to the top positions. This is because of their short tenure or limited promotion chances in public service. As to the central leaders, there exists little variance in the highest rank they assume within the organizational hierarchy. However, as indicated in Chapter 9, a study of central leaders will provide supplementary empirical data for the leadership promotion analyses in the future.

Last but not least, the pragmatic consideration of data availability is another compelling reason for studying provincial leaders from 1990 to 2013. It is widely recognized that elite studies are effectively challenged by the limited access to the “hard-to-reach” political elite for interviews or questionnaires. In addition, this thesis is based on the retrospective data related to educational and career histories, which makes it more difficult to arrange social surveys and collect data. This is because some of political officials passed away or lost contact. In this thesis, the empirical data for promotion analyses are generally drawn from online published leadership biographies. In this regard, a crucial issue arises with respect to whether and when the biographic data are available. Considering the accuracy and completeness of

biographic information, this thesis prefers to study provincial leaders partially because their leadership profiles can be perfectly collected. A large portion of them contains necessary information as to demographic attributes, educational backgrounds and career paths. In sharp contrast, a large number of leadership profiles for the municipal- and county-level cadres are fragmentary and unavailable. In terms of the second consideration associated with the time dimension of data collection, the biographic data are gathered for provincial leaders from 1990 to 2013 for two important reasons. One is that the development of e-government and the system of government information sharing in the reform era promotes the accessibility of provincial leadership biographies. The other is that a time span of 1990-2013 allows a closer look at how the far-reaching institutionalization of leadership selection since the 1990s affects provincial leadership transformation and a historical comparison of promotion dynamics before the Jiang period, under Jiang and under Hu.

For the above substantive reasons, this thesis focuses on a sample of provincial leaders from 1990 to 2013. Chapter 3 explicitly introduces diverse data sources where biographic information comes from, the general strategy of data input for event history analysis, and the measurement of both outcome variables and predictor variables in the promotion models. On this basis, a Chinese provincial leadership dataset is developed. This is the most updated and comprehensive dataset of provincial leaders, which is considered as one of the conspicuous contributions of this thesis as pointed out in Chapter 9. The leadership dataset provides a solid empirical foundation for the promotion analyses of provincial leaders in reforming China. The following pages will further summarize the methodological issues in Chapter 3.

As noted earlier, the major tasks of the promotion analyses in this thesis are to examine how human capital and social capital affect political upward mobility and how these promotion dynamics evolve across administrative ranks and over different historical periods. For these research purposes, the leadership dataset consist of such biographic information as demographic characteristics, educational

degrees awarded, the corresponding academic disciplines, the duration time in public service, social network size, network diversity, the highest rank accessible from formal work contacts and promotion trajectories. The operational definitions and the measurement of these variables are specified in Chapter 3. In terms of the educational and occupational experience for provincial leaders, the leadership dataset incorporates not only the events of educational attainment, social network expansion and promotions, but also the timing of these events occurring. In this way, the leadership dataset puts strong emphasis on the time-varying patterns of human capital and social capital and describes how either capital changes over time.

It is important to note that there were a total of 1,891 provincial leaders with known biographic information from 31 provincial-level administrations during the period of 1990-2013 in this thesis. This empirical data permits an in-depth quantitative assessment of provincial leadership transformation, namely the demographic analysis in Chapter 4, human capital in Chapter 5 and social capital in Chapter 6. The analysis of provincial leadership composition exclusively centers on their job experience as provincial chiefs and examines how the related leadership characteristics changed in such particular career episodes. In this case, it is possible that individual provincial leaders are counted more than once if they receive job transfers or hold concurrent jobs across such elite positions as party secretary, provincial governor, deputy secretary and vice governor. However, such double-counting issue no longer exists in the empirical studies of the growth of social capital across administrative ranks in Chapter 6, the political upward mobility processes in Chapter 7 and the promotion dynamics in Chapter 8. These studies extensively look at the career trajectories from the section-head level to the state-leader level. They give more attention to the administrative ranks obtained than the specific jobs or the leading positions held. Each provincial leader is treated as only one research subject. A single event-history observation is created for each provincial leader every year. In this way, the full career histories are traced by taking into account the job changes among four leading posts as provincial chiefs. Thus, the sample size in these studies is reduced to 1,260 provincial leaders. The elimination of a portion of the

leadership sample is due to the double-counting issue. All the relevant methodological considerations will be further articulated in Chapter 3.

With the intriguing research questions and the Chinese leadership dataset as introduced above, this thesis is organized into nine chapters. Chapter 1 raises research questions, explains why provincial leaders are selected for promotion analyses, describes the sample and the major variables of interest included in the dataset and outlines the thesis structure.

Returning to the research interest in human capital and social capital in the creation of promotion opportunities, Chapter 2 reviews a wealth of literature on the roles of either capital in status attainment and career mobility. On one hand, the flourishing literature on the effect of human capital is divided into two parts, namely education and work experience. The investigation of career returns to education is traced back to the Blau-Duncan model (Blau and Duncan, 1967) and the Wisconsin model (Haller and Sewell, 1967; Sewell, Haller and Portes, 1969) in the late 1960s. An enormous body of empirical studies shows strong support for education as a salient determinant of occupational status. Along with the research literature on education in career mobility, another strand of literature is concerned with the payoffs of work experience by evaluating the effects of job tenures or specific career trajectories and the correlation between early and later career attainment (Forbes, 1987; Rosenbaum, 1979a, 1979b). However, it remains obscure as to whether and in which way work experience is rewarded in career development. On the other hand, the study of social capital in occupational achievement is grounded in three lines of sociological work, namely weak tie argument (Granovetter, 1973), social resources theory (Lin, 1999b, 2001) and structural hole argument (Burt, 1992). The current literature provides the initial confirmation that social capital contributes to the creation of career opportunities.

Based on this critical review of literature, Chapter 2 observes the three research gaps and subsequently proposes the hypotheses tested in Chapter 8. First, the study of career returns to human capital and social capital for political elites is scant. Second,

the changes in these returns over different career stages are inadequately examined. Third, there is also a dearth of empirical research on the interplay of human capital and social capital in career mobility. This thesis aims at narrowing the first two gaps in knowledge and accordingly puts forth the research questions at the beginning of this chapter. In terms of the third research gap, it remains unanswered due to the space limitations in this thesis and will be closed in the future research. The hypotheses guiding the promotion analyses in Chapter 8 are developed. According to the hypotheses, the promotion analyses identify the impacts of human capital and social capital in political upward mobility in four respects. The first step is to identify how either capital affects promotion as a whole. The second step is based on a longitudinal study of the overall effect of either capital on promotion. The third step is to look at the possible inter-rank variations in the extent to which either capital affects career advancement. In this step, the events of promotion are categorized by the administrative rank where the promotion occurs. The final step is to compare the rank-specific promotion dynamics over different historical periods, particularly those before and under the Jiang period.

Chapter 3 introduces the methodological advances in this thesis by exploiting event history analysis. This statistical technique provides an essential methodological guide in how the biographic data are organized and structured. This chapter starts by providing a detailed rationale justifying and explaining why event history analysis is appropriate for this thesis. This explication originates from the advantages of event history analysis in analyzing social processes and changes, that is, handling the censoring issue and accommodating time-varying predictor variables. After delineating the appropriateness of this statistical method used, Chapter 3 turns to describe the processes of data collection. It answers three important questions of why the empirical data are drawn from leadership biographies, why the biographic data range from 1990 to 2013 and why provincial leaders are selected for the promotion analyses. It formulates the detailed procedures of leadership biographic data collection by introducing the authoritative data sources and the sample selection. Collecting a complete set of original leadership profiles from scattered sources provides a powerful starting point for biographic data input and analysis in

the next step. In line with event history analysis, Chapter 3 outlines the definition of observation periods and the calendar year as a time unit in dividing the observation periods. Subsequently, it articulates the operational definitions and the coding of outcome variables, explanatory variables and control variables. On this basis, the Chinese provincial leadership dataset is established in the person-year structure where individual provincial leaders have multiple event-history observations. The number of observational records for individual provincial leaders is contingent upon how many years they are under observation. After creating the person-year record file, the correlation of human capital or social capital to upward mobility is calculated in logistic regression analyses.

Although the primary focus of this thesis is on developing the promotion models, based on the above well-structured leadership dataset, Chapter 4, Chapter 5 and Chapter 6 draw a broad picture of provincial leadership transformation. All these chapters give considerable attention to a basic question: Who are provincial leaders from 1990 to 2013 in China? After answering this question, Chapter 7 and Chapter 8 ask a more sophisticated question: How do these provincial leaders climb the political ladder from the bottom to the top? They seek the answers to this question from different perspectives. Chapter 7 provides a descriptive account of political upward mobility by analyzing the distribution of career duration and the corresponding promotion probability across administrative ranks. Chapter 8 goes a step further to examine whether and how human capital or social capital is translated into promotion opportunities. In the following, this thesis continues to give an overview of the remaining chapters.

Chapter 4 delineates the historical continuities and changes in the demographic characteristics of provincial leaders in terms of age, gender, ethnicity, provincial origins and party membership. The provincial leadership transformation is compared against the historical trend of provincial leadership characteristics from 1949 to 1998 (Bo, 2002). The interpretation of the data analysis results shows the link between the provincial leadership formation and the ongoing institutional transformation of leadership selection since the 1990s. For example, the stability in the average age is

related to the institutional arrangements of age limits, term limits, term integrity and step-by-step promotion. A relatively low proportion of native leaders from 1990 to 2013 are partially the consequence of the institutionalized cadre exchange and avoidance systems. Furthermore, Chapter 4 sheds new light on the historical evolutions of the recruitment of female provincial leaders and provincial leaders without membership of Chinese Communist Party (CCP) as well as the representation of ethnic minorities in provincial politics. In the concluding section, Chapter 4 highlights the rise of the Cultural Revolution Generation (hereafter, the CR generation) who, as we will see, are highly homogeneous in demographic attributes and whose life journeys are significantly shaped by the outbreak of the Cultural Revolution (CR).

Chapter 5 portrays human capital in terms of educational levels, academic majors and public service seniority. The education analysis in this chapter contains two salient features. One is to distinguish formal education from final education because the growing interest in improving educational credentials and the questioning of the quality of the on-the-job educational advancement. The other is to provide a dynamic analysis of education changes throughout the higher-education histories. The final section of Chapter 5 measures the proportion of technocrats and career bureaucrats in Chinese provincial leadership. It delineates the emergence of technocratic leadership in the 1990s and its decline since 2000 along with a rise of career bureaucrats, which is further analyzed in Chapter 9.

It is worth noting that Chapter 5 not only describes the historical trends of educational levels and academic majors for provincial leaders, but also reveals such shifting education policies as educational expansions and faculty restructuring behind these trends. For example, with respect to formal education, Chapter 5 observes an increase in college-educated provincial leaders in the 1990s and during the period of 2011-2013. It links this observation to two waves of educational expansions in the 1950s and in the late 1970s after the CR. As opposed to the above rapid-growth episodes, there was a decline in the percentage of college graduates in provincial leadership in the 2000s. Chapter 5 attributes this result to the shutdown

of colleges and universities in the middle of the CR. Moreover, Chapter 5 points out the predominance of provincial leaders trained in natural science and engineering in formal education from 1990 to 2005. This is closely related to the faculty restructuring in 1952 intended to nurture a highly specialized and science-oriented labor force for industrialization and state building³.

Chapter 6 sketches the accumulation of social capital for provincial leaders and the changes in social capital across administrative ranks. As social capital in this thesis is defined as the characteristics of social networks developed from work relationships, the value of social capital depends heavily upon the occupational experience. Chapter 6 emphasizes that network size and network diversity share similar patterns. Firstly, by comparing both the average network size and the average network diversity among four groups of provincial chiefs, they are positively associated with the political power and authority, in a descending order of party secretaries, provincial governors, deputy party secretaries and vice governors. Secondly, from a longitudinal perspective, both network size and network diversity for provincial leaders remained steady in the 1990s and substantially increased since 2000. As to the former, it is primarily the consequence of recruiting professionals-turned-politicians to the leadership positions at the provincial level. As to the latter, it results from the institutionalized cadre exchange systems. Finally, on average, both network size and network diversity grow with the career progression from the section-head level to the state-leader level.

Chapter 7 formulates the processes of political upward mobility for provincial leaders by analyzing the average age at promotion, the duration time between promotions and the life-table analysis of the promotions across ranks. The average age at promotion is compared with the upper age limits at each administrative rank.

³ The specific policy related to the faculty restructuring in 1952 is “State Council’s Decision on Reforming Educational Institutions” (zhengwuyuan guanyu gaige xuezhi de jue ding, 政务院关于改革学制的决定) in 1951, “Reforming the Faculties in Colleges and Effectively Training Cadres for National Building” (zuohao yuanxi tiaozheng gongzuo youxiao de peiyang guojia jianshe ganbu, 做好院系调整工作, 有效地培养国家建设干部).

In this way, the striking age advantages for provincial leaders are found. In addition, the duration time at the previous rank seems to be longer at the upper ranks than at the lower ranks. In the remainder of Chapter 7, the statistical technique of life table analysis is adopted for describing how promotion opportunities change with the duration time across administrative ranks. The results clearly demonstrate provincial leaders as faster runners in mobility competitions at the lower ranks than at the higher ranks. Furthermore, promotions occur more rapidly towards the deputy positions than towards the succeeding full positions.

After presenting a detailed picture of provincial leadership transformation and political upward mobility processes, the research attention in Chapter 8 is directed towards the promotion analyses. Chapter 8 examines the career rewards for human capital and social capital in separate promotion models. For either capital, the promotion analyses are performed in four steps. The first step is to assess the effect of human capital or social capital on promotion as a whole. In this step, all the event-history observations are pooled together irrespective of the specific administrative ranks where the promotions occur. The second step is to identify whether these overall promotion models differ by historical periods. The third step is to develop rank-specific promotion models by investigating how human capital or social capital affects upward mobility across administrative ranks from the deputy-division-head level to the vice-state-leader level. The final step is to conduct a comparative study of the rank-specific promotion dynamics across three historical periods. According to the above four steps of the analytical process, the central issues of this thesis are addressed and the hypotheses are tested by the promotion models in Chapter 8. The data analysis results lend strong support for the salient role of human capital and social capital in both the overall promotion model and the rank-specific promotion model. Besides, the promotion analyses show the historical persistence and changes in the promotion dynamics before Jiang, under Jiang and Hu.

Chapter 9 summarizes and integrates the main findings from the previous chapters. It shows how these findings provide satisfactory answers to three important questions raised in this thesis. First, this thesis displays two distinctive patterns of

provincial leadership transformation from 1990 to 2013, which is also described in Chapter 5. One is the emerging technocratic leadership in the 1990s. The other is the rise of career bureaucrats from 2000 onwards. It is argued that the outbreak of the CR shaped individual life chances for technocrats in the 1990s and career bureaucrats since 2000 in different ways. Second, this thesis captures two striking features of the processes of political upward mobility, namely the rapid promotions at the lower ranks relative to the upper ranks, and a longer waiting time before advancing to the full positions than to the deputy positions. Finally, by interpreting the findings from the promotion models, this thesis supports the notable status returns to human capital and social capital in Chinese politics. The continuing effect of education on promotions across ranks is demonstrated and the assumption of education as a screening or filtering device is rejected. In addition, although higher education, for the most part, plays an important role in political upward mobility, it does not mean that receiving higher education necessarily leads to higher promotion rates. Along with human capital, social capital undoubtedly exerts significant effects on promotion. After summarizing all these major findings, Chapter 9 discusses the contributions and limitations of this thesis and suggests future research directions.

Chapter 2 Review of Literature

The research purpose of this thesis centers on the effects of human capital and social capital on elite selection and stratification. The first two sections of this chapter are conceptually organized around two strands of literature pertaining to human and social capital theories, respectively. On this basis, the third section will point to the theoretical gaps inherent in the past literature. The fourth section will frame the research hypotheses by taking insights into the promotion dynamics in relation to human capital and social capital.

The first substantial body of literature examines the role of human capital in the creation of occupational outcomes. Based on the statement of Becker (1964), human capital generally comprises the investment in health, education, training and work experience (Bodenhofer, 1967: 434). This section exclusively focuses on the pertinent literature of education and work experience (Becker, 1994: 17). The argument of education can be traced to the pioneering studies of the Blau-Duncan basic model (Blau and Duncan, 1967) and the Wisconsin model (Haller and Sewell, 1967; Sewell, Haller and Portes, 1969). The decisive role of education is emphasized in both models and reconfirmed in the subsequent outpouring of literature on social mobility and status attainment. This strand of literature endeavors to extend and modify either model, providing insight into the structuralist analysis, along with the elaborate explanations of education-occupation linkage. In addition to career returns to education, this section will explicitly introduce Rosenbaum's (1979b) tournament model that reflects the influence of work experience in career success.

The second bulk of literature concentrates on the impact of social capital on career mobility. The emerging research interest in social capital dates back to the 1970s and 1980s (Bourdieu, 1986; Burt, 1992, 1997a, 1997b, 2001; Coleman, 1988; Granovetter, 1973, 1983; Lin, 1999a, 1999b, 2000, 2001; Putnam, 2001). From the interpersonal and network perspective, the burgeoning of work on social capital and labor market outcomes is essentially grounded in the strength of weak ties

(Granovetter, 1973, 1995), social resources theory (Lin, 1999b, 2001; Lin, Ensel and Vaughn, 1981) and structural hole argument (Burt, 1992). At the core of these significant strands of research is “how competition works when players have established relations with others” (Burt, 1992:1). Departing from human capital mentioned in the first section, social capital literature takes insight into the way in which individuals are connected with social contacts.

Figure 1 displays the basic structure of this chapter. By linking the abundant studies on human capital and social capital, the final section of this chapter attempts to propose an original analytical framework and hypotheses under the unique institutional context of Chinese elite politics.

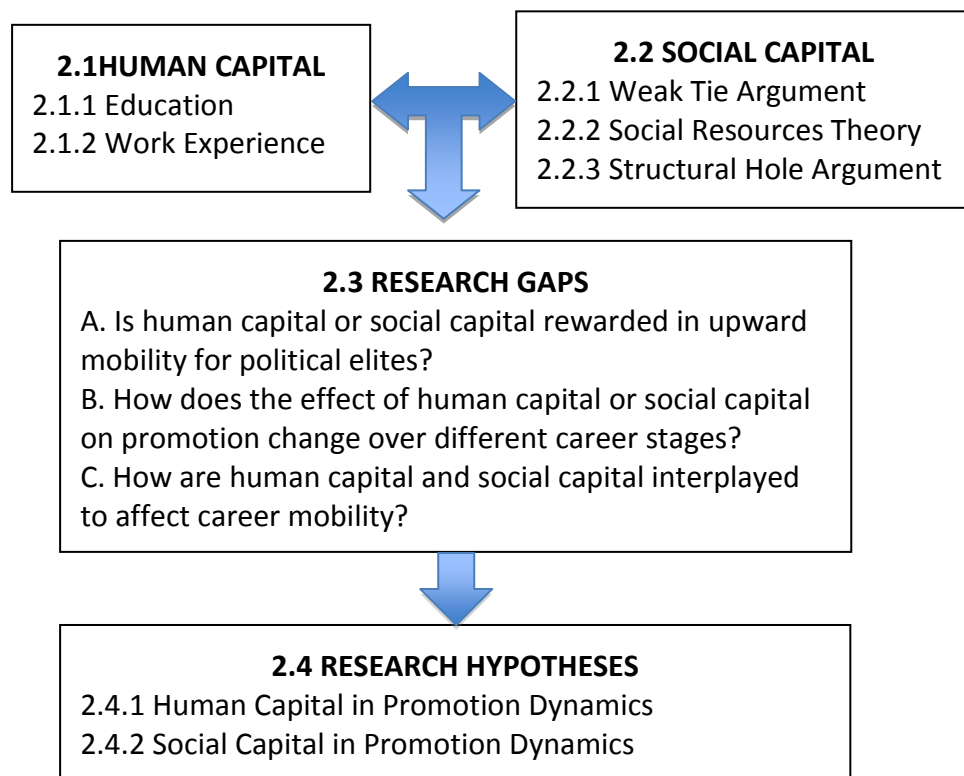


Figure 1 Structure of Literature Review

2.1 Human Capital Affecting Career Mobility Outcomes

To delineate career dynamics, it is first necessary to evaluate the pertinent literature as to how human capital is associated with career outcomes (Anderson, 1961; Bills,

2003; Breen and Jonsson, 2005; Bodenhofer, 1967; Buchmann and Hannum, 2001; Ganzeboom, Treiman and Ultee, 1991; Hauser et al., 2000; Kerckhoff, 1974a, 1976, 1995, 2001). The conceptualization of human capital primarily rests upon the influence of education and work experience. Since the landmark models from Blau and Duncan (1967), Sewell and his colleagues (1969), and Rosenbaum (1979b), researchers have cast little doubt on the pivotal role of human capital in predicting career mobility rewards. In the following, this section concretely reviews the line of literature as to the specific contribution of education and work experience. In the concluding remarks, the weaknesses of the earlier arguments will be clarified, providing further justification for the career mobility mechanism proposed in this thesis.

2.1.1 Education in Career Mobility

The status returns to education originated from the second generation of stratification research, specifically the Blau-Duncan model and the Wisconsin model (Dessens et al., 2003: 64; Kerckhoff, 1976: 368, 1995: 324). In *The American Occupational Structure*, Blau and Duncan (1967: 5) observe “the stratified hierarchy of occupations” and develop a path analysis to explore the early stratification positions. The model incorporates the variables of father’s educational and occupational status, son’s education, the first occupation and the occupation in 1962 when the survey was carried out. The analysis is virtually based on the nationwide survey of American men aged between 20 and 64. Interestingly, education turns out to be the strongest and direct determinant of occupational status, simultaneously mediating the relationship between origin status and occupational achievement. Since then, the focus of research interest has been oriented toward the educational effects in the career determination, other than the status transmission across generations⁴ (Sewell and Hauser, 1972: 851).

⁴ A rich body of literature extensively replicates the Blau-Duncan model by considering cross-societal variations (Jones, 1971; Kerckhoff, Campbell and Trott, 1982; Krymkowski, 1991; Treiman and Terrell, 1975). These studies have arrived at a consensus that education is a vigorous variable in social mobility and stratification.

In parallel, the Wisconsin model analyzes occupational standings by considering the influences of family background, education and social psychological factors, such as mental ability, academic performance, and educational and occupational aspirations (Sewell, Haller and Portes, 1969: 84-86; Sewell, Haller and Ohlendorf, 1970: 1019, 1023). The data for the Wisconsin model was initially confined to 929 farm-reared males from Wisconsin high school seniors and later extended to 4,388 high school seniors from diverse family origins and different sizes of community. Compared with the Blau-Duncan model, not only has the Wisconsin model recognized the dominant predictor of education, but also highlighted the direct effect of occupational aspiration on the early status attainment. It links mental ability, academic performance and influences of significant others to educational attainment. The extension and refinement of the Wisconsin model encompass the socialization-related factors of conformity and ambitions (Porter, 1976: 24) as well as the family background variable of the number of siblings (Hauser et al., 2000).

Both the Blau-Duncan model and the Wisconsin model conspicuously “offer different theoretical interpretations of the same observations” (Kerckhoff, 1976: 370). The ongoing research has moved beyond the above models by understanding the cross-societal structural effects of industrialization levels (Cummings and Naoi, 1974; Currie, 1977; Grusky, 1983; Holsinger, 1975; Lin and Yauger, 1975; Treiman and Yip, 1989) and educational systems (Allmendinger, 1989; Baker, 1982; Kerckhoff, 1974a; Konig and Muller, 1986; Krymkowski, 1991; Treiman and Terrell, 1975; Meyer, Tuma and Zagorski, 1979). With few exceptions, the robustness of education in the above-cited articles has definitely been acknowledged. For example, the meritocratic emphasis on education increases with industrialization levels because of the changes in occupational structures and educational expansion (Cummings and Naoi, 1974: 266). In industrialized societies, the sophisticated technical development and increasing job specialization result in the growing demands of highly educated manpower (Holsinger, 1975: 271). The rapid organizational expansion enables employers to reward the investment in education and training. Furthermore, “the institutionalization of public-supported education” virtually enhances educational

equality and university enrollment (Grusky, 1983: 495; Lin and Yaeger, 1975: 545). Given both, industrialization strengthens educational aspirations and status returns, and weakens the reliance on financial support and status transmission from families.

To summarize, as Grusky (1983: 503) observed simply, “status returns to human capital are conditioned by the structural context within which the individual is located”. Nonetheless, although well established, most of the empirical observations specified above fail to adequately explain why education leads to higher positions in the opportunity structure. To answer this question, both economists and sociologists have generally focused on the competing and somewhat overlapping theories from two perspectives (Bills, 1988: 52-53, 2003: 443-456). First, education is assumed to be commensurate with the job-specific skills and productive performance (Spilerman and Lunde, 1991: 692-696). It can be legitimately and rationally rewarded in the workplace (Shambaugh, 2001: 110). Human capital theory postulates that general skills and abilities can be transferred to specialized expertise on the basis of trainability and rational choices (Becker, 1994: 19-20; Blossfeld, 1986: 211). The control theory emphasizes the crucial role of schools in training and preparing students for future job specification and requirements. Rather, cultural capital theory is concerned with interpersonal competence and social skills derived from educational experience (Bills, 2003: 451).

Second, given the information asymmetry and uncertainty in the labor market (Bian and Huang, 2009: 257-258), educational attainment can function as “a screening device” of expected qualities for employers or “a signal” of capabilities for employees, as explicitly portrayed in the screening, signaling and filtering theories (Bills, 2003: 445-448; Hurley and Sonnenfeld, 1998: 174-175; Kerckhoff, Raudenbush and Glennie, 2001: 2; Sheridan, Slocum, Jr., and Buda, 1997: 374). This statement prevails particularly in the job seeking and recruitment process, where the actual abilities and on-the-job performance are unavailable. Once the actual performance records are accessible, the credentialist theory posits that employers can adjust and reward job-person matches (Sheridan, Slocum & Buda, 1997: 374). Regardless of the school learning, the institutional and chartering theories, instead, stress that

educational degrees or qualifications legitimize the job-assignment decisions (Bills, 2003: 451-452). Central to this statement is the standardized educational allocation dynamics (Bills, 2003: 451). In this sense, education is an efficient selection criterion in the filtering process. The above insight will be exploited when developing the hypotheses about elite mobility later in this chapter.

Consequently, the career literature pertaining to education is abundant. The linkage between education and career mobility is dynamic and complex. The above literature has reached a consensus on education as a salient antecedent of occupational standings. For the purpose of this thesis, the proposed promotion model will reexamine the role of education by studying the effect of education on political upward mobility and the changes in this effect over different career stages and across different historical periods.

2.1.2 Work Experience in Career Mobility

In principle, work experience bears a positive correlation to career mobility outcomes in numerous literature. To operationalize, it can be measured by the indicators of years of work experience (Forret and Dougherty, 2004; Metz and Tharenou, 2001; Stroh, Brett and Reilly, 1992; Whitely and Coetsier, 1993), organizational seniority (Bamberger, Admati-Dvir and Harel, 1995; Judge et al., 1994; Nkomo and Cox, Jr., 1989, 1990), job duration (Cao, 2001; Ng et al., 2005), prior positions (Bian, 1994a; Nkomo and Cox, Jr., 1989, 1990) and prior management experience (Erickson, 2001). By distinguishing line and staff positions, employees in line positions tend to directly contribute to organizational goals and objective performance through functional workflows and marketing services (Nkomo and Cox, Jr., 1990: 43-44). As a result, work experience in line positions improves the likelihood of promotions (Nkomo and Cox, Jr., 1990: 48-50; Whitely and Coetsier, 1993: 431). In the study of 676 MBA degree holders in the United States, Schneer and Reitman (1997: 414) identify early career interruption as detrimental for mid-career paths because it can be viewed as lack of “organizational commitment or

personal ability". All evidence in a limited sense supports the crucial importance of work experience. Yet it remains unresolved how the historical and cumulative effects of career histories operate in the mobility analysis.

Rosenbaum (1979a, 1979b) conceptualizes the tournament model, arguing whether early work experience affects later career success. Central to this conceptual framework is the reliability of work histories and path dependence for career progress. The underlying reasoning is that work experience is closely related to the prior socialization, professional training experience and managerial potential, combined with discernible performance records (Forbes, 1987: 112-113; Rosenbaum, 1979b: 222). Work experience, particularly the timing of promotions, signals occupationally relevant skills and productivity. The current position and early career success to some degree can promote the employees' exposure to the decision makers (Dreher and Bretz, Jr., 1991: 393; Forbes, 1987: 112-113). Thus, it is hypothesized that employees receiving early career success are permitted to compete for higher statuses along the career ladder.

To empirically verify this hypothesis, Rosenbaum (1979b), studying 13-year longitudinal data from a large corporation, traced level mobility in 1962, 1965, 1969, 1972 and 1975. He found that promotions in every early career significantly improved career futures and led to higher career ceilings and career floors. Career outcomes benefit more from early than later promotions because the losers in the early competitions are more likely to be eliminated from the successive career contests. Furthermore, Rosenbaum notes that early career progress and positions do not necessarily guarantee later promotions. The tournament model rigorously supports the signaling effect of work experience, although the relationships presented in the model are noncausal analysis (Rosenbaum, 1979b: 225, 237).

In line with Rosenbaum's analytical framework, Forbes (1987) reexamines the degree of enduring effects of early career movement. Such signals are taken into account as early career attainment, functional background and number of different jobs. Firstly, the recent positions yield strong predictive power for final career

success. Inconsistent with the tournament model, early career experience by no means has enduring effects on later career mobility (Forbes, 1987: 121; Ishida, Su and Spilerman, 2002: 192). Forbes (1987: 122) argues that the deviation of career patterns between two studies is due to the differences in economic conditions and business strategies. The enduring effects of early promotions are probably in the stable, other than fast-changing, environment. Secondly, in terms of functional background, technical skills are essential for core values in organizational strategies and competitive advantages in the oil company under study. Technical employees, however, tend to move slowly into managerial positions because it generally takes longer for them to express technical capabilities and managerial expertise. Thus, administrative incumbents are overrepresented in the lower management levels, whereas those from technical entry positions have better promotion chances in the later stages. Finally, final occupational attainment is positively contingent upon the number of different jobs as a result of the breadths of experience and networking (Forbes, 1987: 113). After recognizing the observed contribution of technical entry positions and job diversity, this analysis merely provides limited evidence for the tournament model. Alternatively, it better responds to the concept of horse race, where later position outweighs early position for career prospects.

Sheridan et al. (1990) extend the above discussion by considering the influence of trainee programs and the power of functional departments on career trajectories. It is necessary to indicate that this study focuses on how fast managers move along the organizational hierarchy. As specified in the research findings, management trainees have fast upward mobility. In contrast, slow career starters will stay longer in the same positions. Managers from powerful functional departments are more likely to move to another department with high power. They are inclined to advance their careers on a fast track. It can be inferred that starting careers as trainees or assigning to a core department enables employees to be rapidly socialized within organizations (Sheridan et al., 1990: 581, 583). In the regular interactions with upper echelons, they have better chances to expose technical abilities, efforts and potentials (Sheridan et al., 1990: 579). The socialization strategy is in accordance

with organizational cultures as well as practices of investment in human resources and networking.

In conclusion, the tournament model provides constructive implications for studying pathways to higher status. The signaling role of work histories is well observed. Nevertheless, it remains ambiguous as to how every past success in the long run associates with later career attainment. In this vein, work experience comprises such multiple dimensions as years of public service experience, main career patterns and specific functional background in education/cultural activities, manufacturing, finance, military, police/court, and so on. This thesis will focus on public service seniority and evaluate its impact on political career advancement.

2.1.3 Summary of Human Capital

As previously highlighted, the current literature stresses the dramatic evidence of education and work experience in analyzing career mobility outcomes. The pervasive statement is that both indicators yield signaling effects and effectively reinforce the promotion rates. As formulated by Bills (1988: 58), “educational credentials enhance careers most directly by getting people through organizational gates and onto organizational ladders”. Yet the advantaged positions in opportunity structures are partially shaped by instrumental relations. Specifically, social resources from alumni and university networks vigorously exist in the school-work transitions (Ishida, Spilerman and Su, 1997: 867-868). Individuals possibly obtain higher occupational status and prestige if they can approach potential helpers and seek developmental assistance. As noted in Section 2.1.2, working in the corporate headquarters or fundamental departments with power will lead to higher visibility to decision makers, information advantages or even the inclusion of strategic networks. In this respect, occupational returns to human capital may be exaggerated if the influence of social resources or interpersonal relationships is overlooked. Accordingly, this chapter will continue to address the extent to which social capital affects career

outcomes in Section 2.2. Section 2.3 will specify the core intellectual puzzles of human and social capital in career mobility studies.

2.2 Social Capital Affecting Career Mobility Outcomes

The flourishing literature on social capital coherently links the macro- and micro-level exploration of career mobility from social networking perspective. The concept of social capital emphasizes “resources embedded in social networks” and instrumental consequences (Borgatti, Jones and Everett, 1998: 27-28; Bourdieu, 1986: 51; Burt, 1998: 7, 2000: 347-348, 2001: 32; Coleman, 1988: 98; Lin, 1999a: 29, 1999b: 467-468, 2000: 786; Lin, Fu and Hsung, 2001: 58; Lin et al., 2009: 226; Portes, 1998: 6, 2000: 2; Putnam, 2001: 41; Schuller, Baron and Field, 2000: 1; Sobel, 2002: 139). It has directed the focus of analysis from personal resources derived from human capital towards interpersonal relationships and network resources (Lin, 1999b: 468; Lin et al., 2009: 228-229; Metz and Tharenou, 2001: 313). The theoretical underpinning and empirical evidence of social capital have scattered across arguments of Granovetter’s (1973, 1983; 1995) strength of weak ties, Lin’s (1999a, 1999b, 2001) social resources and Burt’s (1992) structural holes. Before reviewing this significant literature, it is first of all important to address a basic question: why does social capital affect mobility outcomes?

First, in view of information asymmetry, social capital produces information advantages in the process of job matching (Coleman, 1988: 104; Jia, Kudamatsu & Seim, 2015; Lin, 1999a: 30-31; McDonald, Lin and Ao, 2009: 387-388; Seibert, Kraimer and Liden, 2001: 230; Simon and Warner, 1992: 306-307). It can improve the efficiency of information dissemination in the web of social contacts. It can effectively reduce uncertainty and the risk of counterselection, by verifying the accuracy and reliability of information (Burt, 2000: 353-354; Marsden, 2001: 107-109). Second, influences from social connections result in expected occupational returns. Future employers of the organizations or the potential helpers may get acquainted with a specific job applicant through kin ties, friends, work colleague and

the like (Bian, 1994a: 994). They learn the applicant's educational background, abilities and occupational aspirations from contact persons' detailed introduction. In this way, social capital affects screening or selection results. Finally, social interactions enhance expressive support and psychosocial functions, such as trustworthiness, recognition, mutual reciprocity as well as self- and group identity (Coleman, 1988: 102-104; Dominguez and Watkins, 2003: 112-114; Putnam, 2001). Individuals are entitled to access to the embedded resources by virtue of "social credentials" (Lin, 1999a: 31, 2001: 20). Given the foregoing explanations as to the functioning of social capital, the differences in the subsequent arguments lie in the sources of social capital and the way in which it ultimately operates in career determination.

2.2.1 Strength of Weak Ties

Granovetter (1973:1361-1363) distinguishes strong and weak ties by identifying "the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie" (Lin, Ensel and Vaughn, 1981: 394). Weak ties generally refer to the infrequent social interactions with lower degree of intensity and intimacy. The advantages of weak ties over strong ties arise from the information and influence accessible. The major reason is that weak ties extensively generate nonredundant information and influence by bridging across wide-ranging and disconnected networks (Campbell, Marsden and Hurlbert, 1986: 98; Granovetter, 1983: 203). In sharp contrast, strong ties connect individuals with homogeneous attributes. They tend to provide redundant information and limited influence from dense and overlapped social circles (Granovetter, 2005: 34-35).

Mixed evidence is provided in terms of information transmission and the efficacy of weak ties. Murray, Rankin and Magill (1981: 122-123), for example, acknowledge the broader sources of information for weak ties. On this basis, they study the actual utilization of information after questioning that the weak tie argument solely rests upon information acquisition. They conceive of strong ties, other than weak ties, as

the prevailing sources of pertinent information to be used. It is mainly because strong ties maintain stable mutual trust and reciprocal relationships (Bian and Ang, 1997: 983). Furthermore, the influence of weak ties on career outcomes is marginally disputed. Weak ties are expected to enhance the reachability of diverse positions in occupational structures (Lin and Dumin, 1986: 377-379). In the labor markets of German Democratic Republic (GDR) and Russia, weak ties, in particular acquaintances, are more pronounced in finding jobs (Yakubovich, 2005: 416), or even obtaining highly prestigious positions (Volker and Flap, 1999: 26-27). Nonetheless, Marsden and Hurlbert (1988: 1047) claim that weak ties yield insignificant effects on occupational prestige.

Given the inconsistent empirical results, skepticism stems from the oversimplified dichotomy of strong and weak ties. It is argued that the existing investigation of weak ties overlooks prior job statuses and multifaceted social ties. Wegener (1991: 64) conducts a factor analysis and classifies social ties into intimate, formality and leisure focus. It is assumed that the strength of social ties operates differently for individuals with distinctive prior job prestige. Wegener (1991: 68) observes that low-status job seekers have more reliance on strong intimate ties for prestigious occupations, for they have limited social relations and the potential helpers of high prestige are mostly within-network. In comparison, high-status job seekers, who can reach beyond a wide variety of social networks, will benefit more from weak intimate ties and formal relationships with contact persons (Wegener, 1991: 68-69).

As this thesis centers on elite mobility of Chinese provincial leaders, the detailed statistical data of social capital will be primarily drawn from leadership biographies. Given the limited data sources, it is impractical to delineate such social connections as family, relatives, friends and acquaintances for each political elite. Neither is the assessment of strong or weak ties possible by studying the birthplace, educational experience and career trajectories. Therefore, the strength of social ties in this thesis will not be investigated when constructing the analytical model.

To look into the complex career dynamics, more research efforts have been devoted to social resources, such as socioeconomic status of social contacts (Bian, 1994a; Bian and Ang, 1997; Bian and Huang, 2009; Lin, 1999a, 1999b; Lin, Ensel and Vaughn, 1981). This perspective moves beyond the one-to-one interpersonal relationships in the weak tie argument and instead points to networks as resources. As stated in the provocative work of Lin, Ensel and Vaughn (1981: 396), the direct linkage between weak ties and occupational status is challenged (Lin, 2001: 94). It suggests that the use of weak ties is indirectly linked to occupational attainment through the mediating variable of contacts' statuses (Campbell, Marsden and Hurlbert, 1986: 98-99). The next section will proceed with a more explicit analysis of social resources theory.

2.2.2 Social Resources Theory

Granovetter's weak tie argument fundamentally focuses on the nature of social ties by which individuals connect with contact persons. Social resources theory extends this argument to the examination of macro-social structures and the family-school-work transitions in a more comprehensive way (Lin, 1999b: 470, 2001: 94-95). Lin (1999a: 35; 2001: 82-83) defines social capital as "resources embedded in social structure which are accessed and/or mobilized in purposive actions". In the basic social capital model of status attainment (Lin, 2001: 83), a variety of possible paths to attained statuses exist in two major processes, involving access to and mobilization of social capital. The following analysis will reflect the general paths relevant to original statuses, network resources and career outcomes.

One of the empirical questions to be addressed is who are more likely to access to and mobilize social resources. To answer this question, researchers turn to education and initial statuses in the forms of family origins, prior jobs and income (Lin, 2001: 82). The underlying assumption is the homophily principle, that is, similar people are more likely to become friends (Ibarra, 1997: 92-93). Individuals with homophilous socioeconomic standings or demographic characteristics are well

integrated into the same network (Lin and Ao, 2008; Marsden and Hurlbert, 1988: 1054). For instance, men tend to use the same-sex contacts in the job-searching process and in turn obtain male-dominant occupations (Straits, 1998: 201). The foregoing assumption has been confirmed in a series of empirical examinations. Initial statuses or educational attainment are positively related to the network size (Campbell, Marsden and Hurlbert, 1986: 108-109), network centrality (Brass, 1985: 335-336), resources diversity (Lin and Ao, 2008), reachability (Lin and Dunmin, 1986: 375-376) and higher status of contact persons (Lin and Dumin, 1986: 375-376; Lin, Ensel and Vaughn, 1981: 400-401; Marsden and Hurlbert, 1988: 1046; Volker and Flap, 1999: 29).

The above formulations are organized around original statuses and social resources. An alternative path to be discussed here is more straightforward, directly linking network resources to attained statuses. Network resources are disaggregated into instrumental and expressive resources (Bozionelos, 2003: 45-46, 2008: 252; Bozionelos and Wang, 2006: 1532). The former emphasizes the potentially career-related assistance in upward mobility and the latter focuses on the social-emotional support. Bozionelos conducted two surveys of 264 white-collar workers from three British universities and 316 MBA students from a British business school. Both studies confirm that either extrinsic or intrinsic career success is attributed to network resources (Bozionelos, 2003: 57, 2008: 259). More importantly, instrumental network resources are advantaged over expressive resources in predicting current organizational grades because of the differentiated functions of both resources (Bozionelos, 2003: 54).

For the purpose of this thesis, the central interest is focused on career competitions of political players in Chinese authority structures that are unquestionably hierarchical. Under this condition, the analysis of social resources in the networking fashion predictably fits well into the theoretical framework in this thesis, because social resources theory assumes social structures as pyramidal in terms of rank-order locations, authority, power and the like (Lin, 1999b: 470; 2001: 56-57). To operationalize, the systematic information as to network compositions is readily

available on the work-history basis. The variables of network size, network diversity and upper reachability⁵ will be incorporated into the social capital analysis later.

Overall, to analyze competitive success in the stages of job seeking, changing or promotions, the weak tie argument clarifies the impact of strength of social ties. Social resources theory focuses on network characteristics and prestige of both players. As indicated by Burt (1992: 4), “competition is a matter of relation, not player attributes”. He argues that competitive advantages are based on the network structures and the network locations of social contacts. In this way, the research interest is shifted away from network locations of egos in social resources theory. The following section will move to the literature on structural hole argument, examining structural constraints and entrepreneurial opportunities from a broader network perspective.

2.2.3 Structural Hole Argument

Burt (1992: 27-30) grounds the creation of social capital in structural holes that bridge and broker across disconnected social contacts or cliques (Podolny and Baron, 1997: 674; Xiao and Tsui, 2007: 1). He expands the knowledge of social networks by considering weak ties as “a correlate, not a cause” of information benefits (Burt, 1992: 27). As stated in Section 2.2.1, weak ties are advantaged over strong ties in providing nonredundant information. However, Burt argues that it is social networks

⁵ The measurement of network-related variables focuses on social networks that are knitted in the workplace. Network size is evaluated via the number of social networks reachable across different places, organizations, divisions or departments. Network diversity is assessed regarding how many career patterns the provincial leaders have worked, such as budgeting lines and party lines. Upper Reachability is defined as “the resource of an uppermost position ego can reach in the hierarchical structure through social ties” (Lin, 2001: 62). In the China-specific study, the criterion of upper reachability exclusively reflects the uppermost administrative level the provincial leader can access to.

rich in structural holes that generate information and control benefits irrespective of tie strength⁶ (Granovetter, 2005: 35; Podolny and Baron, 1997: 674-675).

Information benefits are derived from “access, timing and referrals” (Breiger, 1995: 127-128; Burt, 1992: 14). By spanning structural holes, there are varied information sources from a diversity of social connections. Among them, the authoritative source is readily accessible from which accurate information is disseminated. In terms of timing, information flows efficiently over structural holes. Personal contacts in social networks may be aware of specific changes earlier or in the timely way. The early warning allows for adequate preparations for available strategies or rational investment (Burt, 1992: 14). The referrals from decision makers or highly prestigious contact persons are more persuasive and legitimate. Burt (2001: 39-45) provides network evidence of managers from five prior studies and empirically confirms the advantages of structural holes. In other words, beyond-group structural holes are indeed accompanied with the diversity of information, influence and resources (Gabbay and Zuckerman, 1998: 212-213). For control benefits, Burt (1992: 30-31, 2001: 36) points to the bargaining power for brokers between conflicting demands in social networks, which is labeled as *tertius gaudens*. Because of chasm and tension, both players heavily depend on the *tertius* for favorable negotiation results. Thus, the *tertius* has control benefits in this competitive arena. By virtue of information and control benefits, social networks rich in structural holes are expected to induce more rewarding opportunities (Burt, 2000: 358-362, 2001: 41-45; Tharenou, 1999a: 112-113).

The relevant research endeavors to explain who ultimately succeeds by studying the correlation between structural holes and rewarding opportunities. The structural hole argument postulates higher occupational returns for individuals with social networks rich in structural holes. According to the information and control benefits, these players are presumed to acquire job-related information faster and earlier (Fernandez and Weinberg, 1997: 899). They are highly responsive to job vacancies

⁶ Burt (1992: 18) defines structural holes as “the separation between nonredundant contacts” and exclusively focuses on network benefits arising from disconnection.

and selection procedures. They are aware of when and how to submit job applications (Fernandez and Weinberg, 1997: 891). They have better chances to secure visibility to decision makers and display desirable qualities. To empirically examine the above articulation, Burt (1992: 118-140) studied social networks and promotion dynamics of 284 top managers from a largest high-technology firm in the United States. It is illustrated that managers positioned in networks rich in structural holes are more likely to advance their careers early and fast (Burt, 1997a: 367-368; Podolny and Baron, 1997: 684-687). This argument is generalized to the comparative study of the United States and France, and is consistently supported (Burt, Hogarth and Michaud, 2000: 133).

To summarize, the structural hole argument moves beyond the egocentric perspective in analyzing competitive advantages for individual players. Not only is the strategy for career success “who you are”, “what you know”, “where you are located within networks” and “how you are connected with contacts”, but also “how your social contacts are connected”. In this regard, the construct of structural holes plays a far-reaching role in the research community. Further merits of the structural hole argument are derived from the discussion on promotion mechanisms, because most career studies are confined to status, income attainment or job-seeking outcomes (Podolny and Baron, 1997: 673). In studying the hole effect on upward mobility, structural holes display “the structure of the group’s relationships to outsiders”, analyzing relation duration, frequency of interactions or emotional intensity between contact persons (Borgatti, Jones and Everett, 1998: 29; Burt, 1992: 19, 1997a: 361). In this thesis, data limitations arising from the leadership biographies potentially undermine the measurement of nonredundancy of social contacts in elites’ networks. Thus, The association between structural holes and political mobility outcomes will not be exploited when structuring the career model and hypotheses later.

2.2.4 Summary of Social Capital

The significant literature under review has remarkably represented spectacular mainstreams in social capital theory. These mainstream arguments substantially delineate how social capital is created and rewarded for career success. The emphasis is placed on information, influence and control benefits. How are these benefits realized? The weak tie argument provides the initial answer by emphasizing the strength of social ties regardless of personal resources. The social resources theory primarily relies on networks where resources are embedded and the personal resources possessed by contact persons. The structural hole argument is interested in the way in which social contacts are interconnected. As summarized by Seibert, Kraimer and Liden (2001: 221), “weak tie theory and structural hole theory each focuses on the structure of a network; social resources theory focuses on content of a network”. Despite the variations in explaining how social capital is generated, these arguments have inevitably reached a consensus, that is, social capital works in achieving career success (Gerber and Mayorova, 2010: 900).

After reviewing the bulk of literature pertaining to human capital and social capital in career mobility, Section 2.3 will point out three research gaps. On this basis, the research hypotheses will be proposed in Section 2.4 and tested by the promotion models developed in Chapter 8.

2.3 Human Capital and Social Capital in Career Mobility: Research Gaps

To summarize the preceding accounts of human and social capital, both significantly determine career mobility outcomes in independent studies. Social capital is viewed as “the contextual complement to human capital” (Burt, 1998: 7, 2001: 32). As Burt (1997b: 339) states, “while human capital refers to individual ability, social capital refers to opportunity”. The reasoning of varying perspectives behind either human or social capital theory is fundamentally similar. Human capital primarily exhibits the effects of screening and gatekeeping. Social capital is virtually linked to information and influence benefits. However, to apply either construct to career mobility models, some basic issues remain unresolved.

First, the empirical studies of human capital and social capital in leadership selection and promotion for political elites are scant in the current literature. Given the prevalence of status attainment studies, the data are primarily drawn from adult or employed populations with heterogeneous background across distinct industries and organizations (Bian, 1994a, 1997; Zhou, Tuma and Moen, 1996, 1997; Bian and Ang, 1997; Walder, Li and Treiman, 2000; Cao, 2001; Li and Walder, 2001; Zhou, 2001; Zhao and Zhou, 2004; Cao and Hu, 2007; Bian and Huang, 2009; Lin et al., 2009). Only a line of promotion studies is generally concentrated on life and work histories of managers. Elite composition is characterized by greater homogeneity of human or social capital (Jackson et al., 1991: 682-683). For instance, as education may be a well-defined and baseline criterion for leadership selection, elites are overwhelmingly well educated. Upper echelons are inclined to interact with and recruit new team members of personal similarity, as formulated in the similarity-attraction paradigm (Schaubroeck and Lam, 2002: 1121; Tsui and O'Reilly, 1989: 403-405; Turban and Jones, 1988: 228-229). With comparison of these two lines of literature, a critical question arises as to the possible differences in career rewards for either capital between general populations and elites, particularly political elites. In this thesis, the analysis will be grounded in the data of Chinese political elites who are disproportionately college graduates and party members. This provides a sound basis for comparing career returns to human capital and social capital for political leaders with those for general citizens in the future research.

Second, there are few empirical studies regarding how the effect of human capital and social capital on promotion changes over different career stages. The existing literature predominately focuses on status attainment in the job-matching process or the early promotion outcomes, other than intra-organizational mobility dynamics (Podolny and Baron, 1997: 673; Rosenbaum, 1979a: 22; Spell and Blum, 2000: 299). Most studies fall in line with a static or semi-static approach, viewing the aggregate human or social capital as relatively stable or employing cross-sectional data from a time-constant perspective (Blossfeld, 1986: 209). The lack of mobility investigations leads to neglect of changes in the investment of both types of capital, especially the

changes in the amount of social resources after college graduation. Another problem is whether human or social capital maintains the same occupational returns after entry or early promotions (Sheridan et al., 1990: 589-591).

Last but not least, the interplay of human and social capital for career success is inadequately investigated. In social resources theory, the correlative relation between the two is preliminarily discussed, by understanding the effects of prior statuses, education and social resources on destinations positions. This implies that human capital could be transformed into social capital (Bian, 1994a; De Graaf and Flap, 1988; Lin, 1999b, 2001; Lin, Vaughn and Ensel, 1981; Marsden and Hurlbert, 1988). It is far more complicated to place both types of capital in a single study to analyze career outcomes. For example, how does human and social capital interrelate in the process of career mobility (Tharenou, 1999a: 113)? The fact is that scarce evidence is available to address this important question.

Lin and Huang (2005: 194-195) present two models pertaining to the correlation between human and social capital. They are the mediation model in the first place and the moderation model in the second. As for the mediation model, human capital is presumably converted into social capital. As specified in Section 2.1, the diversity in educational and work experience can span across different social networks. The investment in human capital signifies knowledge, professional skills and abilities. Individuals with high human capital are more likely to connect with supervisors or peers by providing counseling, coaching and assistance (Lin and Huang, 2005: 195). Alternatively, in the moderation model, individuals positioned in the network centrality are advantaged in opportunities to display their abilities and potentials, as compared to those in peripheral locations. Therefore, social capital derived from strategic network positions is expected to result in higher career returns to the equivalent human capital.

By studying approximately 112 employees from financial institutions in Taiwan, Lin and Huang lend support to the mediation model. Social capital mediates the linkage of developmental potential to managerial rank and tenure. Friedman and Krackhardt

(1997: 327) in another study indicate that occupational return to education is mediated by network centrality for European Americans at the computer service division. Given the above-cited studies, the measurement of social capital and career mobility is similar. Career mobility is measured by the subjective evaluation of developmental potentials, whereas social capital focuses on network centrality. Although the above studies have provided initial and limited evidence on the mediation model, this research question still deserves further exploration in the future research, as indicated in Chapter 9.

As a consequence, this thesis attempts to fill the first two research gaps and leave the third issue unresolved for the future research. For this purpose, the following section will return to the specific research questions, which has been already noted in Chapter 1. For example, how is human capital or social capital rewarded in upward mobility for provincial leaders in China? How does the role of human capital or social capital in the promotion dynamics change across different administrative ranks within the political hierarchy?

2.4 Theoretical Framework and Research Hypotheses

The past career mobility research provides optimistic answers to the vital role of human capital and social capital. The central issues to be addressed in this thesis are concerned with the career returns to either capital exclusively in political upward mobility and the possible variation in these returns across administrative ranks. To seek the answers to these issues, this section therefore proceeds to develop the theoretical framework. It proposes the research hypotheses for an independent study of the promotion rewards for either capital in elite selection and mobility models. To operationalize, human capital is measured by educational levels, academic majors and public service seniority for political elites. In view of scarce empirical data on social capital of Chinese elites, this thesis examines access to instead of mobilization of social capital. The indicators comprise network size, network diversity and upper reachability as specified in Section 2.2.2. The

operational definitions and measurement of all these variables will be formulated in Chapter 3.

For either human capital or social capital, the hypotheses are generally structured along four dimensions in Figure 2, which will be again specified at the beginning of Chapter 8. First, Hypothesis H1a, H1e, H1f and H2a are interested in the effect of either capital on promotion as a whole, regardless of the specific career stage over which the promotion occurs. Second, the overall effect of either capital is further studied by comparing the overall promotion models across different historical periods in Hypothesis H1b, H1e, H1f and H2b. Third, special attention is given to the inter-rank variations in the payoffs of either capital in the promotion dynamics in Hypothesis H1c, H1e, H1f and H2c. Finally, Hypothesis H1d and H2d undertake a historical comparison of the role of either capital in the rank-specific promotion dynamics before the Jiang period, under Jiang and under Hu.

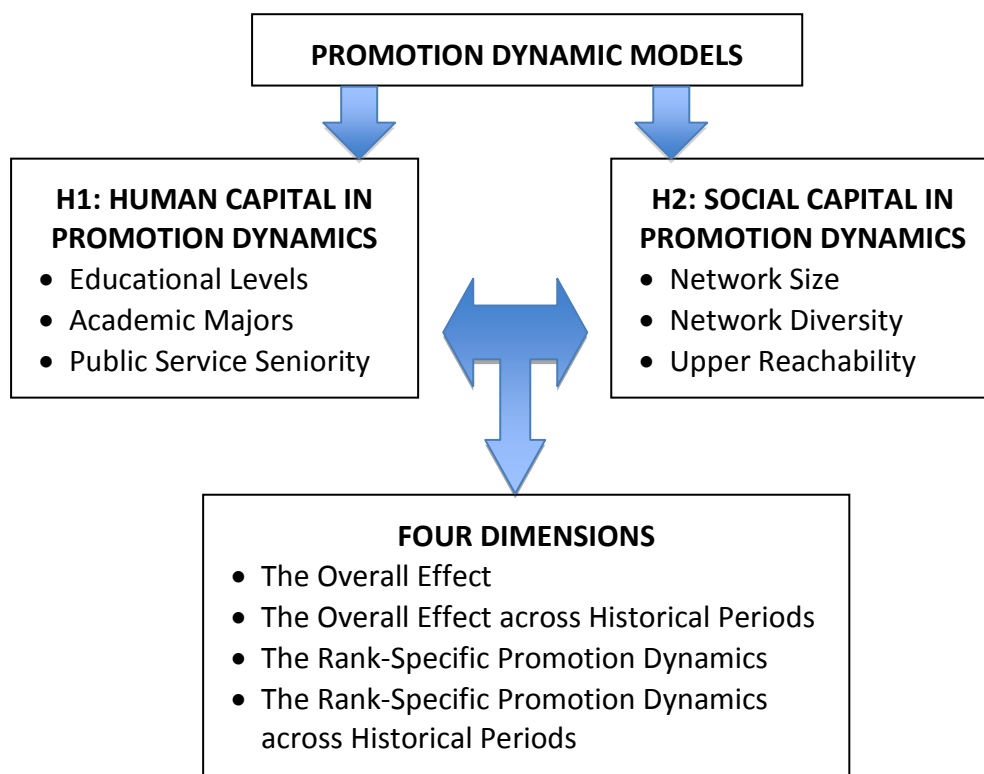


Figure 2 Theoretical Framework and Research Hypotheses

2.4.1 Human Capital in Promotion Dynamics

Section 2.1 has explained why human capital affects career mobility and provided substantial empirical evidence. The primary reason is rooted in the signaling and filtering effects. The rationale of human capital can be readily applied to the Chinese elite mobility. Since the Deng era, meritocratic criteria have increasingly conformed to the advocates of industrialization and economic orientation (Walder, 1995: 311; Zang, 2001: 190-191). In the Chinese state-level cadre recruitment in 2012⁷, all the target positions within party systems or government divisions are open to the candidates graduated from some college or above. The graduates from some college are eligible to apply for 1,105 positions, approximately 10.5% of all the target positions. The positions available to undergraduate degree holders comprise a major share, amounting to 84.6%. As for those awarded master or doctoral degrees, the proportions of vacant positions open are 66.8% and 56.4%, respectively. In addition to education credentials, there has been a trend of persistent emphasis on work experience, in particular two-year grassroots experience. In 2012 cadre selection, previous career experience is an essential requirement in 18.3% out of 10,486 positions, as compared to the proportions of 19.7% in 2011 and 18.2% in 2010. The above statistics illuminate the preeminence of college education, coupled with an increasing value of past occupational attainment.

Apart from the recruitment mechanisms for political elites, it is instructive to take insight into the elite composition along party apparatus and governmental bureaucracy across varying levels. At the central level, there is a dramatic rise in college-educated full and alternate members from the 8th to 18th Central Committee (CC), with exceptions of the political turmoil during the CR (Li and Bachman, 1989: 74; Li and White, 1988: 379, 1998: 248, 2003: 578, 580; Zang, 1993: 796). Since the 15th CC, members receiving college education or above have constituted over 90% of

⁷ The 2012 guidance of job vacancies and application procedures for state-level cadre recruitment was published on 13th October 2011. The technical support unit and the editorial board of National Civil Service Exam analyzed the cadre selection criteria. The website for statistical data available is National Civil Service Network: <http://www.gigwy.org/2011/1014/21114.html> [18th July 2012].

the leadership groups. Similar to the central leadership characteristics, elite positions at both the provincial and the municipal levels are increasingly occupied by the highly educated political leaders (Bo, 2002: 51-52; Chen, 1998: 682-683; Li and Bachman, 1989: 74, 77-78; Zang, 1991b: 518, 520).

Alongside the predominance of college-educated political elites, only a small body of empirical research turns to ask to what extent college education affects elite mobility. For instance, Zhou, Tuma and Moen (1996: 781) indicate that college education increases the odds of assuming professional occupations and entering into public organizations across historical periods from 1949 to 1993 (also see Walder's (1995: 322-323) analysis based on 1986 Tianjin Survey)⁸. Likewise, the baseline argument of dual career paths in China implies that education is more pronounced for attaining professional careers (Walder, 1995: 318-319; Walder, Li and Treiman, 2000: 199; Zang, 2001: 194). Besides, college education has become a significant predictor of recruitment into and job shifts in governments since 1980, when the cadre selection policies increasingly favored educational achievements (Zhou, Tuma and Moen, 1996: 780-781, 1997: 355). It also functions as a powerful and positive predictor in political competitions (Lin, 2012; Shih, Adolph & Liu, 2012). In the study of 906 political elites, Zang (2001: 198-200) states that educational credentials are salient vehicles to select qualified government administrators. Besides, receiving college education effectively facilitates upward mobility within the CCP hierarchy.

Despite the close linkage between educational levels and elite recruitment and promotion as analyzed above, it is expected that the contribution of educational levels to promotion opportunities persist across administrative ranks within the political hierarchy. This primarily results from the continuing emphasis on higher

⁸ Zhou, Tuma and Moen (1996, 1997) categorize organization types into government agencies, public organizations, state-owned firms, collective firms, private firms and hybrid firms, and village in rural areas. Public organizations, or *shiyè danwèi* (事业单位) are defined as "nonprofit organizations in the public domain; not administrative organs of the state but usually closely linked to the central government or local bureaucracies" (Zhou, Tuma and Moen, 1997: 347).

education in leadership selection and the allocation of education and career opportunity under party sponsorship. As will be stated in Chapter 5, the attainment of higher education has been increasingly underlined in the regulations of cadre recruitment and appointment since 1995. For example, in 1995, the educational level of some college generally became a basic meritocratic criterion for leadership selection in both the party and government systems. For the most part, one of the prerequisites for the promotion towards the vice-provincial/ministerial level or above is the completion of college education. Furthermore, the educational requirement of college education extensively applied to the political leaders at the deputy-bureau/director level or above in 2002 and those assuming the full positions at the county level in 2006. Therefore, it is expected that educational credentials play a critical role in leadership selection at varying administrative ranks. Political leaders are highly motivated to improve their educational levels. In this context, on-the-job educational advancement, particularly party-school education, turns out to be an ideal option for political leaders, which will be delineated in detail in the following and in Chapter 5.

The preceding account has shown the notable effect of education on career advancement towards different administrative ranks. To go a step further, it is assumed that this effect differs by historical periods. The above-noted historical changes in the educational requirements and the growing emphasis on higher education provide supporting evidence for the different role of educational attainment in the rank-specific promotion dynamics over time.

In conclusion, drawing upon the statistics from elite recruitment practices and the pertinent empirical studies, it can be inferred that education indeed has tremendous impacts on recruitment and career mobility outcomes. It is anticipated that educational levels are responsible for elite selection and promotion outcomes. The effects of educational levels endure across administrative ranks. The career rewards for educational levels in the rank-specific promotion dynamics change over time. On this basis, the hypotheses related to educational levels are proposed in the following.

H1a: Overall, educational levels are an important promotion criterion. Political officials with higher educational credentials are more likely to get promoted.

H1b: Overall, educational levels are significantly associated with upward mobility across three historical periods.

H1c: Educational levels are significantly associated with upward mobility across administrative ranks.

H1d: The role of educational levels in the rank-specific promotion dynamics differs over three historical periods.

Alongside educational levels, as Ishida, Spilerman and Su (1997: 869) suggest, “the effect of college major can be interpreted as a proxy for specialized training and knowledge or as an indicator of commitment to business activities and other noncognitive characteristics”. In China, top leadership biographies captured a tendency of technocratic dominance, which will be further explored in Chapter 5 (Li and Bachman, 1989: 75; Zang, 1993: 797; Li and White, 1998: 250-251, 2003: 581). At the empirical level, Chinese political leaders are interested in selecting science and engineering as major fields of study. In essence, this observation originates from the CCP’s efforts in producing highly trained specialists for national building and industrialization in the early 1950s. At the empirical level, Lin (2012: 105) shows that the effect of academic disciplines is significant on promotion chances for 264 mayors in 2006. Specifically, those majoring in science are more likely to get ahead than those trained in arts.

By analyzing the elite stratification of leading cadres in 1994, Zang (2001: 200) observes that college graduates majoring in engineering or management tend to work in the government system rather than the party apparatus. Among them, those from the prestigious universities are more likely to advance high in the government bureaucracy. As for party leaders, those studying in engineering or management tend to be rewarded in the career progression. In this thesis, it is expected that political officials studying science and engineering are distinguished from those trained in humanities and social sciences in the process of climbing to the

top. Besides, this distinction is possibly observed in the promotion dynamics across administrative ranks or over different historical periods.

H1e: Academic majors significantly affect political upward mobility as a whole, across three historical periods or across administrative ranks.

In the Chinese context, education and work experience are explicitly stipulated in the cadre recruitment guidance. Both criteria produce objective and clear-cut yardsticks to compare candidates' differences, which in turn to a large extent reduces selectivity biases. Public service seniority can be conceived as not only a measure of human capital or work experience but also a dimension of time or age. It is well understood that political officials are positioned disadvantageously in the race for upward mobility if they stay on the same position or at the same rank for a long time. Rather, steering their careers into the fast track confers age advantages for political officials in Chinese politics. Therefore, the hypothesis in relation to public service seniority is developed as follows.

H1f: Public service seniority imposes a significant impact on political upward mobility as a whole, across three historical periods or across administrative ranks

2.4.2 Social Capital in Promotion Dynamics

In order to assess the effect of social capital in political upward mobility, Section 2.4.2, first of all, returns to the phenomenon of party patronage as discussed earlier. Li and Walder (2001) elaborate the influence of selection dynamics and macro-political processes. Party monopolizes power and privileges over resource allocation and life chances (Cao, 2001: 686-688; Li and Walder, 2001: 1372; Walder, 1988: 88-102, 1995: 309-310; Walder, Li and Treiman, 2000: 192-195). Early entry into party and cadre occupations is rewarded for adult college education under party

sponsorship systems⁹, which in turn drastically increases promotion rates for elite positions. At the central level, nine Politburo members (36%) of the 17th CC completed their final degrees after working¹⁰.

In 2012, every province in China underwent personnel reshuffles in the Standing Committee of CCP. In terms of educational background, Table 1 illustrates the number of provincial leaders with adult education and receiving educational degrees in Party Schools. Out of 402 new Provincial Standing Committee members of CCP¹¹, 333 cases or approximately 82.84% of members attained further education after working in the government agencies, among which 162 members (40.30%) have received educational credentials in Party Schools. All the members in Guizhou, Ningxia and Shaanxi were awarded final educational degrees after obtaining administrative positions. With the exception of Liaoning, 30 provinces have over a

⁹ Adult education is defined as the alternative educational avenues to regular educational systems. The Chinese adult further education consists of all-level educations, distance education, illiterate education and Night College as well as training courses for adults after their first jobs (Li and Walder, 2001: 1396). In this thesis, adult education for political elites exclusively indicates educational experience after working for the sake of qualifications equivalent to formal educational degrees or diplomas.

¹⁰ Nine Politburo members are respectively Xi Jinping (习近平), Wang Lequan (王乐泉), Hui Liangyu (回良玉), Liu Yunshan (刘云山), Liu Yandong (刘延东), Li Keqiang (李克强), Li Yuanchao (李源潮), Wang Yang (汪洋) and Guo Boxiong (郭伯雄). Among them, five members held educational degrees in Party School. Wang Lequan (王乐泉), Liu Yunshan (刘云山), Li Yuanchao (李源潮) and Wang Yang (汪洋) received further education after working in Central Party School, whereas Hui Liangyu (回良玉) studied in Jilin Provincial Party School. In terms of educational levels, Hui Liangyu (回良玉) and Guo Boxiong (郭伯雄) had the final degree of some college. Liu Yunshan (刘云山) and Wang Yang (汪洋) received adult college education. For a detailed account of leadership biographies, please refer to the website of People: <http://cpc.people.com.cn/GB/104019/104101/6415237.html> [18th July, 2012].

¹¹ Given the different schedules of personnel replacement among provinces, some provincial leadership changes occurred. Wang Sanyun was elected deputy secretary of Anhui provincial committee of the CCP on 30th October 2011, and later assumed the post of party secretary of Gansu provincial committee of the CCP on 28th April 2012. In May 2012, Lu Jianping was removed from the post of the standing committee member of Hunan Provincial CCP and replaced by Xu Yousheng. In June 2012, Cao Zhenghai, originally appointed as the standing committee member of Inner Mongolia CCP, became the standing committee member in Anhui.

half of members with adult education. The party sponsored education is not only characterized by studies for educational certificates or degrees, but also by training courses in the Party School of the CC of the CCP (hereafter, Central Party School, 中央党校). Consider Guangdong provincial leaders as an example. Eleven out of thirteen members (84.6%) had adult continuing education¹². For these members, six were graduated from Central Party School. For all the members, ten leaders have attended the training courses in Central Party School, among whom six took the courses designed for young and middle-aged cadres. As Li and Walder (2001) observe,

“While party sponsorship produces a strong correlation between education and elite occupation, such a correlation cannot be interpreted as a straightforward indicator of meritocratic principles, for it is partially the result of prior political selection processes.” (pp. 1405)

Table 1 Distribution by Adult Education and Educational Experience in Party Schools for Provincial Leaders, 2012

Province	Adult Education		Party Schools	
	N	%	N	%
Anhui	12	92.31	3	23.08
Beijing	9	69.23	4	30.77
Chongqing	9	69.23	3	23.08
Fujian	9	69.23	3	23.08
Gansu	12	92.31	6	46.15
Guangdong	11	84.62	6	46.15
Guangxi	10	76.92	3	23.08
Guizhou	13	100.00	7	53.85
Hainan	11	91.67	7	58.33
Hebei	11	84.62	8	61.54
Heilongjiang	9	69.23	4	30.77
Henan	10	76.92	5	38.46
Hubei	12	92.31	6	46.15

¹² Eleven members received final master or doctoral degrees via adult education. Among them, Wang Yang, Zhu Xiaodan, Zhu Mingguo, Li Yumei and Huang Shanchun obtained college education after working in party organs or government apparatus. For more details, refer to the website of Xinhua Net: http://news.xinhuanet.com/local/2012-05/14/c_123125872.htm [18th July, 2012].

Hunan	11	84.62	4	30.77
Inner Mongolia	12	92.31	4	30.77
Jiangsu	8	57.14	3	21.43
Jiangxi	11	84.62	7	53.85
Jilin	11	84.62	3	23.08
Liaoning	6	46.15	4	30.77
Ningxia	13	100.00	6	46.15
Qinghai	12	85.71	9	64.29
Shandong	9	69.23	5	38.46
Shanghai	9	75.00	2	16.67
Shaanxi	12	100.00	6	50.00
Shanxi	12	92.31	4	30.77
Sichuan	10	83.33	4	33.33
Tianjin	10	76.92	5	38.46
Tibet	13	86.67	7	46.67
Xinjiang	14	93.33	8	53.33
Yunnan	12	92.31	7	53.85
Zhejiang	10	76.92	6	46.15
Total	333	82.84	162	40.30

Source: Author's database¹³.

Note: The biographies of Zhang Jiang (张江) and Zhang Lin (张林) in Liaoning Provincial leadership are missing.

In this sense, education is strictly incompatible with the investment argument. Rather, it is a reward for political trustworthiness through party patronage. So is the practice of job transfers as training rewards in the expectation of career advancement. It is not the individuals with higher human capital that are considered getting recruited or promoted under party sponsorship. Precisely, the selected future political elites tend to have more training and educational chances. This corresponds to Turner's (1960: 866) sponsored mobility model¹⁴. In the party-

¹³ All the elite biographies come from the official website of Xinhua Net: http://news.xinhuanet.com/local/2012-07/04/c_123369232.htm#天津 [18th July, 2012].

¹⁴ In 1960, Turner developed a framework for distinguishing the contest-mobility dynamic in the United States and the sponsored-mobility system in Great Britain. Turner (1960: 857) explicitly maintains that "the governing objective of contest mobility is to give elite status to those who earn it, while the goal of sponsored mobility is to make the best use of the talents in society by sorting persons into their proper niches".

sponsored mechanism, party leaders, particularly superiors in the workplace, exercise control over the allocation of developmental opportunities. Individuals are granted further education, periodic job rotation and promotions via superiors' referrals and favorable performance evaluation (Cannings, 1988: 86). It is therefore beneficial to develop social connections with leaders because better superior-subordinate relationships lead to interpersonal trust and performance satisfaction (Farh et al., 1998: 477). Social interactions and networks foster information diffusion and subordinates' exposure to decision makers, as articulated in Section 2.2.

In job deployment systems, bureaucratic control pervaded the pre-reform China. In the relatively immobile society, the job-assigning authority monopolized the allocation of labor quotas and specific implementation (Bian, 1994a: 971-972, 1997: 370; Bian and Ang, 1997: 985-986). The individual preferences and autonomy were highly restricted. Under these circumstances, a salient career strategy was to activate personal contacts and deliberately influence the authorities for favor exchanges. Since 1980, labor market and traditional state planning have overlapped (Bian, 2009: 178-179, 188-189). During the market transition periods, the rising meritocracy and declining hierarchical intervention occurred in the emerging labor market (Bian and Huang, 2009: 182-184). These remarkable sociopolitical transformations invite a significant debate, concerning whether the growing importance of education undermines the use of personal contacts in career mobility. The 1988 Tianjin job placement data illustrates that the use of *guanxi* (关系) between 1977 and 1988 was an important factor in 57% of the first-job attainment (Bian, 1994a: 973). Huang (2008: 481) identifies the widespread influence of *guanxi* for job-matching results in the 1990s. It is partially consequences of the eroding hierarchical control, the continuing information asymmetry, the lack of recruiting procedural rationality, and "the slow growth of market institutions" (Bian, 1994a: 979, 986; Bian, 2009: 179; Huang, 2009: 471). As a result, the second possible pattern of recruitment and advancement postulates that, social capital is apparently predictive of career success. Besides, social capital yields a continuing influence in upward mobility across administrative ranks or over time.

H2a: Overall, social capital is an important promotion criterion and is significantly related to political upward mobility.

H2b: Overall, the significant effect of social capital persists across three historical periods.

H2c: The significant effect of social capital persists across administrative ranks.

H2d: The significant effect of social capital in the rank-specific promotion dynamics persists across three historical periods.

The subsequent chapters will proceed to draw an entire picture of provincial leadership transformation from 1990 to 2013 before testing the above hypotheses and devising an appropriate career mobility model in Chapter 8. Chapter 3 about methodology will specify how the data is collected and analyzed. Chapter 4 will describe the historical persistence and changes in provincial leadership composition in terms of age, gender, ethnicity, provincial origins and CCP membership. Chapter 5 and Chapter 6 will elaborately report human capital and social capital of Chinese provincial leaders, respectively. On this basis, Chapter 7 will delineate the processes of political upward mobility of Chinese provincial leaders since 1990. Chapter 8 will provide quantitative evidence and address how both human and social capitals are rewarded in achieving career success. The concluding chapter will revisit the important research questions, summarize the major findings, point out the contributions and limitations of this thesis and suggest the future research directions.

Chapter 3 Research Methodology

This thesis addresses the research question and tests the above hypotheses in a quantitative study of Chinese provincial leaders since 1990. More specifically, event history analysis will be employed to trace the career trajectories and the changes in human capital and social capital across the observation period. Chapter 3 will explicitly explain why event history analysis is an appropriate method in Section 3.1. On this basis, Section 3.2 and Section 3.3 will provide a detailed formulation of how to conduct the research, including data collection and data input. Finally, Section 3.4 will briefly introduce how to analyze data in the logistic regression model.

3.1 Why Use Event History Analysis?

Event history analysis is defined as “the modeling of events occurring over time using a set of explanatory variables” (Agresti & Finlay, 2009: 524). It incorporates not only whether or not the events occur but also the timing of event occurrence (Allison, 1982: 62; Box-Steffensmeier & Jones, 2004: 1; Eerola, 1994: 2; Freedman & et al., 1988: 38; Mills, 2010: 1; Tuma, 1994: 138; Yamaguchi, 1991: 1). Although no panacea, event history analysis is increasingly recognized as a superior breakthrough in analyzing social processes and changes. It is an appropriate instrument in the dynamic models, as compared with the static analysis and equilibrium assumptions in the ordinary statistical modeling (Blossfeld & Rohwer, 2009: 24; Box-Steffensmeier & Jones, 1997: 1414; Carroll, 1983: 425; Elliott, 2002: 108-109; Tuma, Hannan & Groeneveld, 1979: 820-821).

This thesis attempts to address how the influence of human and social capital in upward mobility evolves across career journeys for Chinese political leaders. The temporally sequenced promotion outcomes are therefore recorded in terms of the timing at promotion and the ordering of career trajectories. In this regard, it is tempting to apply event history analysis in this thesis because this statistical technique measures time to event and fits the promotion dynamics analyses

perfectly concerning whether and when the promotion event occurs. The extraordinary strengths of event history analysis essentially lie in the longitudinal records of leadership biographies readily available. More importantly, it effectively handles censoring and time-varying explanatory variables, which will be specified in the following (Allison, 1982: 62).

3.1.1 Censoring

As for the sample of Chinese provincial leaders, the timing of promotion at each administrative rank is largely well-defined in the leadership biographies. Nevertheless, the statistical difficulties of censoring arise when promotion outcomes are unspecified at the end of the observation period until October 2013¹⁵ (Allison, 1984: 56; Courgeau & Najim, 1996: 192; Elliott, 2002: 108; Guo, 1993: 218; Mills, 2010: 5; Tuma & Hannan, 1979: 236, 1984: 154). This group of political leaders is censored in the statistical modeling. For instance, in Chinese leadership dataset, 3.97% of the provincial leaders unexpectedly or prematurely quit from the posts. Specifically, 19 observations dropped out of the study because of death or fatal medical problems, together with 31 cases due to criminal behaviors. In addition, 597 out of 1260 provincial leaders (47.38%) continue serving in the government bureaucracy or party apparatus after October 2013. It is interesting to note that, among them, 68 political leaders were born after 1963 and take up the senior party and government positions. Undoubtedly, this club of political leaders, approximately 5.40%, is potentially rising political stars to occupy authority positions in Chinese power structures. It is, however, difficult to identify whether and when these political leaders will advance to the top over the observation period.

¹⁵ Yamaguchi (1991:3) defines censoring in the circumstance “when incomplete information is available about the duration of the risk period because of a limited observation period”. To be specific, right censoring exists if the event of interest has not occurred when the observation is terminated (Yamaguchi, 1991:5; Blossfeld & Rohwer, 2007: 39-41). Left censoring refers to the cases whose “entry into the risk period occurs prior to the observation period” (Yamaguchi, 1991: 7).

To solve the censoring issues, three analytical strategies are generally taken into account in the traditional statistical analysis (Tuma & Hannan, 1979: 213). The first one is to remove 647 political leaders (51.35%) whose complete career histories remain unknown from the leadership dataset. This “solution” is far from ideal because it enhances the sampling bias and loss of information in the modeling (Agresti & Finlay, 2009: 525; Box-Steffensmeier & Jones, 2004 : 19). As Box-Steffensmeier and Jones (1997: 1416-1417) point out, “if the factors producing censoring are completely unrelated to factors promoting an event’s occurrence, then truncating the sample may be a solution; however, censored observations are often influenced by precisely the same factors uncensored observations are. Under such conditions, truncating the sample to include only uncensored observations would produce a biased sample because only observations initially prone to experience an event would be included. States with ‘staying power’ would be eliminated from the sample. Truncating the sample would induce selection bias into the data and the implications of this problem are well-known”. A typical example is the censored provincial leaders with non-occurrence of promotion until the last point of observation. With the increasing educational attainment for Chinese leadership group, they largely receive higher education that is presumably regarded as a positive predictor of upward mobility. Therefore, the career returns to education may be well observed for both the censored and uncensored provincial leaders. By eliminating the censored provincial leaders, the sample under study is restricted to the uncensored leaders who are likely to get promoted. In comparison, the effect of education on upward mobility for the censored leaders is accordingly ignored. As a result, the direct removal of the censored observations may bias the estimates of the role of education in political career advancement.

The second option is to develop a dichotomous indicator of whether or not the Chinese political leaders experience successful promotions across the observation period in a logit model (Allison, 1984: 10; Petersen, 1991: 273). It is to some extent arbitrary to draw a dividing line of “winners” and “losers” by simply answering an “either/or” question. This logic basically ignores the variability in the length of duration time before advancing to upper levels (Box-Steffensmeier & Jones, 1997:

1417, 2004: 19; Singer & Willett, 1993: 159). For example, Li Changchun (李长春), former Politburo member, spent twelve months moving from the bureau/director level to the vice-provincial/ministerial level¹⁶. That is, he successfully assumed the position of party secretary of Shenyang City in 1983, after working as vice mayor for just one year. It then took two years for Li to become deputy party secretary of Liaoning Province in 1985, one year to work as acting provincial governor between 1986 and 1987, and one year to obtain the high-ranking position of provincial governor in 1987. After 1990, he was transferred to Henan Province as a top provincial leader and ultimately ascended to the Politburo in 1997.

Another provincial leader, Ou Guangyuan (欧广源) was promoted in 1993 to vice provincial governor of Guangdong, one year after working as party secretary of Foshan City. In 2002, he was elected Guangdong's deputy party secretary and then deputy director of Standing Committee of Guangdong Provincial People's Congress (PPC) in 2007. After 2008, he moved to the provincial/ministerial level as director of PPC and served in the Agriculture and Rural Affairs Committee of National People's Congress (NPC). Despite the same duration time of twelve months from the bureau/director level to the vice-provincial/ministerial level, Li Changchun climbed much faster to the provincial/ministerial level and was positioned advantageously as compared to Ou Guangyuan. It is by no means scientific and realistic to draw any causal understanding of leadership promotion by simply asking, "is the political leader promoted?"

Regarding the above differentiated career paths, as Petersen (1991: 273) illustrates, "being promoted after six months is a different career trajectory from being promoted after six years". In this sense, this strategy fails to distinguish fast runners within the Chinese hierarchy. The waiting time at each administrative rank is precluded here. It appears to be oversimplified in essence. The complexity of promotion mechanisms of Chinese leadership is understated.

¹⁶ For a detailed description of administrative ranks, Section 3.3.2 will introduce how to define dependent variable of promotion outcomes in the Chinese hierarchical context.

In addition to the above two approaches, the third “solution” is to convert nonpromoted into promoted observations, by assigning the duration values to the political leaders without promotion experience at the end of data collection. In this case, the promotion outcomes actually remain unknown for these political leaders until the last observation. They may move ahead towards a higher level sometime after the observation ends. Therefore, the actual length of duration time undoubtedly exceeds the assigned values. This solution seems to be problematic and generates erroneous estimations (Allison, 1984: 11; Singer & Willett, 1993: 158-159).

However, event history analysis possesses the methodological advantages over the standard statistical models in handling censoring issues¹⁷ (Box-Steffensmeier & Jones, 1997: 1430). Given the clear-cut censoring points, it seems very likely that the censoring observations could be included in this analysis (Box-Steffensmeier & Jones, 2004: 18). Tuma and Hanna (1979) have demonstrated that maximum likelihood estimation overcomes the censoring limitations in a sound way (Box-Steffensmeier & Jones, 1997: 1430; for detailed statistical procedures, see Tuma & Hanna, 1979: 217-228). They discuss that, “an important advantages of the maximum likelihood approach to the censoring problem is that it is easily extended to different data structures and different models, including those with multiple kinds of events, causal effects on rates, and time-dependent rates” (Tuma & Hanna, 1979: 237).

3.1.2 Time-Varying Covariates

¹⁷ The event history analysis adopts the term of “a failure” to identify the observations experiencing the event of interest, and meanwhile “a success” to refer to nonevent observations (Box-Steffensmeier and Jones, 1997:1430). The corresponding mathematical functions are $f(t)=h*\exp^{-h*t}$ and $S(t)=\exp^{-h*t}$. The hazard function $h(t)=f(t)/S(t)$. On this basis, Box-Steffensmeier and Jones (1997:1430) suggest that, “using maximum likelihood estimation provides some leverage on the issue of censoring. Censored observations are treated differently from uncensored observations, as they should be. Furthermore, all information on the length of the duration is used with maximum likelihood estimation. Thus, we avoid the problems associated with traditional regression-based techniques”.

Alongside the censoring solution introduced above, event history analysis effectively accommodates time-varying covariates in statistical modeling (Allison, 1982: 62; Mills, 2010: 11). The ordinary statistical techniques fail to address “how” and “why” questions in relation to social changes over time. Social phenomena and processes are interpreted in a static and time-stationary manner (Box-Steffensmeier & Jones, 1997: 1417, 2004: 19; Elliott, 2002: 109). They give little attention to variability in time dependencies, particularly on the basis of cross-sectional data (Blossfeld, Golsch & Rohwer, 2007: 10-12). They rarely provide satisfactory answers to such questions as how changes are created and experienced. For instance, when did the political leaders obtain their bachelor’s, master’s or even doctoral degrees? Do the career returns to educational achievement vary over time? To what extent is social capital cumulated in job transfers? To what extent and in what way does social capital affect political upward mobility? And so forth.

In sharp contrast, event history analysis prominently provides an alternative for modeling the changing status and predictors at discrete or continuous time points. For the provincial leaders under study in this thesis, this statistical technique records the growth in administrative ranks coupled with the process of improving educational levels and accumulating social capital. It also grounds the promotion analyses in the changing historical conditions by analyzing the period effect on promotion, which will be explored in Chapter 8. With respect to the construction of data input and rigorous analytical strategies, as Allison (1984: 19) emphasizes, “time-varying explanatory variables are easily included because each year at risk is treated as a distinct observation”. Particularly, they fit well into the person-period data structure that will be discussed and operationalized in Section 3.3.5 (Tarling, 2009: 187).

Consider Li Keqiang (李克强) and Xu Fushun (徐福顺) as prominent examples. Premier Li Keqiang received his Bachelor’s degree in law from Peking University at the age of 27. After staying in the CC of Chinese Communist Youth League (CCYL), he graduated with a doctoral degree in economics in 1994, at the age of 39. He completed the educational and professional training before joining the upper

echelons. In comparison, Xu Fushun is currently serving as vice chairman of State-owned Assets Supervision and Administration Commission (SASAC). After graduating from Liaoning University of Finance and Economics in 1984, Xu spent 19 years in state-owned China Nuclear Engineering Corporation between 1984 and 2003. However, he studied sociology and obtained a doctoral degree in 2013 from Huazhong University of Science and Technology. Comparing the educational profiles of Li and Xu, both of them received full-time undergraduate education and were awarded the doctoral degrees after entering the workforce. It is worth noting, however, that the timing of receiving the doctoral degrees is different. Correspondingly, the role played by educational credentials can be distinctively different. As for Xu, it is unreasonable to assert that a doctoral degree received in July 2013 would significantly affect his career mobility to vice provincial governor of Qinghai in September 2003, or to vice chairman of SASAC in May 2013. To avoid the misleading causal inferences as such, event history analysis brings together the levels and the timing of educational credentials.

Similar to changes in human capital, social capital varies dramatically over time. A majority of Chinese political elites experience job shifts across the full course of career, either frequently or occasionally. Social capital growing out of the viable work relationships will change accordingly. For instance, Linghu An (令狐安), former deputy head of the Bureau of Auditing, began to work for a Dalian machine factory in 1970. In 1977, he made a vital transition from a factory worker to a party cadre in the Municipal Bureau of Machine-building Industry in Dalian. He held the position of deputy secretary in the CCYL of Dalian City from 1978 to 1982 and entered the Municipal Bureau of Instrument, Meter and Electronic Industry. In 1983, he acted as chairman of Dalian Federation of Trade Unions and deputy director of Economic Reform Commission concurrently. In 1985, he was appointed vice mayor in Dalian City. In 1988, he was transferred to Ministry of Labor and remained there for five years. In 1993, he became a senior party leader in Yunnan Province. In 2001, he served on National Audit Office for twelve years, before working in the Overseas Chinese Affairs Committee of NPC. As for Linghu's career history, set October 2013 as the ending point of survey time. The standard correlation or regression analysis

succeeds in exploring how the cumulative value of social capital is related to his highest rankings. It is merely a snapshot of the entire 43-year career life. It fails to sketch the complete career paths and changes in social capital across multiple episodes. As Tuma and Hannan (1984: 3) indicate, “sociological theories have become increasingly concerned with social change, and temporal data are becoming widely available. Yet empirical social research addresses primarily questions about static relationships (associations among phenomena at a single time point) and focuses mainly on cross-sectional analysis”. Event history analysis, however, can model the variations in social capital and occupational status on temporal dimensions. In this way, it is more likely to approximate social processes per se.

In summary, event history analysis is superior to the standard statistical methods in interpreting social changes. The Chinese promotion mechanisms are essentially dynamic and sophisticated. The application of event history analysis in this thesis is exciting and rewarding not only for the richness of leadership and promotion information, but also for its statistical robustness and analytical abilities in interrelationships of longitudinal data.

3.2 Data Collection

Section 3.2 and 3.3 will provide a general picture of how the longitudinal data of Chinese leadership is generated. Section 3.2.1 outlines the diversity of data sources, explaining why to collect the leadership data between 1990 and 2013 and focus on provincial elites. On this basis, Section 3.2.2 will describe the total sample in the geographical settings.

3.2.1 Data Sources

This thesis endeavors to address occupational mobility of Chinese provincial leaders since 1990. Before introducing specific data sources, three important questions are posed. First, it is necessary to explain why this thesis gathered the biographic data

for the promotion analyses. The answers to this question are twofold. On one hand, the collection of biographic data maintains the balance between data availability and the political elites as research subjects. This thesis is interested in the promotion dynamics for Chinese provincial leaders. Elite studies, in practice, are confronted the difficulties of getting access to the “hard-to-reach” political elite and gaining permission for interviews. In addition, the promotion analyses give weight to the individual career histories and the historical changes in the promotion models from a longitudinal perspective. A large number of provincial leaders under study lost contact or passed away, which makes the data collection more complicated and difficult. Burch and Moran (1992) discuss the methods of data collection in elite studies and write:

The standard techniques used to gather information about the population at large—such as social surveys and census returns—are rarely appropriate when studying contemporary elites, and are even less rarely appropriate in longitudinal studies, when many of the subjects are dead. The evidence from directories is second best, but it is a good deal more revealing than no evidence at all. (pp. 124-125)

On the other hand, the aggregate biographic data on demographic attributes, educational attainment, social network characteristics and career trajectories provides insights into elite transformation and the historical trends of leadership selection (Eldersveld, 1982: 68; Waller, 1973: 155; Welsh, 1973b: 2). Moreover, “these data can also provide a more systematic basis for interrelating elite change and changes in social, economic, and political characteristics of a system” (Waller, 1973: 155).

The second question is why the data ranges from the year 1990 to 2013 over a 23-year span. Roughly speaking, the leadership biographies between 1949 and 1990 are

mostly incomplete and unavailable¹⁸. A wide range of data for this thesis is drawn from online published leadership biographies. However, Chinese local governments established their official websites and Internet connections with the public in late 1990s. Another significant reason is that Jiang Zemin took over power and occupied the uppermost leadership post in 1989. This is the emergence of the third generation of Chinese top leaders. Since then, the political succession incrementally became institutionalized in a peaceful manner. It triggered an immense research interest in elite mobility from the perspectives of party loyalty, meritocratic criteria and performance orientation (Li & White, 1988, 1998, 2003; Li & Bachman, 1989; Zang, 1991b, 1993, 2001; Chen, 1998; Li, 2001; Zhou, 2001; Bo, 2002). Therefore, the detailed statistical data on leadership is collected from the year 1990 onwards. Furthermore, given the research schedule of this thesis, the ending time point of survey is October 2013¹⁹. The year 2013 is the year of profound leadership transitions for China. A new generation of provincial-level party leaders was elected by 3 July 2012. In January 2013, all the 31 provincial governments completed the leadership replacement. More leadership profiles became readily available. Selecting 1990 and 2013 for data collection permits the comparative study of elite promotion

¹⁸ In 2008, the government information sharing started to receive the robust statutory support (The Central People's Government of the People's Republic of China. 2007. The Government Information Sharing Guidance of the People's Republic of China (中华人民共和国政府信息公开条例) [Online]. (Updated 5 April 2007) Available at: <http://www.gov.cn/xxgk/pub/govpublic/tiaoli.html> [accessed 1 June 2014]. The central leadership biographies are available and updated particularly during the annual meetings of National Party Congress, National People's Congress and Chinese People's Political Consultative Conference. The information on personnel shuffle and related leadership profiles appears less accessible at the provincial, municipal or even county levels. The development of open and transparent governments differs across regions in China.

¹⁹ It is necessary to highlight two issues. One is leadership replacement in party organizations precedes that in government systems. The other is the personnel shuffles at the provincial level generally precede the central power transfer in China. To be specific, Liaoning was the first province to make a party leadership transition on 13 October 2011, while Beijing was the last one on 3 July 2012. The central committee of Chinese Communist Party (CCP) was elected at the 18th National Party Congress in November 2012. For the government officials at the provincial level, nearly all the officials were appointed in January 2013. The NPC and National CPPCC held in March 2013 elected the new-generation state leaders.

from the pre-Jiang period, Jiang’s third generation and Hu Jintao’s fourth generation, which will be discussed later in Chapter 8.

The third question is why does the data focus on provincial leaders? Firstly, as noted earlier in Section 3.1.1, provincial leaders are competitive political players in the powerful decision-making center in Chinese politics. Selecting provincial leaders allows for tracking the bottom-up career trajectories and comparing differentiated occupational success. As illustrated in Table 2, there is a steady increase in the Politburo members working as top provincial chiefs. In particular, proportion of Politburo members with provincial leadership experience reaches a peak for the 16th Politburo. That is, they disproportionately constituted 83.33% of the 16th Politburo. Both 17th and 18th Politburo counted 20 members from provincial leaders (80%). The data reported in Table 2 adequately shows the significance of provincial career experience. A relatively large proportion of Politburo members are incorporated into the sample of 1,260 provincial leaders in this thesis.

Table 2 Distribution by Provincial Working Experience for 13th to 18th Politburo, 2013

Politburo	Number of		Proportion of Politburo members with provincial leadership experience
	Politburo members	Provincial leadership experience	
13th	17	9	52.94%
14th	20	10	50.00%
15th	22	13	59.09%
16th	24	20	83.33%
17th	25	20	80.00%
18th	25	20	80.00%

Source: Author’s database.

Note: Politburo members with provincial leadership experience refer to they ever worked as party secretaries, deputy party secretaries, governors or vice governors at the provincial level.

Secondly, this thesis attempts to elaborate how human and social capital leads to different promotion outcomes over career stages. It implicitly assumes the possibility to track full career trajectories from the lower to upper administrative

ranks. In this regard, provincial leaders are suited to the research questions and conceptual designs. The diversity in career paths and promotion outcomes is well-observed for this leadership group. In comparison, central leaders occupy the vice-state-leader level ranking or above and thus exhibit little variance in where and when they reach a level cap within the hierarchy. For the municipal and county-level leaders, they have short seniority or receive limited promotion chances in party and government organizations. The investigation of such group fails to provide sufficient career data from the vice-provincial/ministerial level or above.

Before discussing how to collect biographical data, it is necessary to indicate that provincial leaders in this thesis exclusively include party secretaries, deputy party secretaries, governors and vice governors at the provincial level. To develop the Chinese leadership dataset between 1990 and 2013, detailed statistical data was gathered from a diversity of sources. The first step is to compile a complete list of provincial leaders since 1990. It crucially confronts three issues. Firstly, as for the current leaders, the authoritative data source comes from the official government websites. However, this type of data mostly covers the list of provincial governors and vice governors. Only a small number of provinces published the list of party leaders as well. For example, out of 31 provinces, only Beijing, Jiangsu, Hainan, Gansu and Ningxia published the list of both party and government leaders. Secondly, for the former provincial leaders, a full set of the list and leadership biographies is available online, for instance, the leadership databases of Xinhua Net (新华网), People.com.cn (人民网), Chinese Economics Net (中国经济网), or regional leadership database of Guangdong Province, and so forth²⁰. Nevertheless, Xinhua Net and People.com.cn merely offer the lists of provincial party secretaries and governors. Finally, in response to the missing-data problem, we turn to the election results of Provincial Party Committee of CCP, PPC and Provincial Chinese People's

²⁰ To access the list of provincial leaders, refer to Xinhua Net (新华网): <http://www.xinhuanet.com/rwk/>, People.com.cn (人民网): <http://politics.people.com.cn/GB/8198/351134/index.html>, Database of Local Party and Government Leaders, Chinese Economics Net (中国经济网, 地方党政领导人物库): <http://district.ce.cn/zt/rwk/>, Guangdong Political Leadership Database (广东领导资料库): <http://wen.oeeee.com/channel/5068.html>.

Political Consultative Conference (CPPCC), coupled with useful information on personnel shuffles from organization departments²¹.

Following the above procedures, this thesis compiled a full list of provincial leaders from 1990 to 2013. Table 3 shows the number of provincial leaders as four types in each province between 1990 and 2013, namely, provincial party secretaries, provincial governors, deputy party secretaries and vice governors. The numbers of party secretaries and provincial governors in each province range from three to nine, and four to nine, respectively. Both provinces of Hainan and Henan had nine party secretaries and on the other hand, Hebei and Shanxi had nine provincial governors during the period of 1990 and 2013. It is important to note that deputy party secretaries and vice governors considerably outnumber the former two groups. They are to a large extent disproportionately distributed in 31 provinces. For these two leadership groups, Tibet Autonomous Region stood far ahead of the other 30 provinces with the largest numbers of 30 deputy party secretaries and 54 vice provincial governors.

Table 3 Numbers of Top Provincial Leaders in 31 Chinese Provinces, 1990-2013

Provinces	Party Secretaries	Governors	Deputy Party Secretaries	Vice Governors
Anhui	6	8	20	33
Beijing	6	8	22	45
Fujian	7	8	20	34
Gansu	8	8	18	35
Guangdong	6	5	17	35
Guangxi	6	5	18	39
Guizhou	6	8	20	40
Hainan	9	6	14	36
Hebei	8	9	22	35
Henan	9	7	22	36
Heilongjiang	7	7	20	38
Hubei	6	8	21	40
Hunan	6	8	22	34

²¹ The election results are generally provided on the official newspapers of the CCP, Xinhua Net, People.com.cn and the official websites of the organization departments.

Jilin	6	8	24	35
Jiangsu	6	6	21	40
Jiangxi	6	5	19	38
Liaoning	6	7	23	38
Inner Mongolia	5	6	16	44
Ningxia	5	4	15	33
Qinghai	7	8	17	37
Shandong	6	6	21	42
Shanxi	6	9	24	39
Shaanxi	5	8	22	33
Shanghai	8	6	17	40
Sichuan	7	6	25	42
Tianjin	6	5	15	37
Tibet	6	6	30	54
Xinjiang	3	4	25	47
Yunnan	5	5	17	34
Zhejiang	5	8	18	37
Chongqing	7	4	14	26
Total	195	206	619	1175

Source: Author's database.

After constructing a comprehensive list of provincial leaders, the second step is to collect leadership biographies. By and large, the government websites and online leadership databases mentioned above published biographies for provincial leaders if the list was available. Besides, more biographies were accessed from the elite databases of ifeng.com and Communist Party of China Net, baike.Baidu.com and Wikipedia²². Aside from the online sources, the biographical data came from the published books of Statistical Yearbooks of provinces, Provincial Chronicles (省志), Who's Who in China: Current Leaders and the like. Not surprisingly, exceptions exist. The timing of career changes is partially lacking. The typical example is Liu Mingqi (刘名启), former vice provincial governor of Hainan. His leadership profile only presents the timing of occupational status after 1992 and that before 1992 was unknown. Fortunately, the latter was eventually drawn from a speech Liu delivered in Hainan

²² To search more leadership biographies, please visit ifeng Political Elite Database (中国政要资料库) at <http://renwuku.news.ifeng.com/>, and The Database for Chinese Party, Government Leaders from Communist Party of China Net (中国党政领导干部资料库) at <http://cpc.people.com.cn/gbzl/index.html>, baike.baidu.com (百度百科) at <http://baike.baidu.com/>, and Wikipedia (维基百科) at <http://zh.wikipedia.org/wiki/首页>.

Foreign Language College of Professional Education in 2010²³. He explicitly introduced career experience in early days at the beginning of his speech, including the duration times spent from a grass-root cadre to mayor of Sanya City. This important message is virtually a complement to the existing profile. Likewise, educational information is scarce for a number of provincial leaders. This category of data was updated from the alumni resources. For instance, the biography of Mao Guanglie (毛光烈), current provincial vice governor of Zhejiang, shows that he has obtained a master's degree of law and a doctoral degree of sociology. His undergraduate study experience in 1978 was eventually updated from the alumni information of Anhui University of Science and Technology²⁴.

After data collection, for reliability, it is necessary to cross-examine the data. In this thesis, except for a wide range of data sources noted above, the biographical information was further double checked through Chinese Political Elite Database of National Chengchi University of Taiwan²⁵. In the following, the sample of provincial leaders will be presented.

²³ Hainan Foreign Language College of Professional Education. 2010. Liu Mingqi: Thoughts on Chinese Reforms (刘名启：中国改革的思考). [Online]. (Updated 30 Nov 2010) Available at: <http://www.hnflvc.com/newsview.asp?ID=1800&class=49&type=ifle&downtype=>. [Accessed 2 June 2014].

²⁴ The Alumni Foundation of Anhui University of Science and Technology congratulated on Mao Guanglie's promotion to vice provincial governor in Zhejiang Province in January 2011 (Anhui University of Science and Technology. 2011. Congratulations on Mao Guanglie's Promotion to Vice Provincial Governors in Zhejiang (热烈祝贺校友毛光烈出任浙江省副省长). [Online]. (Updated 19 Jan 2011) Available at: <http://xyw.aust.edu.cn/newsview.asp?id=39&title=%C8%C8%C1%D2%D7%A3%BA%D8%D0%A3%D3%D1%C3%AB%B9%E2%C1%D2%B3%F6%C8%CE%D5%E3%BD%AD%CA%A1%B8%B1%CA%A1%B3%A4>.]Accessed 2 June 2014].

²⁵ Chinese Political Elite Database was established by National Chengchi University of Taiwan. It covers approximately 4,000 political elites at the vice-provincial/ministerial level since 1966. The political elites here refer to elites from party, government and military systems. The leadership information is collected on the dimensions of name, birth year, age, birth place, nationality, educational experience, work experience and the relevant timing, party membership or not, and party seniority. For more details, please refer to the online database at: <http://cped.nccu.edu.tw/>.

3.2.2 Sample

Based on the list and biographical data constructed, the sample in this thesis is selected in terms of different research purposes. On one hand, this thesis is interested in drawing a general picture of leadership transformation regarding demographic characteristics (Chapter 4) and human capital (Chapter 5). To achieve this, the sample under study in Chapter 4 and 5 is based on the full list of the 1990-2013 Chinese provincial leaders. This sample selection focuses on who occupied what provincial leadership position in each province on the yearly basis. In this sense, considering the adequacy of biographical data, the sample is 1,891, accounting for 85.10% of the total number of provincial leaders.

On the other hand, more importantly, the second research purpose rests on the empirical assessment of social capital (Chapter 6), elite mobility (Chapter 7) and promotion dynamics (Chapter 8) in the course of political careers. The sample selection deserves careful investigation. For example, it is noteworthy that provincial leaders tend to change their jobs. They were transferred to different provinces, or promoted from vice provincial governors or deputy party secretaries, to provincial governors or party secretaries. Additionally, it is possible that provincial leaders take multiple responsibilities and concurrently worked as (1) vice provincial governors and deputy party secretaries; (2) provincial governors and deputy party secretaries; or (3) party secretaries and provincial governors. Thus, this leadership group was counted more than once in the list. Table 4 presents the job shifts of provincial leaders considering how many provinces they worked as four types of senior leaders. To be specific, 37 political elites worked in two or more provinces as party secretaries and twelve as provincial governors. 75 provincial leaders served two or more provinces as deputy party secretaries and 28 as vice provincial governors. To operationalize in event history analysis, the event occurrence and timing are recorded in the course of changing jobs for each provincial leaders.

Table 4 Distribution by the Number of Provinces Served as Four Types of Provincial Leaders, 1990-2013

Number of Provinces	Frequency	Percent
1. Working as Provincial Party Secretaries		
0	1103	87.54%
1	120	9.52%
2	34	2.70%
3	2	0.16%
4	1	0.08%
Total	1260	100.00%
2. Working as Provincial Governors		
0	1060	84.13%
1	188	14.92%
2	12	0.95%
Total	1260	100.00%
3. Working as Deputy Provincial Party Secretaries		
0	758	60.16%
1	427	33.89%
2	70	5.56%
3	4	0.32%
4	1	0.08%
Total	1260	100.00%
4. Working as Vice Provincial Governors		
0	309	24.52%
1	923	73.25%
2	27	2.14%
3	1	0.08%
Total	1260	100.00%

Source: Author's database.

Note: 1. Four types of provincial leaders refer to party secretaries, governors, deputy party secretaries, and vice governors at the provincial level.

2. This statistical data is based on the sample of this thesis, namely 1,260 provincial leaders.

The double-counting problem should be taken into consideration. For event history analysis, this thesis grounded the data analysis in the assumption that each provincial leader functions as a single observation case in the sample frame. That is, a provincial leader was counted exactly once even though he or she held concurrent positions or changed jobs within four types of senior provincial leaders. Under this condition, the population of interest here is 1,530 Chinese provincial leaders from

1990 to 2013. Given data availability, 1,260 leaders comprise the sample, accounting for 82.35%²⁶. To the best of knowledge, this sample appears to be one of the most up-to-date and complete Chinese provincial leadership datasets so far.

3.3 Data Input

Section 3.3 considers how to input the statistical data based on event history analysis. Technically, this section elaborates how to define the observation plans, dependent, explanatory and control variables, and eventually generate a person-year data file.

3.3.1 Observation Plans²⁷

As mentioned in Section 3.1, cross-sectional data is more interested in recording the observations at a single time point (Blossfeld, Glosch & Rohwer, 2007: 5; Tuma & Hannan, 1984: 3; Tuma, 1994: 140). Although commonly used in the standard statistical modeling, cross-sectional data fails to distinguish the time-dependence and a causal understanding of social processes (Davies, 1994: 38-39; Ruspini, 1999: 221; Tarling, 2009: 156). In this thesis, the data is structured longitudinally in terms of specific research questions related to changes²⁸ (Blossfeld, Glosch & Rohwer,

²⁶ The percentage of provincial leaders with missing biographical information is 17.65%. A vast majority of these leaders are working as vice provincial governors.

²⁷ Tuma and Hanna (1984: 18) identify observation plans as “the various schemes that can be used to collect systematic information pertinent to some phenomenon of interest”. In this thesis, Section 3.3.1 discusses how to define the risk period and unit of time in analyzing the promotion processes and structuring the longitudinal data in the person-year format.

²⁸ Blossfeld, Golsch and Rohwer (2007: 12-13) state that “Longitudinal data are obviously more effective in causal analysis and have less inferential limitations. They are indispensable for the study of processes over the life course (of all types of units) and their relation to historical change. Therefore research designs aimed at a causal understanding of social processes should be based on longitudinal data at the level of the units of analysis”. This thesis is interested in analyzing in what way human and social capital affect promotion outcomes and tracking the outcomes across career stages accordingly. This research question is indispensably correlated to time effects

2007: 12-13; Elliott, 2002: 109). After comparing four observation plans of panel data, event-count data, event-sequence data and event-history data²⁹, Tuma and Hannan (1984: 22) point out the significance of event-history data by underlining that “whenever possible one should collect data on both the sequences and the timing of changes” (Mayer & Tuma, 1990: 4). As stated earlier in Section 3.1, not only does the event-history data synthesizes the information on the event occurrence, but also the timing of events and time-varying covariates. It directs the interest of statistical modeling from subject-specific to event-oriented observations. It enables an in-depth examination of what triggers changes by drawing time lines and underlining turning points for provincial leaders. Meanwhile, the time-dependent nature makes it possible to take insights into the differences in promotion’s contingency upon human and social capital over time. As Berthoud & Gershuny (2000: 15) summarize, “longitudinal data offers a movie, rather than a snapshot”.

Regarding the leadership transformation over time and the timing of promotion events, first and foremost is to identify the observation periods from entering to moving out of the risk set for each provincial leader (Allison, 2010: 415; Yamaguchi, 1991: 161). As Box-Steffensmeier and Jones (2004:8) emphasize, “knowing the time-of-entry into the process is important because it provides a natural baseline from which to compare units and observe subsequent history”. To look at the samples of provincial leaders in this thesis, the observation periods differ between Chapter 4-5 and Chapter 6-8. Chapter 4 and 5 pertain to the descriptive analysis of historical changes in leadership formation and human capital for provincial leaders from 1990 to 2013. Therefore, the particular observation period is more straightforward. It is

of age, duration and historical periods. In this sense, longitudinal data with event history analysis is evidently superior to cross-sectional data.

²⁹ Panel data is gathered at particular points in time. However the timing of measurement is to some extent arbitrary. Event-count data is interested in the numbers of event occurrence within a particular time interval. Event-sequence data “record the sequences of states occupied by each sample member” (Tuma & Hannan, 1984: 20).

restricted to the career episodes between the starting and ending points of obtaining provincial leadership.

In Chapter 6-8, with regard to social capital and elite promotion dynamics across administrative ranks, all of provincial leaders are at risk of getting promotion after entering political career paths. To look at the temporal dynamics of promotion from the deputy-division-head level to the state-leader level, three ways of identifying the start of observation periods should be taken into account. In general, the starting point in time is the timing of entering the prior level before climbing to the administrative rank under study. Put another way, provincial leaders are expected to enter into the risk set of upward mobility under three occasions: (1) Promoted at the lower adjacent level within the step-by-step promotion; (2) promoted at the lower but not adjacent level with leap-frog promotion; or (3) assigned to the particular level under study once entering into public service³⁰.

Consider the promotion of interest at the vice-provincial/ministerial level as an example. The starting points in time could be the year when: (1) provincial leaders are promoted at the bureau/director level under the step-by-step promotion mechanism; (2) provincial leaders are promoted at a lower level before a leap-frog promotion to the vice-provincial/ministerial level; or (3) provincial leaders occupy the position at the vice-provincial/ministerial level as their first job in public service. For the former two cases, the observation period is for the most part equivalent to the duration between two promotions. In the last case, there exists a single observational record. The typical example is Jia Qinglin (贾庆林), the former

³⁰ Section 3.3.2 will indicate that the analyses of promotion dynamics in this thesis are exclusively focused on promotions from the deputy-division-head level to the state-leader level. It is due to a considerable amount of missing data on career histories at the lower ranks of the deputy-section-head level and the section-head level. As the only exception, considering the three possible ways of defining the starting point of observation periods, a number of event-history observations may be removed from the leadership subset regarding promotions at the deputy-division-head level. It is primarily because promotions lower than the deputy-division-head level are unclear or inadequate.

chairman of CPPCC, rose to the post of deputy party secretary of Fujian from Taiyuan Heavy Machinery Plant in 1985.

For provincial leaders, the observation periods are in general varied. There are also three possibilities pertaining to the ending point. First is the timing of resigning leading posts in public service with reference to the age or term limits. Second is the timing of exit from careers if the provincial leaders experience involuntary career termination because of death or corruption. The last possibility is to define the year 2013 as the ending point if the provincial leaders keep staying in the current positions. For instance, Hu Chunhua (胡春华) is currently serving as Politburo member and party secretary of Guangdong. He started to work in the organization department in CCYL of Tibet Autonomous Region in 1983. The time of origin for Hu is 1983 and the ending point is 2013. Hu's observation period spans 20 years totally.

In determining the observation periods, the multidimensional time effects deserve careful examinations. How is time measured in event history analysis of promotion dynamics? According to five possible ways to evaluate time dimensions from Tuma and Hannan (1984: 190-196), leadership selection outcomes in this thesis may vary with age, historical periods, cohort, duration and experience, respectively. However, time in leadership promotion modeling ultimately takes the form of historical periods (or calendar year). It is substantively due to the following two considerations. Firstly, in reality, duration dependency is partly related to age limits, term limits and term integrity within Chinese institutionalized leadership replacement³¹ (Kou & Zang, 2014: 6-7). Given that leadership promotion is repeatable, duration dependence of promotion differs from period and age dependence (Tuma & Hannan, 1984: 192). In the successive Chapter 7, duration effect functions as a rigorous indicator to analyze promotion paths, namely the waiting time before advancing to each upper level.

³¹ For example, as stipulated in the provisional regulations on leadership replacement, party leaders and government officials are responsible for a five-year term of office and hold the same posts for no more than two consecutive terms (People.com.cn. 2006. Provisional Regulations on Leadership Replacement. 党政领导干部职务任期暂行规定). [Online]. (Updated 7 August 2006). Available at: <http://politics.people.com.cn/GB/1026/4671266.html>. [Accessed 4 June 2014].

However, this thesis rules out the duration effect in the causal understanding of promotion processes. Secondly, it is easy to assess age, period, cohort and experience effects. To be specific, age variations are calculated by current year minus birth year. Similarly, the cohort effect of provincial leaders is identified by birth year. Considering entry into career as the beginning of the observation period, the time dimension of experience represents seniority or the career duration time. Age, period, cohort and experience effects here yield a linear dependency (Tuma & Hannan, 1984: 192). However, historical periods are ultimately selected as a time dimension. It permits the further exploration of possible changes in promotion dynamics before the Jiang period, during the Jiang period and during the Hu period. This study is deeply embedded in Chinese politics in different historical settings. For age effects, age is instead conceived as one of the control variables in the promotion modeling (Allison, 1984: 41). The experience effect is also analyzed in the promotion models by regarding public service seniority as one of the human capital measures. The cohort effect is unexamined in the promotion models while merits investigation in the future studies.

Based on the observation periods and calendar year as a time measure, the remainder of Section 3.3.1 will proceed to examine unit of time in event history analysis. A long time interval can be divided into smaller units of time for each provincial leader, by year, month, day and so forth. In terms of the standard leadership profiles, a large number of biographical data present the timing of career mobility by year or the exact month. For retired leaders, the cumulative duration of work experience generally amounts to over 40 years. Presumably, it would create a huge body of records to arrange the biographical data into the time interval of month. Therefore, it is appropriate to divide the observation periods on the annual basis because records by year correspond to the standard format of Chinese leadership biographies and effectively save abundance of time in data generation.

The following sections will take a step further to introduce how to define and denote variables included in the statistical modeling.

3.3.2 Dependent Variables

The event of interest in this thesis is leadership promotion in the power hierarchy. The aim is to analyze in what way human and social capital shape promotion outcomes across career stages. As indicated by Barnett (1966: 13), “as in most hierarchical bureaucratic systems, rankings were important not only because they were the basis for salary payments; they were also significant measures of status and prestige, as well as determinants of job opportunities”. In this thesis, the event of promotion occurs whenever provincial leaders move from the previous administrative rank to an upper rank. Therefore, to operationalize the statistical analysis, the dependent variable is a binary (0,1) variable, indicating whether or not the provincial leader gets promoted at a particular administrative rank. If the upward mobility exists, it is coded as 1. Otherwise, it is coded as 0.

Although seemingly straightforward, the coding of promotion outcomes is far more complicated regarding administrative rankings in China’s civil service systems. According to Civil Service Law approved in 2005, the well-organized civil service system comprises ten administrative ranks for leadership posts. In this thesis, the level of below deputy-section head is added. As for Table 5, there are eleven administrative ranks for the career-history analysis in this thesis. For the non-leadership posts, there are eight rankings, namely, counsel (巡视员), assistant counsel (助理巡视员), consultant (调研员), assistant consultant (助理调研员), principle section member (主任科员), senior section member (副主任科员), section member (科员) and clerk (办事员). Tables 5 provides an illustrative summary of administrative ranks for cadre management in China.

The promotion outcomes at the section-head level and the deputy-section-head level are largely lacking. For the sample of 1,260 provincial leaders, it is difficult to identify whether and when promotion occurred for 965 provincial leaders (76.59%) at the section-head level and 1048 (83.17%) at the deputy-section-head level. As a result, this thesis prefers to look at the career mobility at the deputy-division-head

level or above. The dependent variable is the dichotomous variable of promotion outcomes at the eight administrative ranks, from the deputy-division-head level to the state-leader level, respectively.

In terms of leadership biographies, provincial leadership experience broad-ranging occupational lines of party apparatus, government bureaucracies, military system, state-owned enterprises (SOEs), schools or universities, and non-governmental organizations. This thesis exclusively focuses on the upward mobility along administrative ranks in the CCP and government systems, together with major social organizations (社会团体) such as CCYL, All-China Women’s Federation, All-China Federation of Industry and Commerce, All-China Federation of Trade Unions, All-China Federation of Returned Oversea Chinese, China Federation of Literary and Art Circles, Red Cross Society of China, and the like³².

Table 5 A Summary of Administrative Ranks in China’s Civil Service System, 2013

Rank	Name	Examples
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³² Major influential social organizations in China include CCYL (中国共产主义青年团), All-China Federation of Trade Unions (中华全国总工会), All-China Women’s Federation (中华全国妇女联合会), All-China Federation of Industry and Commerce (中华全国工商业联合会), All-China Federation of Returned Oversea Chinese (中华全国归国华侨联合会), China Association for Science and Technology (中国科学技术协会), All-China Federation of Taiwan Compatriots (中华全国台湾同胞联谊会), All-China Youth Federation (中华全国青年联合会), China Writers Association (中国作家协会), China Federation of Literary and Art Circles (中国文学艺术界联合会), Red Cross Society of China (中国红十字会), All-China Journalists Association (中华全国新闻工作者协会), Chinese People’s Association for Friendship with Foreign Countries (中国人民对外友好协会), Chinese People’s Institute of Foreign Affairs (中国人民外交学会), China Council for the Promotion of International Trade (中国国际贸易促进委员会), China Disabled Persons’ Federation (中国残疾人联合会), China Soong Ching Ling Foundation (中国宋庆龄基金会), China Law Society (中国法学会), Chinese Society of Ideological and Political Work (中国职工思想政治工作研究会), Western Returned Scholars Association (欧美同学会), Huangpu Military Academy Alumni Association (黄埔军校同学会), and The National Association of Vocational Education of China (中华职业教育社). Full text about social organization in China, please refer to: Chinese Government Net, n.d., Major Social Organizations (主要社会团体). [Online]. (Updated n.d.) Available at: http://www.gov.cn/guqing/2005-05/24/content_2582481.htm. [Accessed 7 June 2014].

1	Below Deputy-Section-Head Level (乡科级以下)	Staff members, clerk
2	Deputy-Section-Head Level (乡科级副职)	Deputy Party Secretary of township-level CCP Committee, Deputy Head of township-level government, deputy secretary of Secretariat of township-level CCYL
3	Section-Head Level (乡科级正职)	Party Secretary of Township-level CCP Committee, Director of Standing Committee of Township-level People's Congress, Head of township-level government, Secretary of Secretariat township-level CCYL
4	Deputy-Division-Head Level (县处级副职)	Deputy Party Secretary of county-level CCP Committee, Standing Committee Member of county-level CCP, Deputy Director of Standing Committee of county-level People's Congress, Deputy Head of county-level Government, Vice Chairman of county-level CPPCC, Secretary of Secretariat of Municipal CCYL
5	Division-Head Level (县处级正职)	County-level Party Secretary, Director of Standing Committee of County People's Congress, Head of County Government, Chairman of County CPPCC, Director-General of Municipal Bureau of Statistics, Director of Education and Training Division of Provincial Bureau of Human Resources and Social Security, Deputy Director-General of Bureau of Public Health of the Sub-provincial-level city, Director of Bureau of Public Security of prefectural-level city
6	Deputy-Bureau/Director Level (厅局级副职)	Deputy Municipal Party Secretary, Standing Committee Member of Municipal CCP, Vice Mayor, Deputy Director of Standing Committee of Municipal People's Congress (MPC), Vice Chairman of Municipal CPPCC, Deputy Director-General of Provincial Education Bureau, Director-General of Construction Bureau of the Sub-provincial-level city, Deputy Secretary of Provincial CCYL
7	Bureau/Director Level (厅局级正职)	Municipal Party Secretary, Director of Standing Committee of MPC, Mayor, Chairman of Municipal CPPCC, Director-General of Accounting Regulatory Department of Ministry of Finance, Director-General Provincial Bureau of Communications, Deputy Party Secretary of the Sub-provincial-level city, Vice Mayor of the Sub-provincial-level city, Secretary of Provincial CCYL

8	Vice-Provincial/Ministerial Level (省部级副职)	Deputy Provincial Party Secretary, Standing Committee Member of Provincial CCP, Secretary of Provincial Commission for Discipline Inspection, Secretary of Provincial Politics and Law Commission, Deputy Director of Standing Committee of PPC, Vice Provincial Governor, Vice Chairman of Provincial CPPCC, President of Provincial the Supreme People's Court (SPC), Procurator-General of the Provincial Supreme People's Procuratorate (SPP), Party Secretary of the Sub-provincial-level city, Mayor of the Sub-provincial-level city, Secretary of Secretariat of CCYL
9	Provincial/Ministerial Level (省部级正职)	Provincial Party Secretary, Director of Standing Committee of PPC, Provincial Governor, Chairman of Provincial CPPCC, Head of the CCP Central Organization Department, Deputy Secretary of the Central Commission for Discipline Inspection (CCDI), Deputy Secretary of CCP Central Politics and Law Commission (CPLC), Minister of Public Security, the First Secretary of Secretariat of CCYL
10	Vice-State-Leader Level (国家级副职)	Politburo member, Secretariat of CCP Central Committee, Secretary of CCDI, Secretary of CPLC, Vice President of the People's Republic of China (P.R.C.), Vice Chairman of NPC Standing Committee, Vice Premier of P.R.C., State Councilor, Vice Chairman of CPPCC, Vice Chairman of Central Military Commission (CMC), President of SPC, Procurator-General of SPP
11	State-Leader Level (国家级正职)	General secretary of CCP Central Committee, Member of Politburo Standing Committee, President of P.R.C., Chairman of NPC Standing Committee, Premier of P.R.C., Chairman of CPPCC, Chairman of CMC

Source: The Central People's Government of the P.R.C., 2005. Civil Service Law. [Online]. (Updated 27 April 2005). Available at: http://www.gov.cn/flfg/2005-06/21/content_8249.htm [accessed 10 Nov. 2014].

3.3.3 Explanatory Variables

This thesis points to the impacts of both human and social capital on promotion outcomes over eight administrative ranks. The explanatory variables here include time-varying covariates of human and social capital. The measures of both human capital and social capital are selected for the purpose of “the balance between feasibility and theoretical significance” (Kerckhoff, 1974b: 9). On one hand, as

indicated in Chapter 2, human capital pertains to the investment in health, education, training and work experience (Bodenhofer, 1967: 434; Lin, 2012: 90). To simplify the statistical modeling, this thesis will evaluate human capital by education (i.e. educational levels and academic majors) and public service seniority. On the other hand, social capital is closely associated with “resources embedded social networks” and occupational returns to network investments (Borgatti, Jones and Everett, 1998: 27-28; Bourdieu, 1986: 51; Burt, 1998: 7, 2000: 347-348, 2001: 32; Coleman, 1988: 98; Lin, 1999a: 29, 1999b: 467-468, 2000: 786; Lin, Fu and Hsung, 2001: 58; Lin et al., 2009: 226; Portes, 1998: 6, 2000: 2; Putnam, 2001: 41; Schuller, Baron and Field, 2000: 1; Sobel, 2002: 139). The existing literature illuminates social capital by strength of social ties (Bian, 1997; Bian & Ang, 1997; Granovetter, 1973, 1983; Lin, Ensel & Vaughn, 1981; Lin & Dumin, 1986; Marsden & Hurlbert, 1988; Montgomery, 1992; Murray, Rankin & Magill, 1981; Seibert, Kraimer & Liden, 2001; Wegener, 1991; Yakubovich, 2005; Yancy, DiTomaso & Post, 2009), structural holes (Burt, 1997a,b, 1998, 2001; Gargiulo & Benassi, 2000; Podolny & Baron, 1997; Rosenbaum & et al., 1999; Xiao & Tsui, 2007) and social resources (Bian & Huang, 2009; Bozionelos, 2008; Bozionelos & Wang, 2006; Fernandez, Castilla & Moore, 2000; Graaf & Flap, 1988; Lin, 1999b; Lin & Ao, 2008; Lin, Ensel & Vaughn, 1981; Lin, Fu & Hsung, 2001; Lin, Vaughn & Ensel, 1981; Lin & et al., 2009; Seibert, Kraimer & Liden, 2001). In the following, this thesis will discuss the definitions and measurement of both human and social capital.

The explanatory variable of education in the current literature is frequently evaluated by years of schooling completed (Alwin, 1974; Blaug, 1976; Bian, 2009; Cannings & Montmarquette, 1991; Duncan & Hodge, 1963; Faia, 1981; Kerchkhoff, Campbell & Trott, 1982; Lin & Yauger, 1975; Schiefelbein & Farrell, 1984; Spilerman & Lunde, 1991; Sullivan, 1984; Winfield & et al., 1989). Or, it is measured as a dummy variable, indicating whether or not the research subject receives a specific educational credential (Schiefelbein & Farrell, 1984; Walder, 1995; Zang, 2001). In the previous research on Chinese elite mobility, education is measured as college education or the attainment of advanced degrees in most of the empirical studies (Bo, 2002; Huang, 2009; Liu, 2012; Shih, Adolph & Liu, 2012; Zhang, 2014), and takes

the form of years of education and academic majors in the promotion analyses for the prefecture-level mayors from Lin (2012). In Zang's (2001) seminal work on Chinese elite stratification in 1994, the predictor variable of educational credentials is assessed by studying the attainment of college education, university ranking and academic disciplines (Zang, 2001: 196). The theoretical concern in this thesis is the educational effect on promotions across career histories. It is necessary to distinguish, for example, the undergraduate study from the postgraduate study, or major in engineering from politics, in career success. Besides, it leaves open the subsequent questions. Does the educational effect differ in the early elite selection from the later process? Obviously, neither the indicator of years of schooling nor a dummy variable is capable of answering such questions. In response to the above challenges, this thesis is concerned with the alternative variables of educational levels, academic majors, and, more importantly, the timing of obtaining educational credentials³³.

The levels of educational attainment are classified into eight dimensions coded as one to eight: (1) primary school; (2) junior high school; (3) senior high school; (4) vocational school (including zhongzhuan (中专) and zhiye jiaoyu (职业教育)); (5) some college (sometimes called dazhuan (大专)); (6) a bachelor's degree; (7) a master's degree; and (8) a doctorate. The information on both the timing and the educational levels is gathered from leadership biographies. A detailed temporal record of education is substantially superior to the indicator of final educational degrees in the past research on Chinese political elites (Chen, 1998; Li & Bachman, 1989; Li & White, 1998, 2003; Zang, 1993, 2001). The longitudinal strategy directs research attention away from the fixed and time-constant analysis of education. Instead, it focuses on a time-varying approach as stated in Section 3.1.2. Accordingly, It facilitates in-depth investigation regarding whether education functions as a

³³ This thesis focuses on educational levels rather than years of schooling. This is because almost all the provincial leaders successfully obtain the educational degrees after years of study. The education in the Chinese context is differentiated by the educational degree obtained. The length of time for the same educational level is required similarly during the same historical periods. For example, a bachelor's degree is awarded for four-year study and a master's degree for two-year study.

screening vehicle at the early career stages, or yields occupational rewards in the long run.

Alongside educational levels, another indicator of human capital is academic majors. According to the classification of academic majors for Chinese higher education, there are a total of twelve categories: (1) philosophy; (2) finance and economics; (3) law, politics and sociology; (4) education; (5) literature, linguistics and journalism; (6) history; (7) mathematics, physics, chemistry, biology and astronomy; (8) engineering and information science; (9) agriculture; (10) medical science; (11) management; and (12) arts³⁴. In this thesis, academic majors of Chinese provincial leaders are grouped into two major categories: (1) science and engineering, and (2) humanities and social science. In the cases with educational levels below college education, the variable of academic major is correspondingly coded as 0. As illustrated in Table 6, the academic major of science encompasses Category 7, 8, 9 and 10. The remaining eight categories constitute the academic majors of humanities and social sciences.

Table 6 Classification of Academic Majors for 1,260 Chinese Provincial Leaders, 1990-2013

Category	Academic Majors
Science	Mathematics, physics, chemistry, biology and astronomy Engineering and information science Agriculture Medical Science
Humanities and Social Science	Philosophy Finance and economics Law, politics and sociology Education Literature, linguistics and journalism History

³⁴ See, Ministry of Education, 2012. Jiaoyubu guanyu yinfa putong gaodeng xuexiao benke zhuanke mulu (2012), putong gaodeng xuexiao benke zhuanke shezhi guanli guiding deng wenjian de tongzhi (Classification of Academic Majors for Chinese Higher Education, 2012. 教育部关于印发普通高等学校本科专业目录). [Online] (Updated 14 Sep 2012). Available at: http://www.moe.gov.cn/publicfiles/business/htmlfiles/moe/s3705/201210/xxgk_143152.html. [Accessed 7 June 2014].

Source: Ministry of Education, 2012. Jiaoyubu guanyu yinfa putong gaodeng xuexiao benke zhuanke mulu (2012), putong gaodeng xuexiao benke zhuanke shezhi guanli guiding deng wenjian de tongzhi (Classification of Academic Majors for Chinese Higher Education, 2012. 教育部关于印发普通高等学校本科专业目录). [Online]. (Updated 14 Sep 2012) Available at: <http://www.moe.gov.cn/publicfiles/business/htmlfiles/moe/s3882/201210/143152.html> (accessed 10 Nov. 2014).

In addition to education, this thesis examines the role of education in political upward mobility by analyzing the effect of work experience. As another important indicator of human capital, work experience takes the form of public service seniority here. This thesis is interested in looking at how long provincial leaders serve in the party or government systems and to what extent the duration time in public service contributes to upward mobility.

In parallel to human capital, this thesis attempts to evaluate the accumulation of social capital and its career rewards. As noted previously, social capital is measured by the strength of social ties, structural holes or social resources in the existing literature. However, based on the leadership biographies of Chinese provincial leaders, it is difficult to quantify social capital by these indicators. For the purpose of operationalization, social capital in this thesis takes the form of social networks, exclusively those emerging from career experience and formal social interactions in the workplace (Campbell, Marsden & Hurlbert, 1986; Coleman, 1988; Granovetter, 2005; Hezlett & Gibson, 2007; Seibert, Kraimer & Liden, 2001). The traditional analysis of network or *guanxi* in Chinese politics is largely organized around the inherited status advantages, party patronage or personal linkage within informal groups. This strand of literature is interested in uncovering scandals or rumors in a story-telling way. Although compelling and intriguing, it inevitably raises many more questions than it has answered. For example, is the analysis what really happened inside the black box of Chinese politics? Is that all the truth? Do formal relationships work in the political competition? This thesis successfully goes beyond the

traditional network analysis by examining work-related network characteristics in the institutional context.

To be specific, social capital in this thesis centers on social networks cultivated and cumulated from formal work relationships and employment history. It leads to social resources and the occupational rewards within the opportunity structure. This thesis focuses on the accessible network resources rather than the mobilization of contact resources (Lin, 1999a: 36). Compared with strengths of social ties and structural holes, social networks are well observed in career trajectories. In this thesis, social capital, exclusively based on the network-analytic concepts, is measured through three criteria: network size (Burt, 1992, 1997b; Podolny & Baron, 1997; Volker & Flap, 1999) network diversity (Campbell, Marsden & Hurlbert, 1986; Cox & Harquail, 1991; Lin, 2000) and upper reachability (Lin, 1999a, 2001; Lin, Fu & Hsung, 2001). As Lin (1999a: 37) emphasizes, “social capital is more than mere social relations and networks; it evokes the resources embedded and accessed. Nevertheless, such embedded resources cannot possibly be captured without identifying network characteristics and relations”.

The first criterion of social capital is network size. It refers to the number of networks accessible for provincial leaders. In other words, network size is expanded under circumstances of: (1) changing workplaces, organizations, bureaus, departments, divisions or sections; (2) changing occupations within or across organizations; and (3) obtaining the leadership post from the non-leadership post in the same division or department. Additionally, it is assumed that the network size remains constant for directors and deputy directors in the same section, division, department, bureau or organization. A coding example of network size is depicted in Table 7 in the case of Meng Qiliang (蒙启良), current vice governor of Guizhou Province.

Table 7 A Coding Example of Network Size for Meng Qiliang, 2013

Period	Job	Cumulative Network Size
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1982.02-1984.11	Secretary, Section of Secretary, Qiannan Prefectural CCP Committee Office, Guizhou Deputy Section Chief, Section of Secretary, Qiannan Prefectural CCP Committee Office, Guizhou	2
1984.11-1986.03	Vice Mayor, Dunnyun City, Guizhou	3
1986.03-1986.09	Deputy Party Secretary, county-level district of Pinglang, Qiannan, Guizhou	4
1986.09-1989.08	Vice Mayor, Dunnyun City, Guizhou	4
1989.08-1992.09	Deputy Party Secretary, Guiding County, Guizhou Party Secretary, Guiding County, Guizhou	5
1992.09-1994.05	Secretary-General, Qiannan Prefectural CCP Committee, Guizhou	6
1994.05-1994.05	Vice Governor, Qiannan Prefecture, Guizhou	7
1994.05-1994.11	Consulant, Secretary Bureau, General Office of CCP Central Committee	8
1994.11-1997.06	Vice Governor, Qiannan Prefecture, Guizhou	8
1997.06-1997.11	Vice Governor, Qiannan Prefecture, Guizhou Party Secretary, Dunnyun City, Guizhou	9
1997.11-1999.01	Party Secretary, Dunnyun City, Guizhou	9
1999.01-1999.06	Deputy Party Secretary, Qiannan Prefecture, Guizhou Governor, Qiannan Prefecture, Guizhou Party Secretary, Dunnyun City, Guizhou	10
1999.06-2005.01	Deputy Party Secretary, Qiannan Prefecture, Guizhou Governor, Qiannan Prefecture, Guizhou	10
2005.01-present	Vice Provincial Governor, Guizhou	11

Source: Author's database.

In light of the above coding example, despite the network size of eleven, Meng primarily stays working along two occupational lines of party work and government administration. Accordingly, the range of social contacts and resource heterogeneity are to some extent limited for Meng. In sharp contrast, with the same network size of eleven, Ye Liansong (叶连松) possessed a brand range of job experience. He worked as a teacher in Shanghai Jiaotong University and a deputy factory leader in Shijiazhuang Diesel Engine Factory in early career years. In 1983, he served as director of Department of Economics and Center for Economic Research in Hebei Province. Ye worked as vice provincial governor in Hebei in 1985 and got promoted to provincial governor and deputy party secretary in 1993. After stepping down from provincial leadership posts, he was positioned in National CPPCC. The assumption arises from comparing Meng with Ye is that Ye tends to reach a wider variety of social resources than Meng through such diverse career patterns.

In this sense, the second criterion of social capital is network diversity. It reflects the number of career patterns provincial leaders have experienced throughout careers. At the core of the measurement is, therefore, to define career patterns in the networking context. After reviewing all the leadership profiles, this thesis, above all, endeavors to provide a comprehensive summary of career patterns in Table 8. In terms of the classification in Table 8, a value of seven is assigned to the network diversity of Ye. He experienced career patterns of education, industry, party work, government administration, finance/economic, research, and CPPCC. However, the previous example of Meng has network diversity of two.

Table 8 A Summary of Career Patterns for 1,260 Chinese Provincial Leaders, 1990-2013

1	Party work	11	Audit/supervision	21	Population
2	Government administration	12	Police/court	22	United front work/tongzhan
3	Industry	13	Military	23	Foreign affairs
4	Engineering	14	Agriculture	24	Ethnic affairs
5	Economics/Finance	15	Civil affairs	25	Social welfare
6	Education	16	Research	26	Transportation
7	Culture	17	Policy research	27	Propaganda/media
8	Technology/Science	18	Survey/investigation	28	Rural work
9	Public health	19	Personnel/organization	29	CPPCC
10	Social organization	20	Resources/environment	30	People's Congress

Source: Author's database.

The third criterion of social capital is upper reachability, indicating “the best possible resources in the networks or among ties” and the highest position accessible (Lin, 1999a: 37, 2001: 62). The upper reachable social resources, the higher-status contact persons provincial leaders have gotten to know, and thus the more likely they are promoted. The variable of upper reachability is measured after answering the following important questions: (1) At what administrative ranks do provincial leaders

hold their positions? And (2) to what extent do provincial leaders access to the network center and power authority?

Given the above questions, it turns out to be meaningful to distinguish provincial leaders with secretary experience from those without such backgrounds on one hand, and the CC members from the non-CC members on the other hand (Li & White, 1988: 260). In terms of the former, as Li (2002: 1) states, “a mishu (秘书), therefore, can be an office clerk who only handles mail and files documents, but can also be a gatekeeper who decides what his or her boss needs to know, whom the boss sees, and even what is scheduled. Certainly a secretary-general (mishuzhang, 秘书长) or chief of staff, plays an important administrative role”. Out of 1,260 provincial leaders under study, 672 had work experience of secretary (mishu) or secretary-general (mishuzhang) (53.33%). In terms of the latter, the CC, together with the National Congress, is the highest leading body in Chinese politics. According to the Party Constitution of the CCP, the CC exercises influence and authority on the state policies and the election of top leaders, such as the Politburo members and the General Secretary³⁵. Working as CC members increases the visibility and exposure to the top leaders. “Since all tasks are not equally observable nor all observers equally influential, visibility varies to the degree to which an individual is in a position to be observed by peers and superiors who can influence his movement in the organization” (Moore, 1978: 455). 315 out of 1,260 provincial leaders are the CC members (25%).

On one hand, for provincial leaders without secretary experience or for the non-CC members, the upper reachability is regarded as the level of full positions above the administrative rank of provincial leaders themselves. For example, if a provincial leader serves as party secretary of the county-level CCP Committee, his own

³⁵ See, Xinhua Net, 2013. Full Text of Constitution of Communist Party of China. [Online] (Updated 29 March 2013). Available at: <http://english.cpc.people.com.cn/206972/206981/8188065.html>. [Accessed 8 May 2015]. It is stipulated in the Party Constitution “when the National Congress is not in session, the Central Committee carries out its resolutions, directs the entire work of the Party and represents the Communist Party of China in its external relations”.

administrative rank is the division-head level. His upper reachability is the bureau-director level. This measurement is based on lines of authority and power relationships in Chinese bureaucracies. It is potentially consistent with the institutional norms of reporting responsibilities to higher-level organizations in China. On the other hand, for the CC members, the upper reachability is coded as the state-leader level. For provincial leaders working as secretaries, the measurement of upper reachability becomes more complicated. The magnitude of upper reachability is equal to the administrative ranks for their superiors. For example, Liu Qibao (刘奇葆) is currently working as Politburo member and Minister of Central Publicity Department. He worked a secretary for Wan Li (万里), then party secretary of Anhui Province from 1977 to 1980. Although merely at the section-head administrative rank, Liu's upper reachability was the provincial/ministerial level where Wan Li took on his authority position. Liu was positioned advantageously at the center of social networks and maintained exposure to decision-makers in Anhui's power structure. Again, consider, for example, current vice provincial governor of Shandong, Sun Wei (孙伟), was the personal secretary of Wu Bangguo (吴邦国), then Vice Premier. Although Sun was ranked at the bureau/director level, his upper reachability was the state-leader level.

3.3.4 Control Variables

Control variables in this thesis are age, gender, ethnicity, insiders vs. outsiders, and CCP membership. As mentioned in Section 3.3.1, time is a multifaceted variable. It is measured in the form of historical periods (or, calendar year) in the analysis of leadership promotion. The historical comparisons of the promotion dynamics in this thesis are based on the division of three historical periods, which will be explored later in Chapter 8. Age, however, may also exert strong influences on upward mobility. It is treated as a control variable in the promotion modeling.

Gender is a categorical variable, with male coded as 0 and female as 1. Ethnicity is also a categorical variable, with the Han Chinese coded as 1 and the ethnic minority

as 0. Both of gender and ethnicity are time-constant variables. To compare the role of native and non-native leaders, provincial leaders are categorized into two groups, with native leaders coded as 1 and outsiders coded as 0. The variable of insiders vs. outsiders is time-dependent. Its value changes whenever provincial leaders experience job transfers across provinces. CCP membership enters the promotion modeling as a control variable as well. The variable of CCP membership is coded as 1 for CCP members and otherwise as 0.

This section closes the introduction of outcomes and predictor variables with a summary of operational definitions in Table 9.

Table 9 A Summary of Variables and Operational Definitions, 2013

Variable	Operational Definition
Dependent Variable	
Promotion, L4-L11	Was a provincial leader promoted: Yes=1, No=0
Covariates	
Age	Chronological age
Gender	Male=0, Female=1
Ethnicity	Han-Chinese=1, minorities=0
Insiders vs. Outsiders	Is a provincial leader a native leader? Native leaders=1, outsiders=0
CCP membership	Is a provincial leader a CCP member? Yes=1, No=0
CCP seniority	For how long has a provincial leader been a CCP member?
Educational level	What educational level has a provincial leader obtained? 1=Primary school 2=Junior high school 3=Senior high school 4=Vocational school 5=Some college 6=Undergraduate study 7=Postgraduate study 8=Doctoral study
Academic major	What was a provincial leader majored?

	1=Science
	2=Humanities and social science
Network size	What is the size of networks accessible for provincial leaders?
Network diversity	How many career patterns has a provincial leader experienced?
Upper reachability	What is the highest administrative rank accessible for provincial leaders?

Source: Author's database.

3.3.5 Person-Year Observations

After examining the observation period and variables in the statistical modeling, this section proceeds to formulate the coding structure and data input. As discussed in Section 3.1 and 3.3.1, the leadership data in this thesis is arranged into the person-year data structure from a longitudinal perspective. Before moving to the practical coding procedures, it is worthwhile to note the strengths and limitations of the person-year format.

The person-year data structure easily and successfully accommodates the time-varying covariates of human and social capital on the calendar-year time dimension (Tarling, 2009: 187). For the dependent variable, there exists likelihood that more than one provincial leader experiences upward mobility in the same year. It is considered as the problem with ties. However, the tied promotions outcomes fit readily into the person-year data structure at discrete time points (Yamaguchi, 1991: 16-17; Tarling, 2009: 187). With the temporal records of both promotion outcomes and relevant covariates, the coding structure is clear and well understood. For data analysis, it is appropriate to run the person-year data in the standard logistic regression, which will be articulated in the next section. Compared with the advantages, one of the most significant disadvantages is that it is time-consuming to create a person-year dataset (Yamaguchi, 1991: 23-24). The record file is extraordinarily huge if the longitudinal data for each provincial leader covers the full course of career histories. In this thesis, there are 1,260 Chinese provincial leaders in the sample. They have an average of 26.63 years by the end of observation periods. The leadership dataset incorporates 33,557 observational records totally.

In the person-year data organization, one research subject generally contributes multiple observational records to the leadership dataset. This remarkably differs from the standard data structure in which one research subject contributes one observational record. The person-year record file explicitly contains the useful information on when and whether promotions occur, together with the values of human and social capital. The number of observational records depends upon the length of time across observation periods. In this thesis, the origin of time depends on when provincial leaders experience promotion at the prior administrative rank, which has been already discussed in Section 3.3.1. Provincial leaders were expected to enter into the risk set of promotion then. In the person-year data structure, a separate record is created every year for each provincial leader. Because the leadership promotions are repeatable, the promotion at every administrative rank is regarded as a distinct observation (Tarling, 2009: 191).

Table 10 presents an illustrative and informative example of Yuan Chunqing's (袁纯清) person-year record file in leadership promotion analysis. In Table 10, the variable of ID is a sequential number for 1,260 provincial leaders. Yuan is currently working as party secretary of Shanxi Province and director of Standing Committee of Shanxi's PPC. He was born in 1952 and started working as a police officer in Hanshou County, Hunan Province in 1971. As noted in Section 3.3.2, the event occurrence of interest focuses on the promotions at administrative ranks from the deputy-section-head level to the state-leader level. Meanwhile, the biographic details before Yuan's promotion to the deputy-section-head level is obscured. Accordingly, the starting time point is the year of 1982, when Yuan worked as a deputy section chief at Department of Schools within CCYL. Since he is staying in the leadership post after October 2013, the ending point is the year of 2013. The variable of AGE is chronological, being calculated by the value of YEAR minus birth year. Thus, Yuan's observation period spans from 1982 to 2013, with a total of 32 observational records. The variable of AGE is from 30 to 61. As for Yuan's demographic characteristics, the variables of GD (namely, gender) and ETH (namely, ethnicity) are denoted as 0 and 1

respectively, indicating that he is male and Han Chinese. Since he joined the CCP in 1971, a value of 1 is assigned to the variable of CCP (namely, a CCP member).

Table 10 A Person-Year Record File in the Case of Yuan Chunqing, 2013

ID	NAME	YEAR	AGE	GD	ETH	NAT	CCP	EDU	MAJ	SIZE	DIV	UR	LEVEL	PROMO
1084	Yuan	1982	30	0	1	0	1	6	2	4	2	7	4	1
1084	Yuan	1983	31	0	1	0	1	6	2	4	2	7	4	0
1084	Yuan	1984	32	0	1	0	1	6	2	5	2	7	5	1
1084	Yuan	1985	33	0	1	0	1	6	2	6	2	9	6	1
1084	Yuan	1986	34	0	1	0	1	6	2	6	2	9	6	0
1084	Yuan	1987	35	0	1	0	1	6	2	6	2	9	7	1
1084	Yuan	1988	36	0	1	0	1	6	2	7	2	9	7	0
1084	Yuan	1989	37	0	1	0	1	6	2	7	2	9	7	0
1084	Yuan	1990	38	0	1	0	1	7	2	7	2	9	7	0
1084	Yuan	1991	39	0	1	0	1	7	2	7	2	9	7	0
1084	Yuan	1992	40	0	1	0	1	7	2	8	2	11	8	1
1084	Yuan	1993	41	0	1	0	1	7	2	10	3	11	8	0
1084	Yuan	1994	42	0	1	0	1	7	2	11	3	11	8	0
1084	Yuan	1995	43	0	1	0	1	7	2	12	4	11	8	0
1084	Yuan	1996	44	0	1	0	1	7	2	12	4	11	8	0
1084	Yuan	1997	45	0	1	0	1	8	2	14	5	11	8	0
1084	Yuan	1998	46	0	1	0	1	8	2	14	5	11	8	0
1084	Yuan	1999	47	0	1	0	1	8	2	14	5	11	8	0
1084	Yuan	2000	48	0	1	0	1	8	2	14	5	11	8	0

1084	Yuan	2001	49	0	1	0	1	8	2	15	5	11	8	0
1084	Yuan	2002	50	0	1	0	1	8	2	16	5	11	8	0
1084	Yuan	2003	51	0	1	0	1	8	2	17	6	11	8	0
1084	Yuan	2004	52	0	1	0	1	8	2	19	7	11	8	0
1084	Yuan	2005	53	0	1	0	1	8	2	19	7	11	8	0
1084	Yuan	2006	54	0	1	0	1	8	2	20	8	11	9	1
1084	Yuan	2007	55	0	1	0	1	8	2	21	8	11	9	0
1084	Yuan	2008	56	0	1	0	1	8	2	21	8	11	9	0
1084	Yuan	2009	57	0	1	0	1	8	2	21	8	11	9	0
1084	Yuan	2010	58	0	1	0	1	8	2	23	8	11	9	0
1084	Yuan	2011	59	0	1	0	1	8	2	23	8	11	9	0
1084	Yuan	2012	60	0	1	0	1	8	2	23	8	11	9	0
1084	Yuan	2013	61	0	1	0	1	8	2	23	8	11	9	0

Source: Author's database.

As to educational attainment in Table 10, Yuan studied in Peking University in the major of law between 1977 and 1980. It is assumed that Yuan received the educational level of senior high school before the undergraduate study. Thus, the value of EDU retains 3 until 1980, with the variable of MAJ (namely, major) coded as 0. Yuan took his master degree of law from China University of Political Studies and Law in 1990. Accordingly, between the year 1980 and 1989, the variable of EDU took 6 for the undergraduate study and MAJ took 2 for humanities and social science. The variable of EDU is coded as 7 and MAJ as 2 from 1990 to 1996. In 1997, Yuan was awarded the doctoral degree of management from Hunan University, with EDU coded as 8 and MAJ as 2. In this way, it is straightforward to trace the changes in Yuan's education.

Based on Yuan's career history, Table 11 illustrates how to code the variables of SIZE (or network size), DIV (or network diversity) and UR (or upper reachability). It is interesting to note that Yuan has a network size of 23, network diversity of 8 and upper reachability of the state-leader level. In his career trajectory, he spent 17 years working in the CCYL from 1980 to 1997. Yuan has experienced a sequence of career patterns, such as police/court, social organization, CPPCC, party work, audit/supervision, education, government administration and People's Congress.

Table 11 A Coding Example of Social Capital for Yuan Chunqing, 2013

Period	Job	Size	Diversity	UR
1971-1975	Police Officer, Public Security Bureau, Hanshou County, Hunan Province	1	1	3
1975-1977	Police Officer, Public Security Bureau, Changde Prefecture, Hunan Province	2	1	3
1977-1980	Student, Peking University	2	1	3
1980-1982	Clerk, Department of Schools, CCYL	3	2	3
1982-1984	Deputy Section Chief, Department of Schools, CCYL	4	2	7
1984-1985	Director, School Union Office, Department of Schools, CCYL	5	2	7
1985-1987	Deputy Director, Department of School, CCYL	6	2	9
1987-1992	Director, Department of Schools, CCYL	6	2	9

1988-1993	Secretary-General, All-China Students Federation	7	2	9
1992-1997	Secretary, Secretariat of CCYL	8	2	11
1993-1998	Deputy Director, Subcommittee of Social and Legal Affairs, CPPCC	9	3	11
1993-1995	Director, National Working Commission of Young Pioneers of China	10	3	11
1994-1997	Vice Chairman, All-China Youth Federation	11	3	11
1995-1997	Party Secretary, Central Office of CCYL	12	4	11
1997-2002	Secretary-General, CCDI	13	5	11
1997-2000	Party Secretary, Department of Supervision, CCDI	14	5	11
2001-2010	Deputy Party Secretary, Shaanxi Province	15	5	11
2002-2007	Alternate Member, the 16th CC	16	5	11
2003-2004	Vice President, China Yan'an Executive Leadership Academy	17	6	11
2004-2006	Party Secretary, Xi'an City, Shaanxi Province	18	6	11
	Director, Standing Committee of Xi'an MPC, Shaanxi Province	19	7	11
2006-2010	Provincial Governor, Shaanxi Province	20	8	11
2007-2010	Secretary, Shaanxi Provincial Government	21	8	11
2007-present	Member, the 17th and 18th CC	21	8	11
2010-present	Party Secretary, Shanxi Province	22	8	11
	Director, Standing Committee of Shanxi PPC	23	8	11

Source: Author's database.

To look at the promotion dynamics, the coding starts from the deputy-division-head level to the state-leader level, as stated in Section 3.3.2. The variable of LEVEL is in turn assigned the values of 4 to 9, representing the specific administrative ranks Yuan has assumed from the deputy-division-head level to the provincial/ministerial level. Returning to Table 10, the column of PROMO represent distinct observational records for upward mobility across hierarchical rankings. The value of promotion at every administrative rank retains 0 until the promotion event occurs. It is coded as 1 in a specific year when provincial leaders gets promoted. After the promotion occurrence, it takes 0 again. According to Table 10, Yuan started to obtain the deputy-division-head status in 1982 and advanced up to division-head level after two

years in 1984³⁶. Thus, PROMO is coded as 0 for the promotion nonoccurrence before 1982 and 1 in 1982. Since 1983, PROMO retains 0. In this way, PROMO takes the value of 1 for upward mobility in Year 1982, 1984, 1985, 1987, 1992, and 2006, respectively. That is to say, Yuan successfully got promoted from the deputy-section-head level to the provincial/ministerial level step by step within 24 years. Since it is too early to identify if Yuan will climb one step forward, PROMO is coded as 0 from 2007 to 2013.

To conclude, the construction of the person-year record file is overwhelmingly complicated, particularly for indicators of network size, network diversity and upper reachability. Based on career trajectories, the coding of social capital is closely associated with the organizational reforms in China. It warrants cautious analysis and interpretation. For instance, Fu Ziyang (傅自应), current vice provincial governor of Jiangsu, has worked in a realm of economics and commerce for 30 years, 1981-2011. In terms of leadership profile, Fu actually stayed working in the same organization, despite the frequent changes in organization's names. Specifically, Ministry of Foreign Economic Relations and Trade was renamed to Ministry of Foreign trade and Economic Co-operation in March 1993. In 2003, it was further restructured to Ministry of Commerce³⁷. Regardless of the reorganization of Ministry of Commerce, it is tempting to overestimate Fu's network size.

³⁶ In the present example, it is specified that Yuan served as clerk and deputy section chief in Department of Schools, CCYL between January 1980 and June 1984. The exact time of being promoted to deputy section chief is missing. In this case, the possible solution is to divide the length of time working as clerk and deputy section chief and get an average of 26.5 months. The promotion time is assumed to be the year of 1982. Although far from ideal, this strategy attempts to solve the data-missing problems for promotions outcomes in some occasions.

³⁷ See, Ministry of Commerce of the People's Republic of China, n.d., Historical Overview of Ministry of Commerce (商务部机构沿革). [Online]. (Updated n.d.) Available at: <http://www.mofcom.gov.cn/mofcom/yange.shtml>. [Accessed 10 June 2014].

3.4 Data Analysis

Data analysis in this thesis is primarily organized around two parts. One is the descriptive study of leadership characteristics and human capital in Chapter 4 and 5. As mentioned previously, the sample under examination is 1,891 Chinese provincial leaders from 1990 to 2013, regardless of double-counting issues. In the form of event-history statistical data, the dataset incorporate 9,814 observational records. With this dataset, Chapter 4 and 5 shed important light on provincial leadership transformation and historical changes in human capital, asking who are Chinese provincial leaders over the period of 1990-2013. In terms of the dynamic analysis of educational changes in Chapter 5, the observation period is extended from the career stages as provincial chiefs to the entire occupational careers. This analysis is focused on the occurrence of educational advancement, asking at what age and at what administrative rank provincial leaders improved their educational credentials.

The investigation of social capital and elite mobility is based on the processes of accumulating and advancing hierarchical positions across eight administrative ranks. The primary interest here is to look at the entire course of career progress, not limited to the career intervals of attaining provincial authority positions. It is guaranteed that each provincial leader in question has a single observational record on the yearly basis. An individual observation should subsume the comprehensive statistical details of demographic attributes, educational histories, the accumulation process of social capital and career trajectories. For this reason, the analysis in this part depends on the event-history data of 1,260 provincial leaders, rather than 1,891. The double-counting issues are taken into account. As stated earlier, the second leadership dataset contains 33,557 event-history observations.

In creating the person-year record file, the observation periods are measured by year. The discrete-time model is strongly recommended here, considering the large time interval, the inclusion of time-varying covariates and the presence of tied promotions as emphasized earlier (Allison, 1982: 63, 1984: 15; Box-Steffensmeier & Jones, 1997: 1426; Mills, 2010, 4; Singer & Willett, 1993: 189; Tarling, 2009: 184;

Yamaguchi, 1991: 16-17). The next important issue to be considered is whether to treat all the promotions alike or distinguish promotions at different administrative ranks. In this thesis, the promotion models for the 1990-2013 Chinese provincial leaders are developed in two steps. That is, the overall promotion model irrespective of the variations across hierarchical levels, along with seven independent promotion sub-models for each administrative rank. In both the overall promotion model and the rank-specific promotion models, the historical continuities and changes in the promotion dynamics are studied. The procedures of modeling are briefly described below and will be introduced in details at the beginning of Chapter 8.

The first step is to pool all the observations together and examine the promotion patterns as a whole. In this case, the promotional events for provincial leaders are repeatable because a broad majority of them experienced multiple promotions throughout their careers. In the course of statistical analysis, the problem of statistical dependence stems from repeated events. As indicated by Allison (1995: 240), "it is well-known that whenever two or more observations come from the same unit (person, litter, organization), they tend to be more alike than two randomly chosen observations." "Dependence among observations can be thought of as arising from unobserved heterogeneity." (Allison, 1995: 240). This phenomenon is likely to apply to the elite mobility in China. Not surprisingly, provincial leaders with an early career success are more likely to win out in the political mobility at the successive administrative ranks. It is perhaps easily overlooked and constant individual determinants that lead to the similar outcomes in each round of political competitions. Their effects, however, are not included in the modeling. In addition, upward mobility between adjacent administrative ranks is correlated because of the step-by-step promotion institutions in China. Therefore, the neglect of dependence and unobserved heterogeneity will result in the misleading standard and biased error estimates (Allison, 1995: 233-240).

In response to these difficulties, the method of generalized estimating equations (GEE) is employed to analyze the general promotion model in this thesis. GEE allows for within-person dependence in logistic regression analyses. It is appropriate to

accommodate correlated observations in a single model (Zhou, 2001: 1049-1050). Using GEE through the software of Statistical Package for the Social Sciences (SPSS), it is feasible to identify multiple promotions that occur to the same provincial leader.

The second step is to take insight into the variations in promotion dynamics across administrative ranks. The above leadership dataset with 33,557 event-history observations is divided into seven subsets independently. The primary concern here is to identify the observation period for each separate model. The observation is terminated upon the promotion occurrence at the administrative rank under investigation. As suggested by Allison (2010: 418), “if repeated events are observed for an individual, the standard strategy is to reset the clock to 0 each time an event occurs and treat the intervals between events as distinct observations.” Operationally, for example, Gan Lin (甘霖), current vice governor of Sichuan, has experienced five promotions from the section-head level to the vice provincial/ministerial level. Distinct sequences of observations are created in terms of each career interval between two adjacent levels. The first sequence is from Gan’s working as section chief to deputy director of Police Research Office of Huizhou’s CCP, Guangdong during the period of 1993-1995. It is accordingly added to the subset pertaining to the upward mobility at the deputy-division-head level. After collecting the relevant observations, reset the clock to 0. The second sequence ranges from Gan’s career advancement from deputy director of Policy Research Office in 1995 to director of Investigation and Research Office of Guangdong’s Organization Department in 1999. It is added to the subset of promotion at the division-head level. By the same token, the remaining 3 sequences related to promotion occurrences are collected. Gan’s current administrative rank is the vice provincial/ministerial level and no further promotion is observed until 2013. The observations after the last promotion are right censored, as discussed in the foregoing sections.

Table 12 Chinese Leadership Subsets for Promotion Analyses, 1990-2013

Administrative Rank	Obs.	Promotion Occurrence
Deputy-Division-Head Level	1564	611

Division-Head Level	3026	662
Deputy-Bureau/Director Level	3943	948
Bureau/Director Level	5854	1027
Vice-Provincial/Ministerial Level	7751	1217
Provincial/Ministerial Level	12226	454
Vice-State-Leader Level	4386	81

Source: Author's database.

Table 12 summarizes the sample size of seven leadership subsets for analyzing promotion dynamics across seven administrative ranks. The discrete-time event-history data in each separate subset is further analyzed in logistic regression models (Singer & Willett, 1993: 189; Yamaguchi, 1991: 19).

Suppose that, $P(t)$ is the probability of promotion at time t , given that a provincial leader is at risk of getting promoted at time t . To analyze how the explanatory covariates affect promotion outcomes, a linear function is generated:

$$P(t) = a + b_1x_1 + b_2x_2(t) \quad [1]$$

For $t=1, 2, 3, \dots$ a is the intercept. x_1 is the time-constant covariate while x_2 is the time-varying covariate. Since the probability of $P(t)$ is greater than 0 and less than 1, the above linear function is presented in the logit transformation:

$$\text{Log} \left(\frac{P(t)}{1-P(t)} \right) = a + b_1x_1 + b_2x_2(t) \quad [2]$$

This thesis undertook the statistical analysis of the event-history dataset for Chinese provincial leaders in logistic regression of SPSS.

Chapter 4 Chinese Provincial Leaders: A Demographic Analysis

This chapter is interested in answering a basic question of who are the Chinese provincial leaders over the period of 1990-2013. The demographic analysis is generally organized around the leadership backgrounds of age, gender, ethnicity, provincial origins and CCP membership, respectively³⁸. Historical trends of each criterion will be formulated by analyzing the person-year leadership biographic data from 1990 to 2013. Given the same selection of four leadership categories and individual-year coding, the longitudinal analysis will be extended by comparing the 1990-2013 provincial leaders and Bo's (2002) 1949-1998 data. On the basis of the empirical findings, in-depth interpretations are directed toward the CCP's history and the institutionalization of leadership selection and cadre management. The chapter will conclude with a discussion of the rise of the CR generation in provincial politics.

4.1 Age

On the whole, the average age for Chinese provincial leaders is 55.21 years, as compared with 55.50 years during the period of 1949-1998. In terms of different titles, the average age is 59.36 years for party secretaries, 57.56 for provincial governors, 55.86 for deputy secretaries and 53.72 for vice governors. By comparison, the 1949-1998 leadership profile shows that the average age is 57 for party secretaries, 56.80 for provincial governors, 54.50 for deputy secretaries and 55.70 for vice governors (Bo, 2002: 37-38). Thus, with the exception of vice governors, the average age is mostly higher for party secretaries, governors and deputy secretaries

³⁸ Empirical analysis in this chapter is primarily based on 9,814 person-year observations for the 1990-2013 provincial leaders, including the descriptions of general patterns and historical trends. Given the limited number of provincial leaders, Section 3.2 focuses on 131 female leaders to more closely examine the recruitment criteria and leadership transformation. When formulating the educational and career backgrounds of non-communist leaders, Section 3.5 turns to the cross-sectional data of 92 non-communist vice governors.

from 1990 to 2013 than from 1949 to 1998. On the other hand, consistent with the 1949-1998 findings, the ascending order of the average age to a greater extent represents the elite status and power because party secretaries and governors at the full-ministerial level are older than deputy secretaries and vice governors at the vice-ministerial level (Bo, 2002: 37).

It is more meaningful to understand the standard deviation, minimum and maximum age by comparing the 1949-1998 and 1990-2013 provincial leaders. In Bo's study (2002), the standard deviation for Chinese provincial leaders approximates to eight years for both the total sample and leadership groups of different titles. The ages range from 18 to 90 years for all the 1949-1998 leaders. However, as illustrated in Table 13, the standard deviation of ages is 4.82 for the 1990-2013 provincial leaders and the age ranges from 36 to 70. In this sense, the ages of the 1990-2013 Chinese provincial leaders are remarkably less dispersed and there is less volatility. This is primarily due to the institutionalized leadership selection in the reforming era, which receives further analysis below.

Table 13 Ages of Chinese Provincial Leaders, 1990-2013

Title	Obs	Mean	Stad. Dev.	Min	Max
Secretary	891	59.36	4.31	46	70
Governor	908	57.56	4.38	42	67
Deputy Secretary	2869	55.86	4.55	40	69
Vice Governor	5146	53.72	4.45	36	70
Total	9814	55.21	4.82	36	70

Source: Author's database

From a longitudinal perspective, Figure 3 outlines the relatively steady presence of age for the 1990-2013 provincial leaders. The average age for provincial leaders is in the mid-50s every year. The stability in the average age is divergent from the steadily growing tendency in 1949-1980 and the dramatic decline in the 1980s (Bo, 2002: 37-38). Bo (2002: 39) places the discussion on changes in the average age from 1949 to 1998 in the Chinese context of political turmoil, such as Great Leap Forward Campaign and the CR (Bo, 2002: 37-39). In addition, the youthful rejuvenation in the 1980s virtually originated from the introduction of the retirement systems for aging

senior leaders during Deng’s era (Lee, 1991: 234-245). Since the late 1990s, the institutional transformations of leadership replacement have been vigorously consolidated (Zang, 2005: 208-209). It effectively helps to explain why the average age has stabilized since the 1990s, as noted in the following.

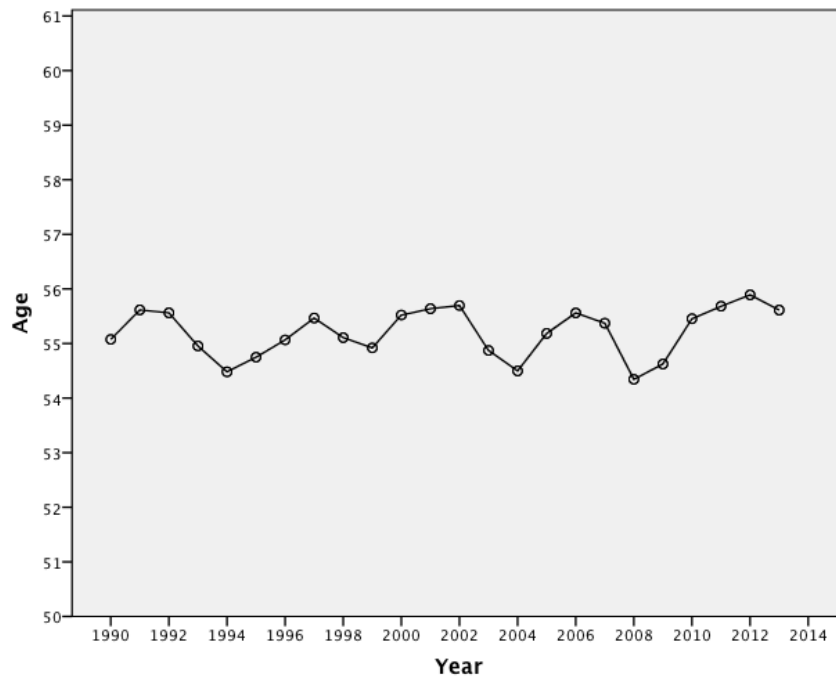


Figure 3 Age of Chinese Provincial Leaders, 1990-2013

In what way has the process of institutionalization affected the average age and age structures of Chinese provincial leaders? On one hand, the institutional arrangements of age limit and term limit allow for bringing the younger generation into the leadership and the veterans’ exit from the official posts (Kou, 2002; Kou, Huang & Fan, 2006: 5-13; Zeng, 2013: 224). As formulated in Table 14, as early as 1982, the provisions relating to the retirement system stipulated that the full-ministerial leaders must be younger than 65 years and the vice-ministerial 60 years (Landry, 2003: 38-39)³⁹. The provisions in 1992, 1995 and 2000 were promulgated to recruit younger cohorts into the positions of power and authority. In 1998 and 2000,

³⁹ People’s Daily Online, 1982. “Zhonggong zhongyang guanyu jianli laoganbu tuixiu zhidu de jue ding” (CCP Decision on the Retirement System of Senior Cadres, 中共中央关于建立老干部退休制度的决定) [Online]. (Updated 20 Feb 1982) Available at: <http://cpc.people.com.cn/GB/64162/71380/71387/71591/4854975.html> [accessed 07 Oct 2014]

more regulations were issued to develop the ruling coalition of different birth cohorts. The above provisional efforts ultimately led to the elite formation of middle-aged provincial leaders and the emergence of leaders younger than 50 years old. More importantly, the upper age limitation on promotion eligibility further hinders the career advancement of aging cadres at each administrative level⁴⁰. For instance, although adopted differently across regions in China, the upper age limitation averages appear to be 58 years for the vice-ministerial rank and 63 years for the full-ministerial rank (Kou & Tsai, 2014: 157). In other words, a vice-ministerial leader aged 58 will be eliminated from the promotional competition to the full-ministerial position. Parallel to age limit, term limit rules out the possibility of the monopoly of power for over two consecutive terms of office. The 1982 Constitution stresses that each term of office is subject to five years. In summary, the mechanisms of age and term restrictions have markedly engendered the leadership vitality and rejuvenation.

⁴⁰ For a systematic presentation of age limits in Chinese leadership selection, see Chien-Wen Kou and Wen-Hsuan Tsai, "Sprinting with Small Steps' Towards Promotion: Solutions for the Age Dilemma in the CCP Cadre Appointment System" *The China Journal*, no. 71 (January 2014): 153-171.

Table 14 Regulations on Age and Tenure for Chinese Provincial Leaders, 2013

Year	Content of Regulations	Source
1982/02	The age of full-ministerial leaders is in principle no more than 65 years. The age of vice-ministerial leaders is no more than 60 years.	Zhonggong zhongyang guanyu jianli laoganbu tuixiu zhidu de jue ding (CCP Decision on the Retirement System of Senior Cadres)
1982/09	Party cadres should be more revolutionary, younger in average age, better educated and more professionally competence.	Zhongguo gongchandang zhangcheng (Constitution of Communist Party of China)
1982/10	In the CCP provincial committee, at least one leader is younger than 55 years old from the second- or third-in-command. At least one third of members of the CCP provincial standing committee are younger than 55 years old.	Guanyu shengji lingdao banzi peizhi de jidian yuanze yijian de tongzhi (CCP Announcement on Staffing Structure of Provincial Leadership)
1982/12	Each term for provincial government leaders is subject to five years.	The 1982 Constitution
1992/11	At the provincial level, there are generally party leaders and two government leaders younger than 50 years old. There are at least one party leader and one government leader in the mid-45s.	Zhonggong zhongyang zuzhibu guanyu jiji dadan de zuohao xuanba nianqing ganbu gongzuo de tongzhi (Central Organization Department of the CCP's Announcement on Recruiting Young Cadres)
1998/06	At the provincial level, both the party and government leadership systems should consist of leaders at the ages of 60, 55 and 45. There are three party leaders and two government leaders younger than 50 years old. Among them, there is at least one in the mid-40s. A certain number of party and government leaders aged around 50 obtain the leading positions of full titles.	1998-2003 quanguo dangzheng lingdao banzi jianshe guihua gangyao (Development Program Concerning the Establishment of a National Party and State Leadership for 1998-2003)
1999/04, 2006/08	Leading party and government cadres above the county-level should receive a transfer after serving in the same position for ten years. This exchange policy also applies to the party and government leaders	Dangzheng lingdao ganbu jiaoliu gongzuo zanxing guiding (Interim Provisions on Exchange Work for Party and Government Leading)

	with a seniority of ten years at the same locality and at the same level.	Cadres) Dangzheng lingdao ganbu jiaoliu gongzuo guiding (Provisions on Exchange Work for Party and Government Leading Cadres)
2000/09	At the provincial level, both the party and government system should strive to recruit cadres younger than 50 years old if the number of this group is lower than 5. The number of cadres aged 50 must be increased for the leadership positions of full titles.	Zhonggong zhongyang zuzhibu guanyu jinyibu zuohao peiyang xuanba youxiu nianqing ganbu gongzuo de yijian (The Organization Department of the CCP's Notice on Training and Selecting Young Cadres)
2002/07	Young cadres should be selected and recruited into the party and government systems. Leading party and government cadres above the county-level should receive a transfer after serving in the same position for ten years. Generally, the party and government leading cadres of full titles do not receive transfers at the same time. In principle, party and government leaders should complete each term of five years. The cadres above the county-level who get promoted should obtain over two positions at the prior administrative level. To get promoted from the deputy position to the full title, the cadres above the county-level should serve in the deputy position for over two years. To get promoted from the full title to the deputy position of the upper level, the cadres above the county-level should serve in the prior position for over three years. The party and government cadres in generally get promoted step by step.	Dangzheng lingdao ganbu xuanba renyong gongzuo tiaoli (Regulations on Selecting and Appointing Party and Government Leading Cadres)
2006/08	Each term of office is subject to five years and should be completed without interruption for party and government leaders.	Dangzheng lingdao ganbu zhiwu renqi zanxing guiding (Interim Provisions on the Term of

For the special job requirements, leading cadres should not change their posts more than once within one term of tenure.

Office for Party and Government Leading Cadres)

Source: Kou, C.W., 2010. *Zhonggong jingying zhengzhi de yanbian: zhiduhua yu quanli zhuan yi 1978-2010*(*The evolution of Chinese Elite Politics: Institutionalization and Power Transfer, 1978-2010*, 中共精英政治的演变：制度化与权力转移, 1978—2010). Taipei: Wunan chubanshe. P. 271-274⁴¹.

⁴¹ The summary of institutional mechanisms from Kou (2010) focuses on regulations relative to top leaders at the vice-ministerial level or above. In this chapter, it is restricted to the regulations relative to provincial leaders. On the basis of Kou's (2010) formulation, three important official regulations are added to Table 14 in this chapter, namely Constitution of Communist Party of China in September 1982, regulations issued in November 1992, April 1994 and September 2000. Besides, as for *Dangzheng lingdao ganbu xuanba renyong gongzuo tiaoli* (Regulations on Selecting and Appointing Party and Government Leading Cadres, 党政领导干部选拔任用工作条例) on July 2002, more detailed articles are provided in Table 14.

In addition to age and term limits, on the other hand, the institutionalization of term integrity and step-by-step promotion maintains the leadership stability (Kou & Zang, 2014: 7-8). In 2002, the fulfillment of the entire term of office became a formal condition for cadre selection and appointment to higher levels. In 2006, as specified in Article 4 of the “Interim Provisions for Party and Government Leading Cadre Tenure” (dangzheng lingdao ganbu zhiwu renqi zanxing guiding, 党政领导干部职务任期暂行规定), it was again emphasized that the office holders should at least serve one term of five years without interruption⁴². Alongside term integrity, the mechanism of step-by-step promotion necessitates the accumulation of work experience at the prior administrative rank before getting ahead⁴³. The waiting time along political and administrative ladders is predictable at every administrative rank. Within the rigid hierarchy, in theory, suppose that a cadre successfully gets promoted after serving each term and fails to get into the fast track. This cadre’s possible duration time is 35 years for regular career progression from the deputy-section-head level to the full-ministerial level (Kou & Tsai, 2014: 157-158). In this way, a vast majority of the provincial chiefs inevitably reach their mid-50s in line with the well-defined tenure regulations and promotion practices.

⁴² Xinhua Net, 2006. “Dangzheng lingdao ganbu zhiwu renqi zanxing guiding” (Interim Provisions on the Term of Office for Party and Government Leading Cadres, 党政领导干部职务任期暂行规定) [Online]. (Updated 06 Aug 2006) Available at: http://news.xinhuanet.com/politics/2006-08/06/content_4926300.htm [accessed 07 Oct 2014]

⁴³ According to the 2002 regulation on cadre selection as specified in Table 14, cadres above the county-level who get promoted should obtain over two positions at the prior administrative level. To get promoted from the deputy position to the full title, the cadres above the county-level should serve in the deputy position for over two years. To get promoted from the full title to the deputy position of the upper level, the cadres above the county-level should serve in the prior position for over three years. For more details, please refer to: People.com.cn, 2002. “Dangzheng lingdao ganbu xuanba renyong gongzuo tiaoli” (Regulations on Selecting and Appointing Party and Government Leading Cadres, 党政领导干部选拔任用工作条例) [Online]. (Updated 23 July 2002) Available at: <http://www.people.com.cn/GB/shizheng/16/20020723/782504.html> [accessed 08 Oct 2014]

Underlying the stability in the average age is the combination of different birth cohorts. In Figure 4, the proportion of provincial leaders from every birth cohort declined as they reached the age of 60. To put this in another way, the ratio of the 1930s cohort reached the peak in 1991, the 1940s cohort in 1999 and the 1950s cohort in 2011. The core cohort in power was actively engaged in party and government affairs between the mid-50s and the mid-60s. Thereafter, it was gradually replaced by the younger cohort for leadership renewal. Consider the provincial leaders born in the 1940s for example. The proportion of the 1940s leadership group exceeded that of the 1930s cohort in 1994 and grew to 76.60% in 1999. It substantially dropped to 50.80% in 2005 and finally reached 1.17% in 2013. The allocation of different birth cohorts plays a vital role in leadership transformation by reconciling the contrasting principle of leadership rejuvenation and stability.

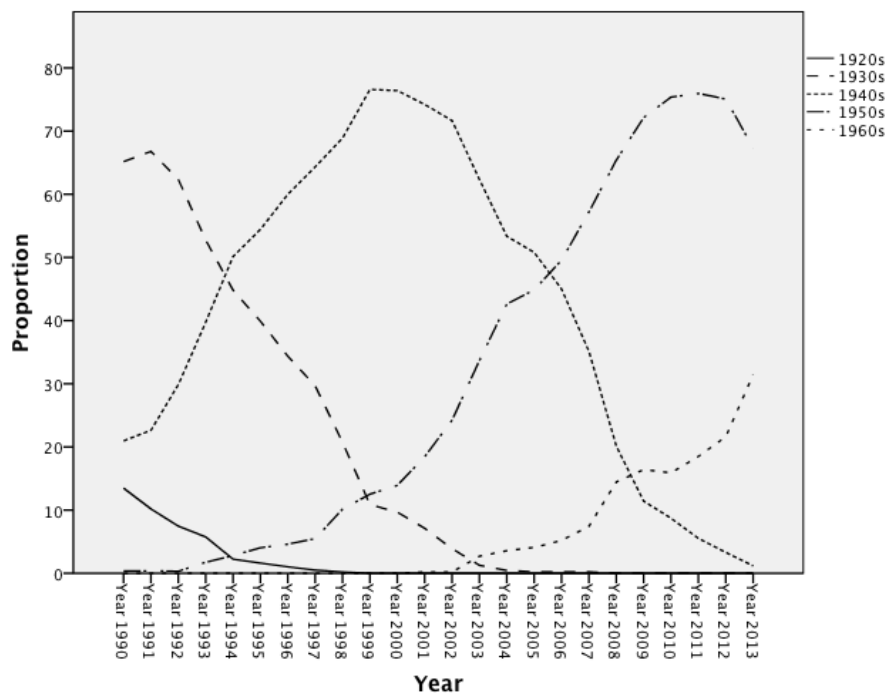


Figure 4 The Distribution of Chinese Provincial Leaders by Birth Cohort

To look at the variations in the average age over time, Figure 5 demonstrates the positive correlation of seniority with the hierarchical ranks. Across the period of 1990 and 2013, party secretaries are older than provincial governors, who are older than deputy party secretaries. Provincial vice governors are the youngest. For

provincial leaders of four titles, their average age remained stable within a narrow fluctuation of 2.50 years. This well-understood age structure conforms to the institutional foundation of step-by-step promotion, as mentioned previously. For party secretaries, the average age was reduced to the lowest point of 57.97 years old in 2003. There was a general tendency of declining average age from 60.31 to 57.97 for party secretaries between 1990 and 2003 (Figure 5). This was partly due to the retirement and power transfer of revolutionary veterans⁴⁴. Comparing provincial governors with deputy party secretaries, it is evident that the average ages almost fluctuated over time in a similar fashion. This pattern is primarily accounted for the fact that provincial governors concurrently assumed the positions of deputy party secretaries. As to vice governors, the peak value of the average age emerged one year before the large-scale personnel reshuffles. For every term of five years, the average age was turned into the lower point after the leadership replacement, namely in 1994, 1999, 2004 and 2009.

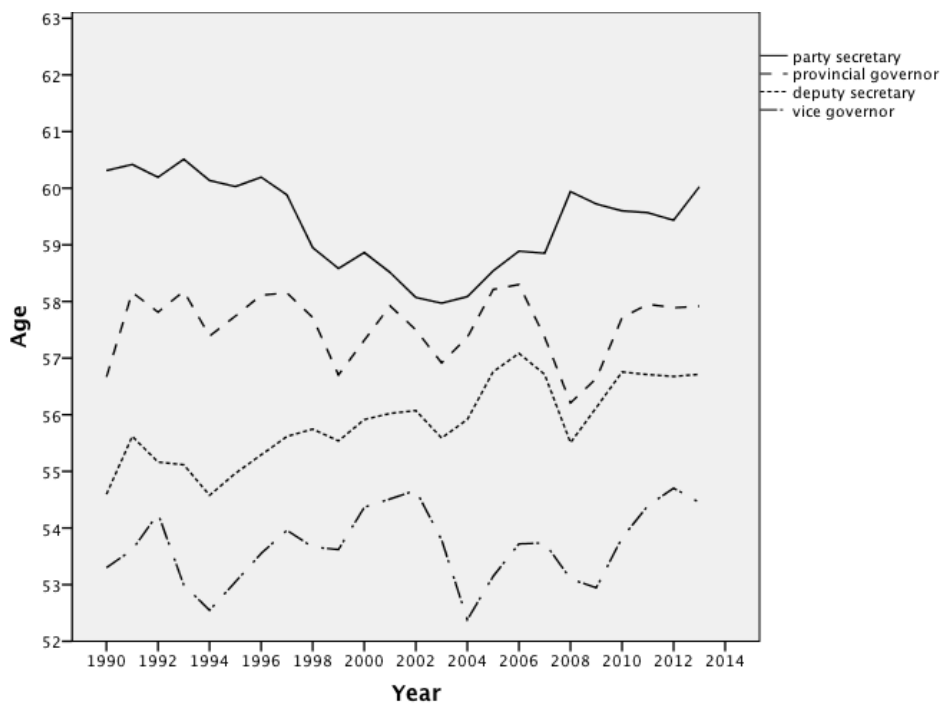


Figure 5 Age of Chinese Provincial Leaders by Title, 1990-2013

⁴⁴ For example, the senior leaders who stepped down from their leadership posts during this period are Xu Shijie (许士杰), Deng Hongxun (邓鸿勋), Li Ligong (李立功), Li Ziqi (李子奇), Lin Ruo (林若) and Pu Chaozhu (普朝柱) and so on.

As compared to the above findings, the averages for 1949-1998 provincial leaders display a disparate picture. The CR drew two critical lines in 1967 and in 1978. From 1949 to 1967, the average ages were greater for provincial government leaders than for party leaders (Bo, 2002: 39). It was surprisingly at odds with a widely held belief that seniority was positively related to power. From 1968 to 1977, the provincial leaders of full titles were older than those of deputy titles. Furthermore, Bo (2002: 39) indicates that the average ages for party secretaries and provincial governors were the same for the most part. A possible explanation was embedded in the overlapping of responsibility and political roles for party secretaries to act as the chairman of the Revolutionary Committee (Bo, 2002: 39-40). After 1978, the order of average ages was similar to the 1990-2013 pattern. As Bo (2002: 40) discusses, “after almost thirty years, the age structure of Chinese provincial leaders seemed to start to correspond to the power structure of the provincial government: the older, the more powerful.”

In summary, age is of particular importance for career prospects in Chinese political spheres. Consistent with the 1949-1998 elites, the 1990-2013 Chinese provincial leaders are middle-aged. However, a striking difference basically lies in the mainstream of stability in age structure from 1990 to 2013. For instance, the average age remains stable over time and the relative age gap among four leadership groups is largely held constant. The hallmark of stability in age during this period was shaped by the institutionalization of elite mobility. Rather, the changes in age structure for the 1949-1998 provincial elites are attributed to vivid historical events and the resulting social transformation over periods of the founding of P.R.C., Great Leap Forward Campaign, the CR, and the Open Door Policy and economic reforms.

4.2 Gender

As anticipated, Chinese provincial leaders are male-dominated from 1990 to 2013. Based on the person-year data, 738 out of 9,814 cases are female provincial leaders, approximately 7.52% as illustrated in Table 15. Specifically, 118 female leaders have

ever entered provincial leadership⁴⁵. The female proportion is exceedingly small for provincial party secretaries and governors, only 0.67% and 1.54%, respectively. Over the period of 1990-2013, Sun Chunlan (孙春兰) is the only female party secretary since 2009 and was successfully elected as Politburo member in 2012. There are in total three female leaders with provincial governorship. Uyunqimg (乌云其木格) became to work as acting chairwoman of government in Inner Mongolia Autonomous Region in 2000. The highest ranking throughout her career is the vice-state-leader level, namely, vice chairperson of the Standing Committee of NPC between 2003 and 2013. The second provincial governor is Song Xiuyan (宋秀岩) in Qinghai from 2005 to 2010. She is currently working as vice president of All-China Women's Federation. Besides, Li Bin (李斌) took up the post of provincial governor of Anhui in 2012 and has presided over National Health and Family Planning

⁴⁵ In this section, the proportions of female leaders by title and over time are drawn from 9,814 person-year observations. However, to look at the female leadership characteristics only, the longitudinal study of female leaders is more interested in female leadership transformation across four historical episodes. Each new female entrant is treated as an independent case. In fact, out of 118 female leaders, 11 leaders assumed multiple leadership offices or worked in more than one province. In this case, they potentially provide more than one case. The number of female leaders under study is thereby 131 rather than 118. To be specific, Chen Jiwa (陈际瓦) worked as vice governor of Chongqing Province from 2000 to 2003 and was elected deputy party secretary of Guangxi Province in 2008. Chen Yujie (陈玉杰) became deputy party secretary of Hebei Province in 1994 and was transferred to Jilin Province as deputy party secretary in 1996. Fan Xiaomei (范肖梅) was made vice governor of Shaanx Province in 1993 and was promoted to deputy party secretary in 1998. Li Bin (李斌) took the post of vice governor in Jilin from 2001 to 2007 and advanced to the leading position of governor and deputy party secretary in Anhui Province in 2011. Qiao Chuanxiu (乔传秀) was the deputy party secretary in Anhui Province between 1999 and 2001 before moving to Zhejiang Province. Song Xiuyan (宋秀岩) worked as provincial governor and deputy party secretary in Qinghai. Sun Chunlan (孙春兰) was elected as deputy party secretary in Liaoning from 1997 to 2005, appointed as provincial governor in Fujian from 2009 to 2012 and in Tianjin in 2012. Uyunqimg (乌云其木格) ever served as vice chairperson from 1998 to 2000, deputy party secretary from 1994 to 2003 and chairperson from 2000 to 2003 in Inner Mongolia. Wu Aiyong (吴爱英) assumed the position of vice governor of Shandong Province from 1993 to 1998 and continued working as deputy party secretary from 1998 to 2003. Zhang Lianzhen (张连珍) entered provincial leadership in Jiangsu as vice governor from 1995 to 2003 and as deputy party secretary from 2003 to 2008.

Commission since 2013. Bo's (2002: 56) study of 1949-1998 female leaders identifies that only Wan Shaofen (万绍芬), promoted to party secretary of Jiangxi in 1985, and Gu Xiulian (顾秀莲), promoted to provincial governor of Jiangsu in 1983.

Although overwhelmingly underrepresented in party secretaries and governors, female leaders constitute 6.62% of deputy party secretaries and 10.26% of vice governors (Table 15). Among 118 female leaders, 33 worked as deputy party secretaries and 92 were appointed as vice provincial governors. From the historical point of view, the female representation for deputy secretaries increased from 2.79% during the period of 1949-1998 to 6.62% between 1990 and 2013. For vice governors, similarly, there was a rise from 4.84% in 1949-1998 to 10.26% between 1990 and 2013. The seemingly growing female share in provincial politics reflects the impact of state policies on improving gender equality in recent years. For instance, it was stipulated that at least one female leader must be recruited into the political establishment at the provincial, municipal and county levels by 2003⁴⁶. *The 2001-2010 Development Program Concerning Females in China* (2001-2010 zhongguo funv fazhan gangyao, 2001—2010 年中国妇女发展纲要) points out the possible channels for female political participation and the significant role of Women's Federation⁴⁷.

Table 15 Female Provincial Leaders in China, 1990-2013

Title	Obs.	Females	Percent
Party Secretary	891	6	0.67
Governor	908	14	1.54
Deputy Secretary	2869	190	6.62
Vice Governor	5146	528	10.26

⁴⁶ General Office of the CCP Central Committee, 1998. 1998-2003 quanguo dangzheng lingdao banzi jianshe guihua gangyao (Development Program Concerning the Establishment of a National Party and State Leadership for 1998-2003, 1998—2003 年全国党政领导班子建设规划纲要) [Online]. (Updated 24 Jun 1998) Available at: [http://hqit.xmu.edu.cn/oldweb/djzc/gbgz/lzbz/1998\[16\].htm](http://hqit.xmu.edu.cn/oldweb/djzc/gbgz/lzbz/1998[16].htm) [accessed 10 Oct 2014]

⁴⁷ For more details, please refer to the link: http://news.xinhuanet.com/ziliao/2003-09/03/content_1061214.htm. In 2011, the State Council promulgated the 2011-2020 Development Program on Females in China and confirmed the continued efforts to promote the political positions and participations for females.

Total	9814	738	7.52
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Source: Author's database.

Consider the changes in the recruitment of female provincial chiefs over time. As elaborated by Bo (2002: 57-59), from 1949 to 1967, a small number of female leaders previously participating in revolutionary activities and local forces occupied the elite positions at the provincial level. During the CR, ordinary female peasants and workers unexpectedly rose to prominence, thereby leading to a significant increase in the female percentage (Bo, 2002: 57). They were considered as reliable supporters with party loyalty and ideological conformity (Zhou, Tuma & Moen, 1996: 764). Their political careers were, however, largely disrupted because of the purges after the CR. From 1978 to 1998, a rapid retreat appeared in the selection of female leaders. For the 1990-2013 female leaders, Figure 6 shows a generally slackened growth in female representation from 4.49% in 1990 to 9.37% in 2003. After 2003, it modestly fluctuated between 7.69% and 10.19%.

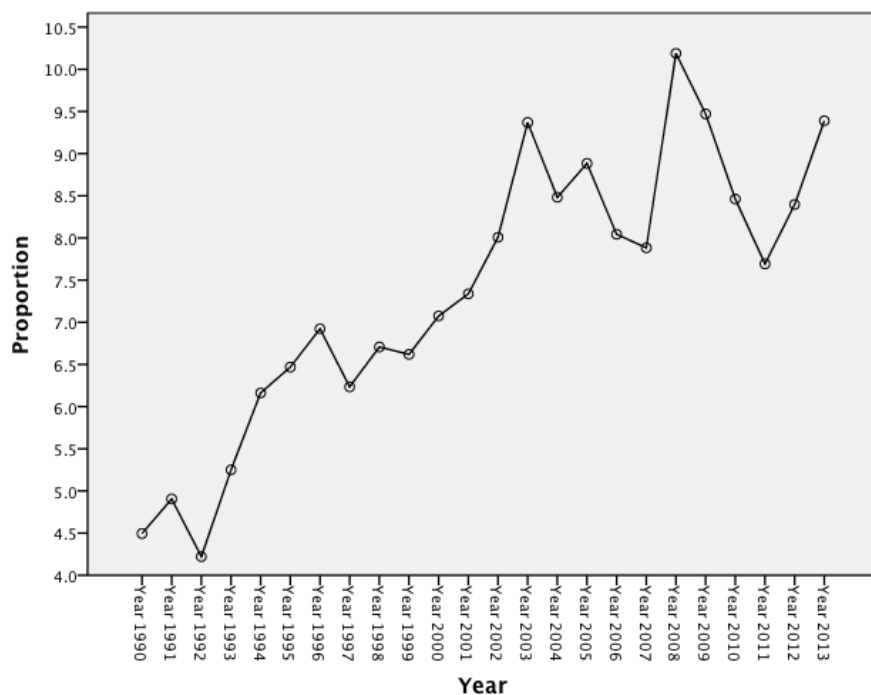


Figure 6 Female Provincial Leaders in China, 1990-2013

To describe the unique historical changes in female leadership attributes, a wide spectrum of time ranging from 1990 to 2013 is divided into four historical episodes

of 1990-1997, 1998-2002, 2003-2012 and 2013 in Table 16⁴⁸. There are a total of 131 cases of female leaders under study. From 1990 to 1997, out of 37 cases, twelve female leaders were assigned to provincial leading posts before 1990. It is worth noting that in the 1970s Ba Sang (巴桑) and Zhang Yuqin (张玉芹) worked as vice chairpersons of Revolutionary Committee of Tibet and Guizhou, respectively. This group of female leaders witnessed the profound social transformation and “rushed growth” state policies in industrialization and redistributive economies (Zhou, 2004: 36-39; Zhou, Tuma & Moen, 1996: 770). The nation-building objectives and development agenda accordingly fostered the marked educational expansion and resource allocation to heavy industry and engineering (Zhou, 2004: 75-80). Under such sociopolitical context, 83.78% of female leaders were college graduates. As a typical example, Liu Shuying (刘淑莹), former vice governor of Jilin Province, was awarded a doctoral degree of chemistry in 1985 in the United States of America (U.S.A.). In terms of academic majors, 25 out of 31 college-educated leaders majoring in science. After college graduation, they entered pertinent workforces in relation to major fields of study as a result of centralized allocation of employment opportunities. For instance, Wu Yi (吴仪), former vice premier, graduated from Beijing Petroleum Institute in the major of petroleum engineering in 1962. Wu worked as a petroleum technician in her early career. She spent 26 years in petroleum industry before becoming vice mayor of Beijing in 1988. Zhao Di (赵地), former deputy party secretary of Henan Province, was a college graduate majoring in liquid-rocket engine design from Northwestern Polytechnic University in 1962. She concentrated on specialization of engineering for 18 years at early and mid-careers.

At the core of the 1990-1997 female provincial leadership was the prevalence of professionals, particularly in industry and engineering. Among 15 female leaders who acquired industry-related jobs (approximately 40.54%), 13 worked in industry

⁴⁸ 131 cases of female provincial leaders are categorized into four groups: (1) the officeholders of provincial leadership between 1990 and 1997; (2) new recruits who were promoted to provincial leadership between 1998 and 2002; (3) new recruits who were promoted to provincial leadership between 2003 and 2012; (4) new recruits who were promoted to provincial leadership in 2013.

for over ten years, including Li Huifen (李慧芬) (former vice mayor of Tianjin), Fan Xiaomei (范肖梅) (former deputy party secretary of Shaanxi), and Shen Shuji (沈淑济) (former vice governor of Inner Mongolia) and so on. Out of 37 female leaders, 18 worked in SOEs, approximately 48.65%. More importantly, the long tenure for over ten years was discernible within these organizations (12 out of 18 cases, 66.67%). One of the notable examples is former vice chairperson of Guangxi, Wang Rongzhen (王蓉贞). She served in North China Pharmaceutical Factory and Guilin Pharmaceutical Factory for over 30 years.

From 1998 to 2002, out of 20 new female recruits, SOES provided approximately 66.67%. Nine female leaders worked in SOEs for over ten years. Although there were 40% of new recruits engaged in industry, only four leaders possessed industry-specific seniority for over ten years. Alongside the persistently high proportion of professionals, career trajectories for female leaders recruited between 1998 and 2002 seemed to be more varied. A sizeable majority experienced job shifts across functional divisions or authority positions at the provincial, municipal or county level. For instance, former vice governor of Sichuan, Li Jin (李进) started her career by working as a technician in Neijiang Machine Factory of Sichuan in 1961. After working in this machine factory for over 20 years, Li took a salient step toward Organization Department of Neijiang City in 1983. Thereafter, she was promoted step by step from director of Organization Department of Neijiang, deputy party secretary of Neijiang, deputy director of Sichuan Economic and Trade Committee, to assistant to governor of Sichuan Province. In 1998, Li eventually held the office of provincial vice governor in Sichuan.

From 2003 to 2012, the leadership characteristic of new female recruits is characterized by diverse career experience. Career patterns during this period encompassed 27.45% working in industry, 35.29% in economic or finance, 37.25% in personnel and 25.49% in propaganda. Besides, the proportion of new recruits with prior experience as professionals was further reduced to 35.29%. In addition to the diversity of career patterns, another three major features are extraordinarily well

observed. Firstly, 22 out of 51 new recruits came from the cohort of sent-down youth, approximately 43.14%. They were born between late 1940s and late 1950s. Most of them entered universities around the year of 1978. They shared the similar life experience of the CR. Their life chances were distinctively shaped by radical state policies concerning send-down mobilization and reopening of universities (Zhou, 2004: 124-131). Secondly, 52.94% of new recruits were experienced female leaders from CCYL. Out of 27 cases, 13 female leaders served in CCYL for over ten years, such as Jiang Daguo (蒋大国) (former vice governor of Hubei Province), Jin Yinhuan (金银焕) (former deputy party secretary of Shanxi Province) and Zhao Guohong (赵国红) (former vice governor of Liaoning Province). Finally, among 18 professionals, nine female leaders came from universities. Interestingly, seven female leaders worked in universities or research institutes for over ten years. For example, Liu Hongxiu (刘鸿麻) was a professor from Guizhou Normal University and was appointed as vice governor of Guizhou in 2003. Zhang Junfang (张俊芳) experienced a vital career transition from deputy dean of Geography Department in Tianjin Normal University to deputy chief executive of Hexi District in Tianjin in 1998.

In 2013, female provincial leadership was preoccupied with professionals from universities. For instance, Wang Yanling (王艳玲) served in Henan Agricultural University for about 13 years before taking up political and administrative offices. As another example, Tian Wen (田文), current vice chairperson of Xinjiang, stayed working in Xinjiang Normal University after college graduation from 1983 to 2003. Besides, it is important to note that six new entrants had secretarial experience, such as Weng Tiehui (翁铁慧) (former deputy secretary general of Shanghai Government), He Min (贺旻) (former assistant to mayor in Dalian) and He Xiqing (何西庆) (former secretary of general office in Gansu Government).

To conclude, with a modest increase in female representation, there is still a long way to achieve gender equality in provincial leadership. By systematically reviewing female leadership transformation, the 1990-1997 female leaders were labeled as professionals in industry or engineering. From 1998 to 2002, the new recruits

predominately came from SOEs. From 2003 to 2012, female leadership selection was distinctively characterized by career diversity and the rise of sent-down youth. In 2013, professionals from universities started to play an increasingly important role in provincial politics. As a whole, 1990-2013 female leaders received higher educational credentials. They appeared to be more professional regarding both scope and diversity in career trajectories.

Table 16 Female Chinese Provincial Leaders by Historical Periods, 1990-2013

	1990-1997		1998-2002		2003-2012		2013		Total N
	N	%	N	%	N	%	N	%	
Obs.	37 (28.24%)		30 (22.90%)		51 (38.93%)		13 (9.92%)		131
Non-CCP	7	18.92	4	13.33	8	15.69	3	23.08	22
College Education*	31	83.78	20	66.67	32	62.75	12	92.31	95
Professionals	29	78.38	15	50.00	18	35.29	8	61.54	70
Sent-down Youth	0	0	5	16.67	22	43.14	3	23.08	30
CCYL	9	24.32	8	26.67	27	52.94	4	30.77	48
SOE	18	48.65	20	66.67	22	43.14	5	38.46	65
University	4	10.81	9	30.00	16	31.37	8	61.54	37
Secretarial Work	9	24.32	9	30.00	14	27.45	6	46.15	38
Industry	15	40.54	12	40.00	14	27.45	4	30.77	45
Finance	6	16.22	4	13.33	18	35.29	2	15.38	30
Personnel	10	27.03	3	10.00	19	37.25	5	38.46	37
Propaganda	3	8.11	3	10.00	13	25.49	3	23.08	22

Source: Author's database.

Note: * College education refers to formal education in the regular educational system, including a master's degree and a doctorate.

4.3 Ethnicity

Like female leaders, the particular group of minority leaders deserves extensive investigations⁴⁹. The recruitment of minority leaders is the CCP's continuing efforts in reconciling conflicting ethnic interests and maintaining sociopolitical stability,

⁴⁹ For the person-year data, there are a total of 1,492 observations for 249 cases of minority leaders. For these 249 cases, it is possible that minority leaders held concurrent posts or experienced job transfers in different provinces. Given the double-counting issue, there are definitely 182 minority leaders served in provincial leadership between 1990 and 2013. 95.05% of them are CCP members. Tables and figures in this section are primarily plotted on the basis of 1,492 event-history observations.

particular in five autonomous regions (Li, 2008: 1-2). In a multinational country like China, to what extent are ethnic minorities represented in the provincial leadership? First of all, it is tempting to argue that the minority population is well represented or even overrepresented based on the following findings. According to the last three national censuses in 1990, 2000 and 2010, minorities consist of around 8% of the total population⁵⁰. As noted in Table 17, however, minority leaders provide 15.24% of the total provincial leaders. From a longitudinal perspective, the ratio of minority leaders steadily remained over 13.39% during the entire period and reached a peak of 17.62% in 1998 (Figure 7). Generally, every reduction in the minority share was followed by a rapid resilience within one or two years. As compared to the minority share of 9.73% from 1949 to 1998 (Bo, 2002: 60), the minority representation has exhibited a substantial growth in the past decades. Besides, the proportions of minority origins are in a descending order of Tibetan (3.89%), Hui (2.27%), Mongolian (1.85%), Uyghur (1.37%), Zhuang (1.19%) and Manchurian (1.12%).

Table 17 Ethnic Distribution of Chinese Provincial Leaders, 1990-2013

Nationality	Frequency	Percent	Cumulative
Han	8296	84.76	84.76
Tibetan	381	3.89	88.65
Hui	222	2.27	90.92
Mongolian	181	1.85	92.77
Uyghur	134	1.37	94.14
Zhuang	116	1.19	95.33
Manchurian	110	1.12	96.45
Yi	64	0.65	97.10
Miao	54	0.55	97.65
Tu	46	0.47	98.12
Kasak	43	0.44	98.56
Buyi	34	0.35	98.91
Li	32	0.33	99.24
Naxi	24	0.25	99.49
Bai	22	0.22	99.71
Korean	16	0.16	99.87
Dong	6	0.06	99.93
Yao	4	0.04	99.97
Mulam	3	0.03	100.00
Total	9788	100.00	

⁵⁰ National Bureau of Statistics of China, 2013. China Statistical Yearbook. China Statistics Press.

Source: Author's database.

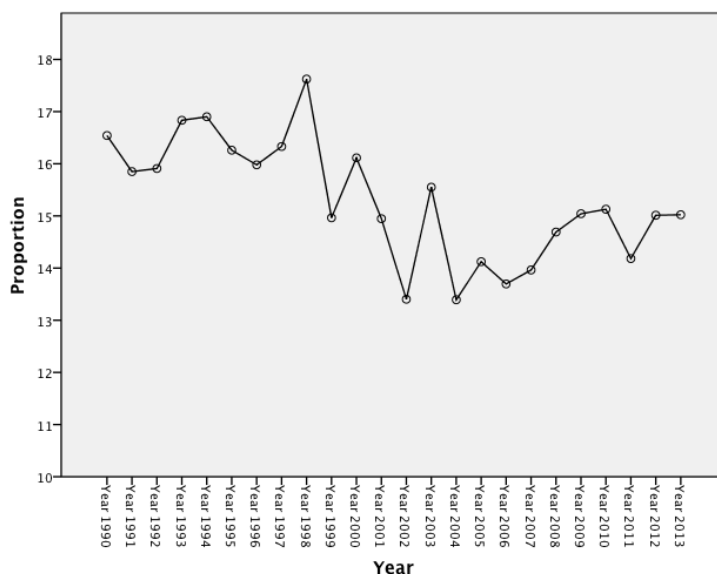


Figure 7 Minority Provincial Leaders in China, 1990-2013

Does this mean that ethnic minorities are proportionately represented indeed? In the following, the analysis of minority leaders by province and by leadership title sheds new light on this question. Table 18 reports percentages of the minority population derived from national censuses in 1990, 2000 and 2010 relative to the proportion of minority leaders across 31 provinces⁵¹. Minority leaders are generally proportional to the share of the minority population in 31 provinces. The autonomous regions understandably retain higher rates of minority leaders, such as Tibet (56.79%), Xinjiang (48.10%), Inner Mongolia (43.58%), Ningxia (34.62%) and Guangxi (34.18%). It is, notwithstanding, significant to indicate that minorities are underrepresented in Tibet and Xinjiang Autonomous Regions. The minority ratio is more than 60% in Xinjiang whereas the percentage of minority leaders is 48.10%. The corresponding figures for Tibet are over 90% versus 56.79%. Apart from the provinces of regional autonomy, Qinghai, Guizhou, and Yunnan, as multi-ethnic provinces, have 21.38%, 33.23% and 21.38% of minority leaders. In these provinces,

⁵¹ In terms of the share of minority population, the data on numbers of total and minority populations were mostly drawn from the tabulations on the population censuses and statistical yearbooks in 1990, 2000 and 2010 across 31 provinces. Only was the population information of Inner Mongolia collected from the statistical book of Inner Mongolia Under 30-year Reforms (2009).

ethnic minorities are also disproportionately represented. In brief, minority representation differs across provinces.

Why are ethnic minority leaders recruited into authority status? The answer to this question apparently pertains to the significant role played by minority leaders in legitimizing the regime and maintaining ethnic stability. It is reasonable to assume that the CCP tends to rely on ethnic minority elites for better policy implementation in close-knit ethnic communities. The relative closure of social network results in both the within-group cohesiveness and between-group exclusiveness (Coleman, 1988: 101-108). In this regard, minority leaders, effectively bridge between the CCP center and ethnic cliques. On one hand, a vast majority of them are CCP members and trained in party schools. They are political loyalists of the CCP and supporters of the central policies. On the other hand, out of 1,492 event-history observations of minority leaders, 76.94% served in home provinces. They accumulate cultural and social capital by sharing the same languages, customs and social norms embedded in interconnected social networks. Their ethnic backgrounds facilitate the trustworthiness, sanctions and coordination within these networks.

Table 18 Proportions of Minority Population and Leaders in China, 1990-2013

Province	Percentage of Minority Population (%)			Minority Leaders (%)
	1990	2000	2010	
Anhui	0.58	0.67	0.67	9.31
Beijing	3.92	4.31	4.09	1.45
Chongqing	--	6.47	6.72	7.63
Fujian	1.55	1.73	2.16	0.00
Gansu	4.33	8.70	9.42	10.80
Guangdong	0.58	1.49	1.98	8.57
Guangxi	38.90	38.08	37.93	34.18
Guizhou	34.71	37.84	36.11	33.23
Hainan	15.20	17.38	16.44	10.37
Hebei	8.04	4.35	4.17	16.09
Henan	1.18	1.22	1.19	13.17
Heilongjiang	5.65	4.89	3.59	0.60
Hubei	3.96	4.36	4.31	6.98
Hunan	6.91	10.13	9.97	6.51
Jiangsu	0.23	0.36	0.49	0.88
Jiangxi	0.28	0.31	0.34	1.59
Jilin	10.21	9.03	7.96	10.04

Liaoning	15.62	16.06	15.19	9.45
Inner Mongolia	19.12	22.76	20.46	43.58
Ningxia	33.47	35.02	35.28	34.62
Qinghai	42.11	45.47	46.98	21.38
Shaanxi	0.48	0.49	0.51	0.35
Shandong	0.60	0.70	0.76	1.97
Shanghai	0.49	0.63	1.20	3.04
Shanxi	0.29	0.32	0.26	4.53
Sichuan	2.69	5.40	6.10	7.73
Tianjin	2.31	2.67	2.55	0.30
Xinjiang	62.42	60.79	61.85	48.10
Tibet	96.30	93.94	91.83	56.79
Yunnan	33.61	35.90	33.37	25.89
Zhejiang	0.51	0.86	2.23	1.63
Total	8.04	8.41	8.49	15.24

Source: Author's database; CNKI, Zhongguo jingji yu shehui fazhan tongji shujuku (Chinese Economic and Social Development Database, 中国经济与社会发展统计数据库), accessed October 18, 2014.

<http://tongji.cnki.net/kns55/Navi/NaviDefault.aspx>.

In addition to the interprovincial comparison, it is critical to take insight into the ethnic distribution by leadership title. As shown in Table 19, minority political elites take only 2.47% of party secretaries. In fact, from 1990 to 2013, only four provincial party secretaries have ethnic minority backgrounds. They are Guan Guangfu (关广富) in Hubei, Shi Zongyuan (石宗源) in Guizhou, Wu Jinghua (伍精华) in Tibet, Yang Zhengwu (杨正午) in Hunan, and Hui Liangyu (回良玉) in Anhui and Jiangsu. Interestingly, Hui Liangyu (回良玉), as a Hui nationality leader, worked in the provinces of Jilin, Hubei, Anhui and Jiangsu before ascending to Politburo member and vice premier. Yet these places are recognized as Han-dominated provinces with very low minority ratio in Table 18. Contrary to party secretaries, ethnic minorities provide 19.82% of provincial governors, 15.65% of deputy party secretaries and 16.43% of vice governors.

From a historical point of view, for the 1949-1998 provincial leaders, the percentage of minority government leaders was mostly larger than that of minority party leaders (Bo, 2002: 61-63). An interesting exception emerged in the course of the CR. Bo (2002: 61) attributes the higher rate of minority party leaders between 1968 and 1977 to the career ascending of the former government leaders. From 1990 to 2013,

the proportion of minority government leaders remained stable whereas that of minority party leaders decreased slowly (Figure 8). In extreme cases, as for five autonomous regions in China, minority leaders monopolized provincial governorship. Meanwhile, Han Chinese leaders exercised paramount control over the party apparatus. This finding is in accord with Article 17 of Law of the P.R.C. on Regional National Autonomy. Consequently, the minority overrepresentation was more likely to apply to the selection of government leaders than party leaders from 1990 to 2013.

Table 19 Ethnic Distribution of Chinese Provincial Leaders by Title, 1990-2013

Title	Obs.	Minority	Percent
Party Secretary	891	22	2.47
Governor	908	180	19.82
Deputy Secretary	2857	447	15.65
Vice Governor	5132	843	16.43
Total	9788	1492	15.24

Source: Author's database.

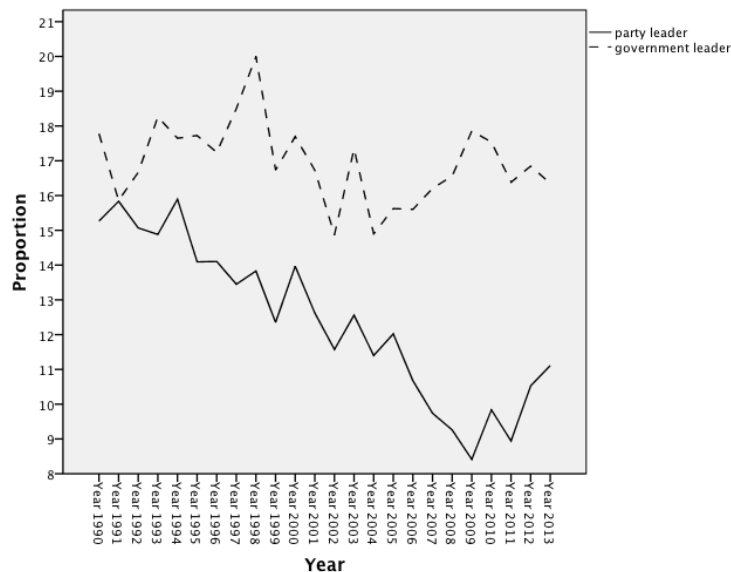


Figure 8 Minority Provincial Leaders in China by Type, 1990-2013

After evaluating the overall pattern of ethnic representation, the main analytical focus next is on 1,492 observations of minority leaders only. Based on Table 18, 31 Chinese provinces are classified into three types with regard to minority ratios in 2010: (1) five ethnic autonomous regions including Guangxi, Ningxia, Inner Mongolia, Xinjiang and Tibet; (2) multi-ethnic provinces with over 5% of minority populations;

(3) other provinces⁵². Table 20 articulates the distribution of minority leaders by three types of provinces from 1990 to 2013. It is well recognized that minority leaders for the most part served in the autonomous regions and multi-ethnic province, approximately 86.22%. For party secretaries, 63.64% of minority leaders were allocated to multi-ethnic provinces. 77.78% of minority provincial governors and 63.31% of minority deputy secretaries tended to work in autonomous regions. For minority vice governors, the proportions for working in autonomous regions and multi-ethnic provinces are 48.62% and 36.70%, respectively. In this light, the political influence of minority leaders is dramatically restricted to the autonomous regions and multi-ethnic provinces.

Table 20 Distribution of Minority Leaders by Province, 1990-2013

	Autonomous Region	Multi-ethnic Province	Others	Total
Party Secretary	0 (0.00%)	14 (63.64%)	8 (36.36%)	22 (100.00%)
Governor	140 (77.78%)	24 (13.33%)	16 (8.89%)	180 (100.00%)
Deputy Secretary	283 (63.31%)	106 (23.71%)	58 (12.98%)	447 (100.00%)
Vice Governor	404 (48.62%)	305 (36.70%)	134 (15.90%)	843 (100.00%)
Total	827 (55.88%)	449 (30.34%)	216 (14.48%)	1492 (100.00%)

Source: Author's database.

In summary, ethnic minorities are seemingly considered to be overrepresented because the minority share of provincial leaders exceeds that of the total population. However, the preceding analysis advances our knowledge of minority

⁵² Excluding five autonomous regions, the multi-ethnic provinces comprise Gansu, Guizhou, Hainan, Hunan, Jilin, Liaoning, Qinghai, Yunnan, Sichuan and Chongqing. The classification here seems to be somewhat arbitrary. For example, the percentages of minority populations in Hebei and Heilongjiang reached 8.04% and 5.65%, respectively in 1990. However, According to the national census in 2000, the minority share turned into 4.35% for Hebei and 4.89% for Heilongjiang. In 2010, the corresponding figures are 4.17% for Hebei and 3.59% for Heilongjiang. Nonetheless, if Hebei and Heilongjiang were added to the multi-ethnic category, it would enhance the existing finding that minority leaders would be allocated to the ethnic autonomous regions and the multi-ethnic provinces.

representation in local leadership. For instance, with high ratios of minority populations, ethnic minorities are underrepresented in such provinces as Xinjiang, Tibet, Qinghai and Yunnan (Table 18). In terms of different leadership titles, the overrepresentation of ethnic groups simply arises from government leaders rather than party leaders (Figure 8). Above all, the regional distribution of minority leaders draws a boundary for their active political involvement within autonomous regions and multi-ethnic provinces. Although well represented, ethnic minorities still exert a rather limited impact on provincial politics.

4.4 Provincial Origin

Since the foundation of the P.R.C., the proportion of native leaders has changed considerably. Presumably, it to some extent signals the central-local power balance in China. From 1990 to 2013, provincial leaders serving in their home provinces take 41.11% (Table 21). To be specific, the ratios of insiders are in a descending order of 16.05% of party secretary, 36.78% of provincial governors, 37.92% of deputy secretaries and 47.99% of vice governors. As compared to the 1949-1998 provincial elites (Bo, 2002: 45), the total proportion of native leaders from 1990 to 2013 rises by 6.01%. The increasing tendency also occurs for the 1990-2013 provincial leaders of deputy titles, namely, deputy party secretaries and vice governors. Nevertheless, the reverse is true for the 1990-2013 party secretaries and provincial governors.

Table 21 Native Provincial Leaders in China, 1990-2013

Title	Obs.	Native	Percent
Party Secretary	891	143	16.05
Governor	908	334	36.78
Deputy Secretary	2869	1088	37.92
Vice Governor	5145	2469	47.99
Total	9813	4034	41.11

Source: Author's database.

From a longitudinal perspective, Figure 9 sketches the ups and downs of the proportion of native leaders over time. From 1990 to 2001, there was a slight fluctuation between 40.91% and 44.11%. The insider ratio dipped sharply to the

lower point of 36.96% in 2002 and significantly rose to 41.80% in 2003. After 2003, the proportion of native leaders exhibited a fluctuating trend between 40.09% and 42.42%. It then dropped again to 39.83% in 2009, reached to the bottom of 36.15% in 2010, and slowly recovered to 39.91% in 2013. On the contrary, the historical change in the ratio of native leaders was more evident for the 1949-1998 provincial leaders. The turning point was in 1968 (Bo, 2002: 45-47). It declined slowly by approximately 20% before 1968 and hit the lowest point around 10% in 1968. After 1968, it increased modestly to around 45%.

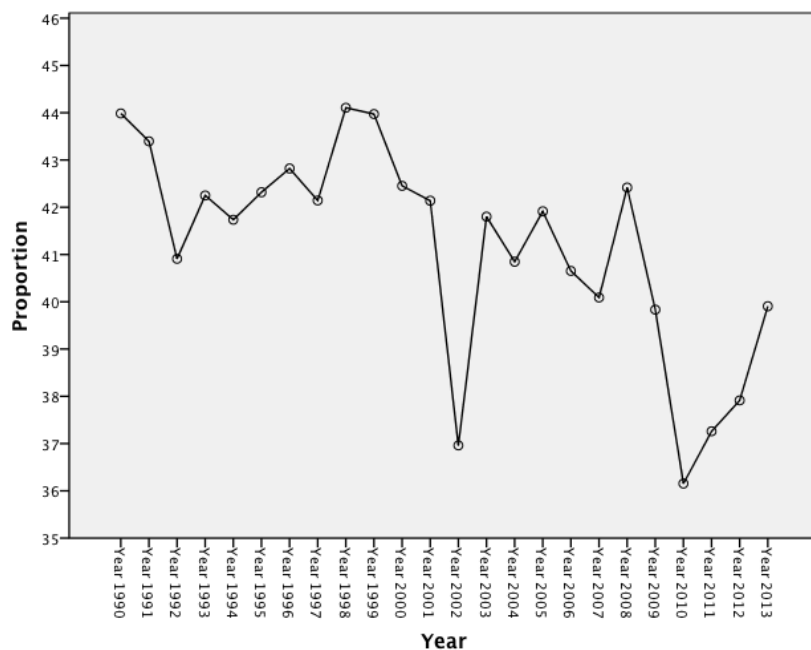


Figure 9 Native Provincial Leaders in China, 1990-2013

What ultimately leads to the historical changes in native provincial leaders? The possible answer is basically rooted in the CCP's history and institutional transformation of cadre management. In principle, CCP adheres to party control over leadership selection and appointment (dang guan ganbu, 党管干部) (Heilmann & Kirchberger, 2000: 1). In early years of the P.R.C., regional variations in cultures and socioeconomic status as well as local factions raised heavy challenges for CCP to implement central policies. Accordingly, native provincial leaders were largely revolutionary veterans serving in home provinces for years or coming from local guerrilla forces prior to 1949 (Bo, 2002: 45). They were politically reliable and extensively familiar with local conditions. They accumulated durable and resource-

rich social networks in their localities. As a result, the proportion of local leaders remained high during that period. With the passage of time, native leaders were undoubtedly regarded as major threats of central authorities. In the course of the CR, the sharp decline in the number of insiders could be explained by purges of incumbents in decade-long campaigns.

In the late 1970s, a large number of rehabilitated cadres returned to power. It brought about the resurgence of native leaders on one hand, and directly led to the overburden of Organization Department of the CCP Central Committee (below in short: Central Organization Department)⁵³. As a prominent agency for cadre management, the CCP and Central Organization Department used to be responsible for provincial/ministerial- and bureau/director-level cadres under the two-level-down personnel system (xiaguan liangji, 下管两级) (Wang, 2012: 95). There was an excessively large number of centrally controlled cadres. From the outset of economic reforms, the CCP strove to promote local initiatives and embarked on decentralization of personnel reforms by introducing the one-level-down system (xiaguan yiji, 下管一级) (Burns, 1994; Manion, 1985: 218, 233). That is, the CCP and Central Organization Department took charge of the ministerial-level cadres and a number of key leadership positions only. In this way, local parties were granted greater discretions in nominating, screening, appointing, training and evaluating cadres. Consequently, the decentralized cadre management system induced a massive growth of native leaders. It could be argued that the rise in natives possibly triggers localist deviations and erosions of the CCP center's power and authority (Bo, 2002: 7-9).

⁵³ According to Provisions on Reforming Cadre Management System (guanyu gaige ganbu guanli tizhi wenti de guiding, 关于改革干部管理体制问题的规定), centrally controlled cadres include ministers and vice ministers in central governments and related departments, standing committee members of the provincial CCP, Provincial Commission for Discipline Inspection, provincial governors and vice governors, director and deputy director of PPC and Provincial PPCC, chief judge of Provincial SPC, chief procurator of Provincial SPP, mayors and vice mayors of major cities. Besides, it also subsumes a small number of leaders from key enterprises, public institutions and influential universities. It was reported that the number of centrally controlled cadres declined from over 13,000 to about 7,000 (Chung, 2001: 59-60).

In 1990, in order to reinforce central control, the CCP initiated the recentralization of cadre appointment and management (Chung, 2001: 60). The centrally controlled cadres were extended to party secretaries and mayors from “central economic cities” (jihua danlie shi, 计划单列市)⁵⁴. Since the 1990s, the CCP has vigorously institutionalized cadres’ exchange and avoidance systems.⁵⁵ The basic purpose of this practice is twofold. On one hand, political elites take the form of job shifts to enhance professional administrative expertise and acquire diverse work experience. This is an effective way for the CCP to select and train future political leaders as both generalists and specialists. On the other hand, more conspicuously, there exists a high degree of corruption for local leaders from a dense spider web of social connections in home provinces. As a typical example, after the 18th NPC, 52 cadres at the vice-provincial/ministerial-level or above were investigated in the anti-graft campaign until October 2014⁵⁶. Among them, 23 were retained in home provinces

⁵⁴ According to the Provisions on Central Organization Department’s Revising the Hierarchical List of Centrally Controlled Cadres (zhonggong zuzhibu guanyu xiuding ‘zhonggong zhongyang guanli de ganbu zhiwu mingchengbiao’ de tongzhi, 中共组织部关于修订《中共中央管理的干部职务名称表》的通知), central economic cities refer to Shenyang, Dalian, Changchun, Harbin, Xi’an, Chengdu, Chongqing, Qingdao, Nanjing, Ningbo, Xiamen, Wuhan, Guangzhou and Shenzhen.

⁵⁵ CCP promulgated the following regulations to promote cadres’ exchanges and avoidance systems: CCP’s Decisions on Exchange Systems for Party and State Leading Cadres (zhonggong zhongyang guanyu shixing dang he guojia jiguan lingdao ganbu jiaoliu zhidu de jue ding, 中共中央关于实行党和国家机关领导干部交流制度的决定) (1990), Interim Provisions on Exchange Work for Party and State Leading Cadres (dangzheng lingdao ganbu jiaoliu gongzuo zanxing guiding, 党政领导干部交流工作暂行规定) (1999), Interim Provisions on Avoidance System for Party and State Leading Cadres (dangzheng lingdao ganbu renzhi huibi zanxing guiding, 党政领导干部任职回避暂行规定) (2006), Provisions on Exchange Systems for Party and State Leading Cadres (dangzheng lingdao ganbu jiaoliu gongzuo guiding, 党政领导干部交流工作规定) (2006), Development Program on Promoting Cadres’ Personnel Reforms, 2010-2020 (2010-2020 shenhua ganbu renzhi zhidu gaige guihua gangyao, 2010-2020 深化干部任职制度改革规划纲要) (2009).

⁵⁶ The data for 52 corrupt senior cadres were drawn from the official website of CCDI (<http://www.ccdi.gov.cn/ajcc>). These cadres were largely investigated and exposed for bribery and corruption after the 18th NPC, that is, from December 2012 to October 2014. 23 leaders serving in home provinces throughout their careers include Wu Yongwen (吴永文) (Hubei), Liu Tienan (刘铁男) (Beijing), Wang Suyi (王素毅)

across their career course (44.23%). 14 had worked in their birthplaces for a period of time (26.92%). Altogether, 71.15% of corrupt senior cadres acquired work experience in native provinces. For instance, Bai Enpei (白恩培), former party secretary of Qinghai and Yunnan, steered his career to become a high-profile political leader after working in his birthplace of Shaanxi for 20 years. Another notable example was Jiang Jiemin (蒋洁敏), former deputy party secretary and vice governor in Qinghai. Jiang was born in Shandong and started working in the petroleum industry there from 1972 to 1994. For the purpose of anti-corruption, it implicitly assumes that regular transfers for provincial leaders and the relatively higher share of outsiders viably suppress patronage, nepotism and factionalism through kinships and social ties. As a consequence, during the period of 1990-2013, 62.62% of provincial leaders experienced occupational transitions across provinces⁵⁷. The rapid upward trend of the native ratio in the aftermath of the CR was eventually handicapped with a drop to 40.91% in 1992(Figure 9). As noted earlier, after 1990, the ratio of insiders over outsiders largely stabilized with a minor fluctuation for provincial leaders.

(Inner Mongolia), Li Daqiu (李达球) (Guangxi), Ji Jianye (季建业) (Jiangsu), Chen Bohuai (陈柏槐) (Hubei), Guo Youming (郭有明) (Hubei), Tong Mingqian (童名谦) (Hunan), Li Chongxi (李崇禧) (Sichuan), Shen Peiping (沈培平) (Yunnan), Yao Mugen (姚木根) (Jiangxi), Yang Baohua (阳宝华) (Hunan), Du Shanxue (杜善学) (Jiangxi), Ling Zhengce (令政策) (Shanxi), Wan Qingliang (万庆良) (Guangdong), Zhang Tianxin (张田欣) (Yunnan), Han Xiancong (韩先聪) (Anhui), Wu Changshun (武长顺) (Tianjin), Chen Tiexin (陈铁新) (Liaoning), Chen Chuanping (陈川平) (Shanxi), Nie Chunyu (聂春玉) (Shanxi), Bai Yun (白云) (Shanxi) and Ren Runhou (任润厚) (Shanxi). 13 leaders with work experience in birthplaces are Yi Junqing (衣俊卿), Guo Yongxiang (郭永祥), Wang Yongchun (王永春), Jiang Jiemin (蒋洁敏), Chen Anzhong (陈安众), Zhu Zuoli (祝作利), Jin Daoming (金道铭), Shen Weichen (申维辰), Tan Qiwei (谭栖伟), Su Rong (苏荣), Bai Enpei (白恩培), Sun Zhaoxue (孙兆学), Pan Yiyang (潘逸阳) and Qin Yuhai (秦玉海).

⁵⁷ This calculation is based on 1,260 provincial leaders from 1990 to 2013. Out of 1,260 provincial leaders, 471 worked in one province (37.38%). 426 worked in two provinces (33.81%) and 254 in three provinces (20.16%). 83 served in four provinces (6.59%), 22 in five provinces (1.75%) and four in six provinces (0.32%). Chapter 3 has already formulated the distribution of provincial leaders with occupational transitions by leadership title.

Underlying the slightly fluctuating pattern of native leaders, a disparate picture emerges by comparing party and government leaders (Figure 10). There was a widening gap in the proportion of native leaders between these two leadership groups. Native government leaders outnumbered native party leaders in proportion from 1990 to 2013. The former group stayed between the levels of 40.74% and 49.61%, whereas the latter exhibited a downward trend from 43.51% in 1990 to 16.67% in 2013. To look more closely at native leaders by title, Figure 11 shows a decline in the ratios of insiders for party secretaries, provincial governors and deputy party secretaries. Strikingly, the proportion of native party secretaries decreased markedly from 34.38% in 1990 to 2.70% in 2011. The notable exception was the share of native vice governors. It remained as high as over 45% for 17 years from 1997 to 2013. The above findings provide strong evidence for the tightening central control over the native ratios for provincial leaders of full titles or party leaders.

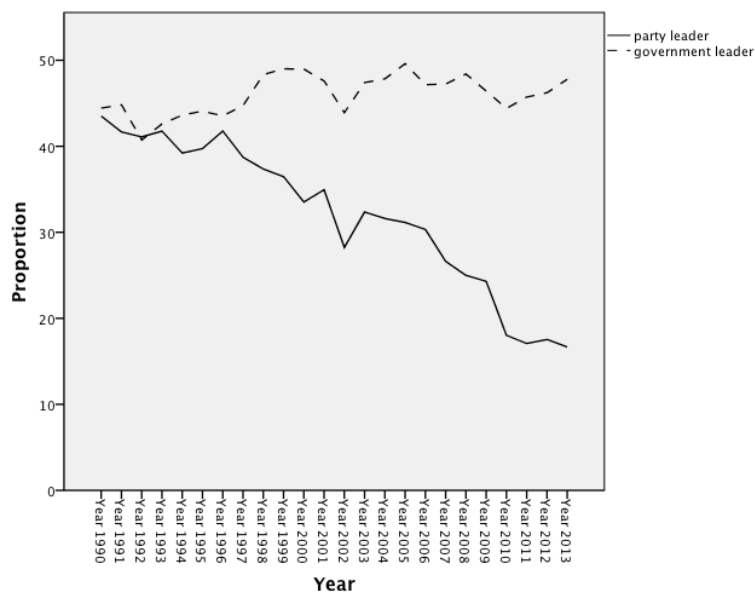


Figure 10 Native Provincial Leaders in China by Type, 1990-2013

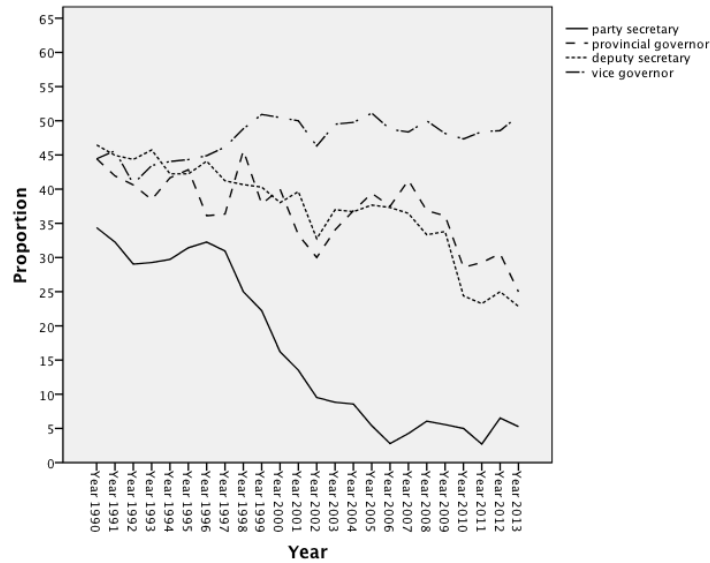


Figure 11 Native Provincial Leaders in China by Title, 1990-2013

After comparing native leaders by leadership types and titles, a fascinating question arises: is there any variation in the share of native leaders across 31 provinces? Table 22 demonstrates the interprovincial variations in ratios of insiders. Shandong has the highest proportion of native leaders, approximately 81.22%. To a lesser extent, the insider ratios are 67.14% for Guangdong, 66.37% for Jiangsu and 59.35% for Zhejiang. Interestingly, the above-mentioned provinces were all highly ranked with regard to the total Gross Domestic Product (GDP) in 2013. Besides, the native ratios in five ethnic autonomous regions amount to 51.32% for Tibet, 48.10% for Xinjiang, 35.82% for Inner Mongolia, 33.33% for Ningxia and 30.93% for Guangxi. It could be preliminarily inferred from the above findings that CCP recruits more local political elites for either economic stability or political stability. In sharp contrast, Tianjin, Shanghai, Gansu and Beijing hold as small native ratios as 18.10%, 13.68%, 11.42% and 11.23%, respectively. Although the centralization or decentralization of cadre management uniformly applies to 31 provinces, distinctive regional variations in local leadership selection are still definite and discernible all over China.

Table 22 Native Provincial Leaders in China by Province, 1990-2013

Province	Obs.	Native	Percent
Anhui	297	102	34.34
Beijing	276	31	11.23
Chongqing	262	94	35.88
Fujian	258	151	58.53

Gansu	324	37	11.42
Guangdong	350	235	67.14
Guangxi	353	138	39.09
Guizhou	331	134	40.48
Hainan	299	75	25.08
Hebei	317	127	40.06
Henan	281	107	38.08
Heilongjiang	332	75	22.59
Hubei	301	134	44.52
Hunan	338	165	48.82
Jiangsu	342	227	66.37
Jiangxi	252	97	38.49
Jilin	239	76	31.80
Liaoning	334	97	38.49
Inner Mongolia	358	123	34.36
Ningxia	214	71	33.18
Qinghai	318	70	22.01
Shaanxi	285	99	34.74
Shandong	362	294	81.22
Shanghai	329	45	13.68
Shanxi	309	157	50.81
Sichuan	362	180	49.72
Tianjin	337	61	18.10
Xinjiang	368	177	48.10
Tibet	530	272	51.32
Yunnan	309	159	51.46
Zhejiang	246	146	59.35
Total	9813	4034	41.11

Source: Author's database.

In summary, as a whole, the average proportion of the 1990-2013 native provincial leaders is 41.11%. It is a little higher than the native share of 35.10% from 1949 to 1998. Since the 1990s, the institutionalization of cadres' exchanges and avoidance principles has contributed to a sustained decline in the native ratios of party secretaries, provincial governors and deputy party secretaries. Party secretaries are, in particular, overwhelmingly dominated by outsiders. By comparison, the proportion of native vice governors remained somewhat steady. Additionally, the rates of native leaders differ remarkably by province. There is no convincing or

strong evidence of localism by simply analyzing the insider-outsider ratio⁵⁸ (Bo, 2002: 47). It is instead reasonable to conclude here with the CCP's emphasis on job transfers and political mobility for provincial leaders.

4.5 Party Membership

The absolute dominance of CCP members in provincial leadership corresponds to the CCP's long-lasting emphasis on political loyalties and ideological commitment. To look at the 1949-1998 provincial leaders, the proportion of non-CCP members is 6.15% (Bo, 2002: 42). From 1949 to 1998, the political opportunities for non-communists existed in either provincial governors or vice governors. As for 1990-2013 provincial leaders, the only exception is provincial vice governors who have non-communists. Out of 9,721 individual-year observations with known party membership, non-communist vice governors take 5.77% of provincial leaders. In terms of ages, non-CCP members are older and more variable than CCP members for both the 1949-1998 and the 1990-2013 vice governors (Table 23). For the 1990-2013 vice governors, the ages for communists and non-communists are differentiated from each other to a lesser degree. Specifically, the difference in the average age between 1990 and 2013 is less than one year, while it is 9.5 years for the 1949-1998 vice governors (Bo, 2002: 42). The standard deviation for age is 4.38 years for communist vice governors and 4.98 for non-communists during the period of 1990-2013. However, the difference in standard deviations for age is 3.84 years for the 1949-1998 vice governors (11.14 versus 7.30) (Bo, 2002: 41). To sum up, non-communists are less likely to hold office of provincial chiefs from 1990 to 2013. The contrast in age is reduced between communist and non-communist vice governors.

Table 23 Ages of Communist and Non-Communist Provincial Vice Governors in China, 1990-2013

	Obs.	Mean	Stad. Dev.	Min	Max
CCP	4492	53.61	4.38	36	64

⁵⁸ For a systematic analysis of this view, see Zhiyue Bo, *Chinese Provincial Leaders: Economic Performance and Political Mobility Since 1949* (New York & London: M.E. Sharpe, 2002).

Non-CCP	561	54.31	4.98	40	70
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Source: Author's database.

By considering the historical trends, Figure 12 illustrates the proportion of non-communist leaders across the period of 1990 to 2013. The rise and fall of non-communist provincial elites were greatest after 1997. With narrow fluctuations, the non-communist ratio generally increased by simply comparing the values at the year of government leadership reshuffles. That is to say, non-communists provided 3.79 in 1993, 4.73% in 1998, 7.65% in 2003, and 8.57% in both 2008 and 2013. In this regard, non-communist provincial leaders from 1990 to 2013 roughly showed a slow upward-mobility pattern.

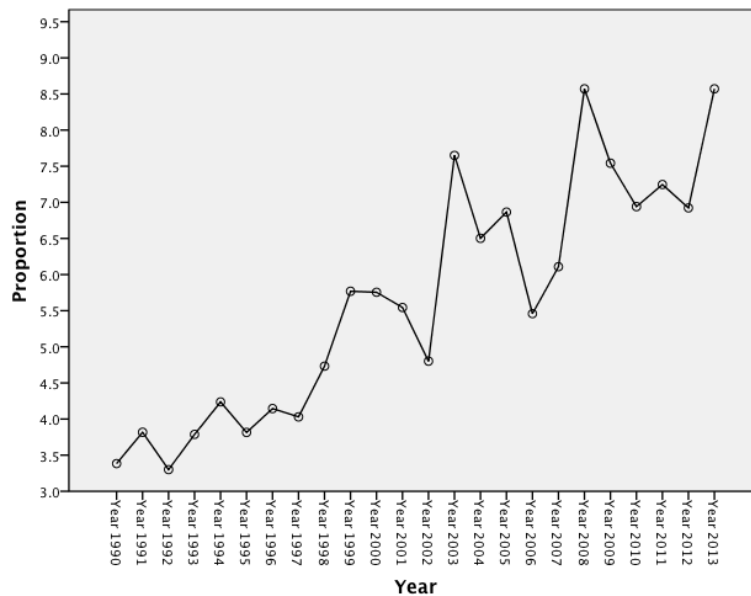


Figure 12 Non-Communist Provincial Leaders in China, 1990-2013

Given a limited pool of non-communist provincial leaders, the following analysis turns to the cross-sectional data of 1,891 Chinese provincial leaders and primarily focuses on a total of 92 provincial vice governors without CCP memberships. Table 24 describes the distribution of 1990-2013 provincial leaders by party. The largest number of non-communist leaders is 17, from either Jiusan Society or China Democratic National Construction Association. All of the non-communists assumed the leadership position of vice governor in a single province. 51 out of 92 non-communists stayed working in the provincial governorship for a term of office or

even less than five years (55.43%). Gyibug Puncog Cedain (吉普•平措次登), former vice chairman of Tibet, had the longest tenure of 17 years from 1983 to 2000. He was an independent without joining any political party. Another two non-communist vice governors with seniority of over ten years are Li Lanfang (李兰芳) in Guangdong and Xie Lijuan (谢丽娟) in Shanghai. From 1990 to 2013, the highest hierarchical rank for non-communists is the vice-state level. Among 92 non-communist vice governors, twelve leaders successfully sat at the apex of the national leadership (13.04%). Ten of them took up the office of vice chairman of CPPCC and only two served as vice chairman of the NPC Standing Committee.

Table 24 Distribution of Chinese Provincial Leaders by Party, 1990-2013

Parties	Obs.	Percent
1. No Party	12	0.63
2. CCP	1799	95.13
3. Jiusan Society	17	0.90
4. China Democratic League	14	0.74
5. China Democratic National Construction Association	17	0.90
6. Chinese Peasants' and Workers' Democratic Party	9	0.48
7. China Association for Promoting Democracy	8	0.42
8. Zhigongdang of China	7	0.37
9. Revolutionary Committee of the Kuomintang	5	0.26
10. Taiwan Democratic Self-Government League	3	0.16
Total	1891	99.99

Source: Author's database.

In terms of formal educational attainment, three aspects should be highlighted. First, non-communist vice governors were predominately college graduates, approximately 92.39% (85 out of 92). 16 were awarded doctoral degrees. 11 received their diplomas of M.A. or Ph.D. from overseas education⁵⁹. For example, current vice governor of Hubei, Guo Shenglian (郭生练) graduated from Department

⁵⁹ For those with overseas education, Guo Shenglian (郭生练) received a master's degree and a doctorate in Ireland. Cao Xiaohong (曹小红) and Ma Peihua (马培华) studied in Japan. Jiang Xinzhen (姜信真) received undergraduate study in Soviet Union. Huang Ribao (黄日波) obtained his Ph.D. degree in United Kingdom and Zhang Taolin (张桃林) in West Germany. Five leaders preferred United States for further study including Cao Weixing (曹卫星), Chen Zhangliang (陈章良), Gu Shengzu (辜胜阻), Liu Shuying (刘淑莹) and Lu Debin (吕德彬).

of Engineering Hydrology, National University of Ireland for both M.A. and Ph.D. degrees. Chen Zhanglians (陈章良), former vice chairman of Guangxi, obtained a doctoral degree of plant genetic engineering and molecular biology from University of Washington in 1987. Second, 64 provincial leaders in question preferred to upgrade educational degrees after their entry into the labor force (69.57%). 31 non-communists temporarily discontinued their careers and returned to school. It is potentially due to their academic careers in universities where educational achievement was rewarded in occupational progress. Third, regarding academic majors of higher education, natural science and engineering is far more popular than humanities and social science. 70 out of 85 college-educated non-communists studied physics, chemistry, biology, agriculture, medicine and the like (82.35%)⁶⁰.

With respect to career patterns of non-communist vice governors under study, it is interesting to note that, one of the most spectacular careers for non-communist vice governors is academics. Particularly, 20 non-communists followed career paths from presidents of universities to politics and government administration⁶¹. For instance,

⁶⁰ Distributions of 1990-2013 non-communist vice governors by academic majors are: Seven vice governors majored in economic/finance, two in law, one in education, five in literature, 22 in natural sciences (including physics, mathematics, chemistry and biology), 29 in engineering, twelve in agriculture and seven in medicine.

⁶¹ Specific examples include Cai Qiufang (蔡秋芳) from Laiyang Agricultural College of Shandong, Cao Weixing (曹卫星) from Nanjing Agricultural University, Cao Xiaohong (曹小红) from Tianjin University of Science and Technology, Chen Guizun (陈葵尊) from Jiangxi Institute of Metallurgy, Chen Zhangliang (陈章良) from Peking University and China Agricultural University, Chen Zongxing (陈宗兴) from Northwestern University and Northwest A & F University, Du Yijin (杜宜瑾) from Anhui Normal University and Anhui University, Gao Feng (高峰), Kunming University of Science and Technology and Dali University, Hao Yuan (郝远) from Gansu Polytechnic University, Hu Zhenpeng (胡振鹏) from Jiangxi Polytechnic University and Nanchang University, Jin Zhongqing (金忠青), from Hehai University, Liu Hongxiu (刘鸿庥) from Guizhou Normal University, Lu Debin (吕德彬) from Henan Agricultural University, Teng Weiping (滕卫平) from China Medical University, Wang Zuoshu (王佐书) from Harbin Normal University, Xie Guangxiang (谢广祥) from Huainan Polytechnic University, Xie Qingsheng (谢庆生) from Guizhou Polytechnic University, Zhang Daohong (张道宏) from National Southwestern Associated University and Xi'an University of Arts and Science, Zhang Shaoqin (张少琴) from

Chen Zhangliang (陈章良) was vice-president of Peking University and president of China Agricultural University before working as vice chairman of Guangxi. Zhuang Gonghui (庄公惠), former vice mayor of Tianjin, was vice-president of Tianjin University. Teng Weiping is currently working as vice chairman of provincial CPPCC of Liaoning. He was former president of China Medical University and is also renowned for his expertise in medicine. The second characteristic for career patterns is CPPCC as one of the major avenues for career transitions and advancement. Empirically, twelve non-communists experienced a straightforward job shift from vice chairman of provincial CPPCC to vice governor (13.04%). The typical examples include Cao Weixing (曹卫星) (Jiangsu), Cao Xiaohong (曹小红) (Tianjin), Feng Jionghua (冯迥华) (Ningxia), Guo Shenglian (郭生练) (Hubei), He Baoxiang (何报翔) (Hunan), He Min (贺旻) (Liaoning), Huang Ribo (黄日波) (Guangxi), Gyibug Puncog Cedain (吉普·平措次登) (Tibet), Sun Anmin (孙安民) (Beijing), Sun Dongsheng (孙东生) (Heilongjiang), Wang Lu (王路) (Hainan) and Wang Wenyuan (王文元) (Liaoning). On the other hand, national or provincial CPPCC was an occupational destination for 30 non-communists after their serving as vice governors (32.61%). Notable is He Luli (何鲁丽), former vice chairman of CPPCC from 1996 to 1998 and vice chairman of NPC from 1998 to 2008.

In summary, non-communists were merely allocated to the elite status of provincial vice governor during the period of 1990 to 2013. The proportion of non-communists remained at a rather low level of the total provincial leaders. They were largely well educated. Their occupational trajectories generally commenced in the professional career line. The typical career pathways were from CPPCC to provincial governorship or vice versa.

4.6 Conclusion and Discussion

Taiyuan University of Science and Technology, and Zhuang Gonghui (庄公惠) from Tianjin University.

This chapter has explicated the continuity and changes in demographic backgrounds for provincial leaders from 1990 to 2013. The extraordinary strength of this chapter is to longitudinally trace historical trends and to compare the 1990-2013 leadership profile with that of 1949-1998. In terms of continuity in elite selection, for example, it is plausible to regard Chinese provincial leadership by and large as Han-dominated, male-dominated, Communist-dominated and outsider-dominated since 1990. Moreover, provincial leadership from 1990 to 2013 was characterized by the stability in average age structures and coalitions of different birth cohorts. There was little difference in the proportion of both minority and native government leaders. In contrast, major historical changes include a slow growth in the ratios of both female and non-Communist provincial leaders as well as a dramatic decline in both native and minority party leaders. By comparing with Bo's empirical study of the 1949-1998 provincial elites, as a whole, there were greater proportions of female leaders, ethnicity minority leaders, native leaders and non-Communist leaders from 1990 to 2013.

The overall quantitative assessment of provincial leadership transformation in reforming China has profound implications. Chinese provincial politics is moving towards the institutionalization of power succession, which will be stressed below. Political selection of provincial chiefs is far from gender and ethnic equality. Given the predominance of CCP-members in provincial politics, political credentials and party loyalty, for the most part, substantially matter in the race for promotion. In terms of the historical changes in the proportion of native leaders, it is still an open question whether or not there is a localist tendency in Chinese provincial politics.

After analyzing the relative provincial leadership stability and transformation, the next issue to consider is why. That is to ask, how is provincial leadership selection structured behind the above empirical observations? In Bo's study (2002), the striking changes in leadership attributes are inevitably and closely related to three decisive turning points in the Chinese history, namely the founding of the P.R.C., the outbreak of the CR and the introduction of economic reforms. Disparate from the massively turbulent episode, the post-1990s China is essentially marked by party-led

institutionalization. Consequently, this chapter has tentatively answered the above question within the larger framework of institutionalization of leadership selection in China. For instance, in Section 4.1, the analysis of age structures is grounded in the institutional foundations of age limit, term limit, term integrity and step-by-step promotion. In Section 4.4, the systems of cadres' exchange and avoidance essentially functions as a hindrance to the rapid expansion of native leaders.

Based on the compelling empirical findings, this chapter will close by discussing an intriguing theme in Chinese provincial politics--the rise of the CR generation⁶². This leadership group has risen to power and played a crucial role in decision making in the upper echelons in current China. The study of the CR generation provides a vivid example for understanding how socioeconomic and macropolitical transformation shapes life chances of political elites and the changing nature of leadership cohorts (Li, 2000: 8-9). It is generally believed that political activists or those becoming CCP members during the CR should be largely eliminated from fierce mobility competitions for the reason of political suspicion. The fact is, however, those joining the CCP during the CR—for example, Xi Jinping (习近平), Li Keqiang (李克强), Zhang Gaoli (张高丽), Zhang Dejiang (张德江) and Liu Yunshan (刘云山)--has become the backbone of Chinese provincial leadership from 2002 onward. They account for 54% of the total of provincial leaders (Figure 13). Despite a decline from 60.22% in 2006 to 32.86% in 2013 as a whole, the CR generation has still retained over 55% of provincial party leadership positions since 2002 (Figure 14).

⁶² Xiaowei Zang and Rongrong Lin discuss the rise of the CR generation in their unpublished paper by comparing the leadership continuity and changes in 1988 and 2011. They observe the resilience of this cohort. It is at odds with the general conviction that political elites joining the CCP during the CR are politically unreliable. However, as defined by Cheng Li (2001: 10), the CR generation is 'the one born between 1941 and 1956, making them ten to twenty-five years of age when the CR began in 1966 and forty-four to fifty-nine in 2000.' Despite the conceptual distinction, provincial leaders born between 1941 and 1956 constitute 91.59% of the CR generation under examination in this chapter.

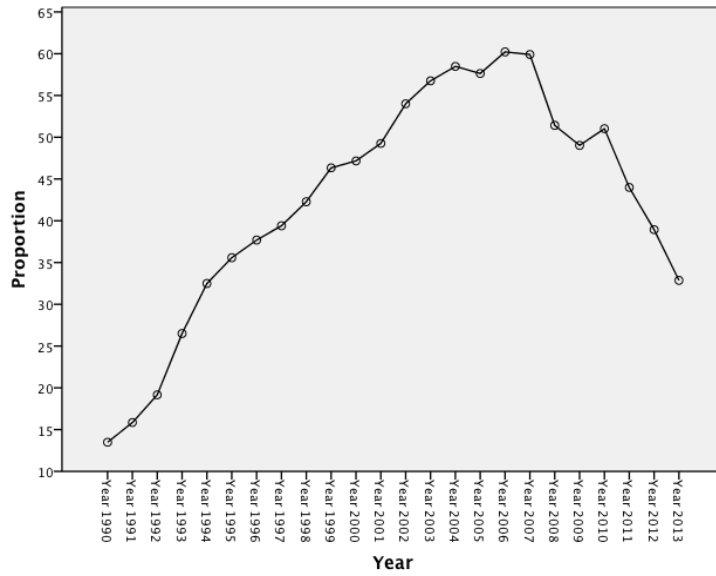


Figure 13 Cultural Revolution Generation in China, 1990-2013

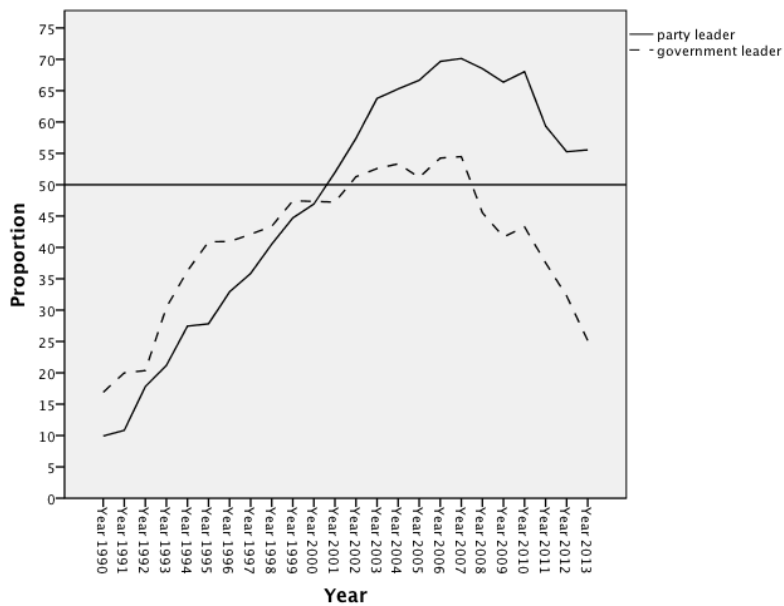


Figure 14 CR Generation in China by Type, 1990-2013

The CR generation is highly homogeneous in demographic backgrounds and life journeys. They were overwhelmingly born in the 1940s and 1950s, approximately 96.4% (Table 25). 36.02% of them came from the coastal provinces of Shandong, Jiangsu, Hebei and Zhejiang. They became CCP members from 1966 to 1976, particularly in the second half of the CR. A large number of them started working in party systems or government bureaucracies during the CR (43.24%). What stands

out in their career trajectories is party work and government administration. To a lesser extent, secretarial work is also one of their major career patterns (54.57%).

Compared with the other provincial leaders, the CR generation produced a lower proportion of college graduates (75.36% versus 60.18%). For college graduates, 52.16% entered universities prior to the CR from 1960 to 1965 and 12.52% in 1978, one year after the reopening of universities. To improve educational levels, the CR generation tended to prefer part-time continuing education (61.17%), particularly from party schools. In terms of occupational positions, they were more likely to work in CCYL or take up grass-root leadership positions at the township level.

Given the homogeneity, how can the rise of the CR generation be explained? Firstly, as early as 1981, Chen Yun, one of the paramount revolutionary elders and policy makers, stressed the significance of recruiting younger cadres, in particular those in their 40s or even younger⁶³. Although controversial, Chen further explained that this cohort witnessed how the CR was launched and promoted in China. They possibly participated in the widespread campaigns and thus understood how the younger generation responded to the CR. The emergence of the CR generation is at least partially the result of leadership rejuvenation in the 1980s. They constructed a specific pool of eligible candidates for younger elite recruitment at that time. Secondly, it comes as no surprise to present that party work and government administration have been long emphasized in leadership selection. The grass-root work experience is growing in importance. More importantly, work experience in CCYL confers the persistence of age advantages in elite mobility. In this regard, such career experience yields positive returns of occupational achievement for the CR generation. Finally, the CR generation has virtually benefited from the secretarial work experience in developing interpersonal skills and network contacts with higher-ranked leaders. The accumulation of social capital contributes favorably to the upward mobility of the CR generation, which will be empirically tested in Chapter 8.

⁶³ See *Chen Yun wenxuan, disanjuan* [Selected Works of Chen Yun, vol. 3, 陈云文选第三卷] (Beijing: Remin chubanshe, 1995)

Table 25 Comparative Data for the CR Generation and non-CR Leadership Group in China, 1990-2013

	CR Generation	Others
% Of 1990-2013 provincial leaders	44.21	55.79
Birth year		
% Born in the 1940s	52.45	37.00
% Born in the 1950s	43.95	24.11
Birth place		
% Born in Shandong, Jiangsu, Hebei and Zhejiang	36.02	33.17
Education		
% College Education or above (formal education)	60.18	75.36
Year of university entrance		
% From 1960 to 1965	52.16	31.48
% In 1978	12.52	15.85
% Part-time continuing education	61.17	36.38
% Receiving educational degrees from party school	39.36	16.95
Work experience		
% Party work	99.63	97.53
% Government administration	91.52	93.79
% Secretarial Work	54.57	49.44
% CCYL	42.89	21.21
% Grass-root leadership	16.46	6.98
Year of entering public service		
% During the CR	43.24	15.18

Source: Author's database.

This chapter has taken a close look at the demographic characteristics of Chinese provincial leaders from 1990 to 2013. After articulating who they are, Chapter 5 and Chapter 6 will proceed to investigate human capital and social capital for provincial leaders, respectively.

Chapter 5 Human Capital of Chinese Provincial Leaders

After answering who are Chinese provincial leaders, this chapter will provide a telling account of their human capital by adequately formulating educational levels, academic majors and work experience. To this end, this chapter firstly distinguishes formal education from final education. The former refers to the full-time education in the regular educational system and the latter focuses on the final degrees, taking account of the on-the-job education. The fundamental reason for this distinction is the part-time education as mainstream in Chinese politics and more importantly, the suspicion of its quality, which will be explained in Section 5.1.1. The hallmark of the educational analysis in this chapter is to look beyond the formal or the final educational degrees only. Instead, it devotes considerable attention to the detailed educational histories of Chinese provincial leaders from 1990 to 2013. Section 5.1.2 and 5.1.3 provide a quantitative two-time point assessment of education for Chinese provincial leaders in terms of both educational levels and academic majors. It asks interesting questions: What are formal and final educational backgrounds of Chinese provincial leaders? To what extent does formal educational attainment differ from final education for Chinese provincial elites? How has the proportion of college-educated leaders changed over time? In what way has the percentage of political leaders trained in science and engineering evolved in Chinese provincial politics? After answering these questions, Section 5.1.2 and 5.1.3 extend the descriptive analysis and relates the educational landscapes of Chinese political elites to the Chinese educational reforms, such as two waves of educational expansions in the 1950s and the late 1970s along with the 1952 educational restructuring. In this way, Section 5.1 makes causal inferences underpinning the empirical evolution of provincial leaders' educational achievement.

Section 5.2 performs a dynamic analysis of educational trajectories for Chinese provincial leaders. The focus of the dynamic analysis is on the event of educational advancement, including both the changes in educational levels and academic majors. The main interest here is the education-changing events after working in the labor

force and the regular educational advancement to a master's degree or a doctorate. In such longitudinal study, education is considered as a time-varying variable. Fascinating questions arise. For example, at what age, at what career stages and at what administrative rank did Chinese provincial leaders improve their educational levels? At what age was specialty of humanities and social sciences more favored by Chinese provincial leaders in attaining higher education? Did this group of political elites change academic majors in educational progression?

Human capital comprises both education and work experience in this thesis. Alongside the educational analysis in Section 5.1 and 5.2, Section 5.3 briefly introduces the average public service tenure of Chinese provincial leaders from 1990 to 2013. The declining trend of public service seniority before 2000 is noticeable. It is basically attributed to recruiting elites with lengthy work experience in the SOEs. That is to say, given a similar total amount of work experience, the longer tenure in the SOEs, the shorter seniority in public service.

After formulating human capital of Chinese provincial leaders, Section 5.4 undertakes a brief theoretical review of technocracy and political technocracy. Based on literature review, it turns to discuss if the technocratic leadership emerges in provincial politics. By analyzing the specialty and career patterns of the 1990-2013 provincial leaders, this section quantitatively evaluates the proportion of technocrats and career bureaucrats. It is argued that bureaucrats, rather than technocrats, conspicuously sit at the apex of the provincial power hierarchy.

5.1 Education: Two Time-Point Assessment

This section begins by asking a basic question: why is it necessary to differentiate formal education and final education? The answers to this question point to the growing interest in educational advancement through part-time education on one hand and the suspicion of the quality of part-time educational attainment on the other. In terms of educational advancement, Section 5.1.1 firstly explains the

underlying stimuli for improving educational credentials in Chinese politics. Three aspects are stressed: (1) Education as a norm of meritocracy for political upward mobility; (2) education as an effective way of developing resource-rich social connections; and (3) education as a major gateway to establish politics-education alliance. With the increasing educational levels via part-time study, Section 5.1.1 secondly goes even further in discussing the quality of part-time educational upgrading. The suspicion of part-time education is encouraged by fake diplomas and the discrepancy between educational levels and relatively deficient academic training for Chinese political elites.

On this basis, Section 5.1.2 and 5.1.3 will articulate the highest educational levels and the corresponding academic majors at two time points of obtaining formal and final education. The comparative and longitudinal study of formal and final education is conducted. Regarding formal educational attainment, Section 5.1.2 highlights the upward trends of college-educated leaders during the period of 1990-1999 and 2011-2013. The plausible explanation for this finding lies in two waves of educational expansions in the mid-1950s and the late 1970s in Chinese educational histories. As for the highest degree in final education, the persistent increase of college-educated provincial leaders is observable. The interpretation of this empirical finding is oriented toward the answer to why educational advancement prevails in Section 5.1.1. With regard to the fields of specialization, provincial leaders trained in science and engineering were well represented from 1990 to 2005 in formal education and from 1990 to 1999 in final education. The former results from the nationwide educational restructuring in 1952. The latter is contingent upon the growth of part-time education (particularly through party-school training systems) and the advantages of humanities and social sciences for cadre elites in Chinese politics.

5.1.1 Why Differentiate Formal and Final Education?

First of all, Chinese political leaders during the period of 1990-2013 are strongly motivated in raising educational credentials. For 1,260 provincial leaders in question, 828 obtained higher educational degrees after entering the labor force (65.71%). Among them, 627 received part-time education after starting their careers. By linking the timing of educational attainment to political or administrative careers, 578 provincial leaders returned to school after working in public service (45.87%). It is important to highlight that only 44 provincial leaders temporarily discontinued their political careers and attained full-time study in the regular educational system. Thus, educational trajectories for Chinese provincial leaders from 1990 to 2013 are marked by the prevailing educational advancement and part-time education.

How can the prevalence of educational advancement be accounted for? First, education gradually appears to be one of the pivotal baselines for political mobility where meritocracy and professional competence are increasingly emphasized. Despite a wave of educational advancement in the aftermath of the CR, in fact, the year of 1995 potentially marked a watershed in the role of higher education in career mobility for Chinese leaders.

The pre-1995 era was characterized by the emphasis on cadres' ideological education and the importance of party-school training systems⁶⁴. Education rarely

⁶⁴ The typical regulations include “zhonggong guanyu jiaqiang lilun jiaoyu de jue ding de tongzhi” (CCP’s Announcement on Enhancing Ideological Education, 中共关于加强理论教育的决定的通知) in 1951, “zhongguo zhongyang weiyuanhui guanyu 1953-1954nian ganbu lilun jiaoyu de zhishi” (CCP’s Instructions on 1953-1954 Cadres’ Ideological Education, 中国中央委员会关于 1953—1954 年干部理论教育的指示) in 1953, “zhonggong zhongyang guanyu lunxun quandang gaozhongji ganbu he tiaozheng dangxiao de jihua” (CCP’s Plans on Training Senior and Middle-level Party Cadres and Adjusting Party Schools, 中共中央关于轮训全党高中级干部和调整党校的计划) in 1954, “zhonggong zhongyang guanyu jiaqiang chuji dangxiao gongzuo de zhishi” (CCP’s Instructions on Enhancing Junior Party Schools, 中共中央关于加强初级党校工作的指示) in 1956, “zhonggong zhongyang guanyu shixian dangxiao jiaoyu zhengguihua de jue ding” (CCP’s Decisions on Institutionalizing Party-school Education, 中共中央关于实现党校教育正规化的决定) in 1983, “zhonggong zhongyang guanyu jiaqiang dangxiao gongzuo de tongzhi” (CCP’s Announcement on Enhancing Party-school Work, 中共中央关于加强党校工作的通知) in 1990, “zhonggong zhongyang guanyu jiaqiang dang de jianshe jige zhongda wenti de

functioned as a leadership selection or promotion criterion during this period. Instead, it was merely intended for the incumbents of authority positions to better fulfill leadership responsibilities. Only a few exceptions existed. For example, the CCP strove to improve the educational level of cadres to junior middle school in 1953. It is because the state-building agenda came into conflict with the poorly educated revolutionary generation, particularly those from socioeconomic statuses of peasants and workers⁶⁵. Since the 1980s, educational requirements have been designed for specific leadership groups. For instance, in 1982, the minimum educational level of senior high school or vocational school (zhongzhuan, 中专) was underlined in recruiting cadres into central party and state organs⁶⁶. In 1983, it was stipulated that the reserve cadres (houbei ganbu, 后备干部) should receive the educational level of some college⁶⁷.

jueding” (CCP’s Decisions on Important Issues on Enhancing Party System, 中共中央关于加强党的建设几个重大问题的决定) in 1994.

⁶⁵ People.com.cn, 1953. “zhonggong zhongyang guanyu jiaqiang ganbu wenhua jiaoyu gongzuo de zhishi” (CCP Instructions on Improving Cultural Education for Cadres, 中共中央关于加强干部文化教育工作的指示) [Online]. (Updated 24 Dec 1953) Available at: <http://cpc.people.com.cn/GB/64184/64186/66658/4492854.html> [accessed 29 Oct 2014]

⁶⁶ People’s cn, 1982. “zhonggong zhongyang guowuyuan guanyu zhongyang dangzheng jiguan ganbu jiaoyu gongzuo de jueding” (CCP and the State Council’s Decisions on Education for Cadres from Central CCP and State Organs, 中共中央国务院关于中央党政机关干部教育工作的决定) [Online]. (Updated 3 Oct 1982) Available at: <http://cpc.people.com.cn/GB/64162/71380/71387/71591/4854985.html> [accessed 29 Oct 2014].

⁶⁷ Education systems in China incorporate educational levels of primary schools, junior middle schools, senior middle schools or vocational schools, some college, a bachelor’s degree, a master’s degree and a doctorate. According to Higher Education Law of China, higher education includes 2- or 3-year some college, 4- or 5-year undergraduate study (i.e., a bachelor’s degree), 2- or 3-year postgraduate study (i.e., a master’s degree) and 3- or 4-year Ph.D. (i.e., a doctorate). For more details, please refer to: Ministry of Education, 1998. “zhonghua renmin gongheguo gaodeng jiaoyu fa” (Higher Education Law of China, 中华人民共和国高等教育法). [Online] (Updated 29 Aug 1998). Available at: http://www.moe.edu.cn/publicfiles/business/htmlfiles/moe/moe_619/200407/1311.html (accessed on 18 Dec 2014).

As late as 1995, however, the education-occupation linkage was reinforced, particularly for degree-oriented education. Education qualifications were for the first time well defined in Chinese leadership selection. According to Article 7 of “Interim Regulations on Cadre Recruitment” (dangzheng lingdao ganbu xuanba renyong gongzuo zanxing tiaoli, 党政领导干部选拔任用工作暂行条例), the selection of party and state cadres takes into account educational degrees of some college or higher⁶⁸. For the vice-provincial/ministerial level cadres, receiving college education is a basic standard. Thereafter, higher education has inevitably become increasingly salient⁶⁹. In 2002, the educational criterion of college education or higher more extensively applied to leaders at the deputy-bureau/directorate level or above⁷⁰. In 2006, tougher education criterion was imposed on career advancement for full-title leaders at the county level, that is, college education or higher⁷¹. After considering the close interrelation of education with political career prospects, Chinese political elites, particularly after 1995, are inclined to invest in education for upward mobility. It will receive empirical confirmation in Section 5.2.1.

The second reason for the interest in educational advancement is wide-ranging social networks fostered through alumni and school ties. Like the Ivy League schools

⁶⁸ People.com.cn, 1995. “dangzheng lingdao ganbu xuanba renyong gongzuo zanxing tiaoli” (Interim Regulations on Cadre Recruitment, 党政领导干部选拔任用工作暂行条例). [Online] (Updated 9 Feb 1995). Available at: <http://cpc.people.com.cn/GB/64162/71380/71387/71591/4855103.html> (accessed on 29 Oct 2014).

⁶⁹ For example, education of some college was re-emphasized in “Development Program Concerning the Establishment of a National Party and State Leadership, 1998-2003” (1998-2003 quanguo dangzheng lingdao banzi jianshe guihua gangyao, 1998—2003 年全国党政领导班子建设规划纲要).

⁷⁰ People’s cn, 2002. “dangzheng lingdao ganbu xuanba renyong gongzuo tiaoli” (Regulations on Cadre Recruitment, 党政领导干部选拔任用工作条例). [Online] (Updated 23 Jul 2002). Available at: <http://www.people.com.cn/GB/shizheng/16/20020723/782504.html> (accessed on 29 Oct 2014).

⁷¹ People.com.cn, 2006. “zhongzubu: jianshe shanyu zhixian lizheng de gaosuzhi dangzheng zhengzhi duiwu” (Central Organization Department: Developing High-Quality Party and State Full-title Leadership at the County Level, 中组部：建设善于治县理政的高素质党政正职队伍). [Online] (Updated 26 Jan 2006). Available at: <http://politics.people.com.cn/GB/1027/4066050.html> (accessed on 29 Oct 2014).

in the U.S.A., prestigious schools in China have produced a considerable proportion of political leadership. Graduates from the same school are more likely to be recruited into the same informal social networks, or even political alliance (Ishida, Spilerman & Su, 1997: 868). As a prominent example, Tsinghua University stands out among the high-ranking universities, not only in the technological realm but also in the political arena. Tsinghua alumni constitute 14.56% of the Politburo members from the 12th to the 18th CCs (Table 26). The proportion of Tsinghua University graduates reaches its pinnacle at the 15th Politburo, accounting for 22.73%. To mention only a few⁷², Xi Jinping (习近平), current president, completed his undergraduate, postgraduate and doctoral studies in Tsinghua. Former president, Hu Jintao (胡锦涛) was also a Tsinghua undergraduate majoring in water conservancy engineering. Hu remained working in Tsinghua as a political counselor after graduation until 1968. Zhu Rongji (朱镕基), former premier, graduated from School of Electrical Engineering, Tsinghua University in 1951. The alumni network developed from educational backgrounds could be regarded as one of the social capital indicators, which warrants further exploration. However, the empirical promotion analyses in this thesis exclusively focus on the social capital accumulated from formal work contacts rather than alumni networks.

Table 26 Proportion of Tsinghua Graduates from the 12th to 18th Politburos

	Obs.	Tsinghua Alumni	Percent
12 th Politburo (1982.09-1987.11)	25	1	4.00
13 th Politburo (1987.11-1992.10)	17	3	17.65
14 th Politburo (1992.10-1997.09)	20	3	15.00
15 th Politburo (1997.09-2002.11)	22	5	22.73

⁷² Hu Qiaomu (胡乔木) was the only Tsinghua graduate as the 12th Politburo member. For the 13th Politburo, Tsinghua alumni include Li Ximing (李锡铭), Songping (宋平) and Yao Yilin (姚依林). At the 14th Politburo, there were Zhu Rongji (朱镕基), Wu Bangguo (吴邦国) and Hu Jintao (胡锦涛) from Tsinghua University. At the 15th Politburo, Tsinghua graduates include Zhu Rongji (朱镕基), Wubangguo (吴邦国), Wu Guanzheng (吴官正), Hu Jintao (胡锦涛) and Huang Ju (黄菊). For the 16th, Wu Bangguo (吴邦国), Wu Guanzheng (吴官正), Hu Jintao (胡锦涛), Huang Ju (黄菊) and Zeng Peiyan (曾培炎) ever studied in Tsinghua University. For the 17th, Xi Jinping (习近平), Liu Yandong (刘延东), Wu Bangguo (吴邦国) and Hu Jintao (胡锦涛) came from Tsinghua. As recent as the 18th Politburo, only Xi Jinping (习近平) and Liu Yandong (刘延东) were Tsinghua graduates.

16 th Politburo (2002.11-2007.10)	24	5	20.83
17 th Politburo (2007.10-2012.10)	25	4	16.00
18 th Politburo (2012.11-2017.11)	25	2	8.00
Total	158	23	14.56

Source: Author's database.

Finally, educational advancement is closely related to the coalition building and cooperation between political leaders and universities. It is difficult to clarify if educational progression increases the odds of politics-education alliance or vice versa. Although this cause-and-effect relationship is probably intertwined, there is little doubt that Chinese political leaders tend to have both political and academic prominence. A typical example is former vice governor of Yunnan, Shen Peiping (沈培平)⁷³. Shen's formal education is some-college from Department of Chinese Language and Literature, Baoshan Teachers' Training College. However, Shen advanced his educational credentials by studying Chinese literature in Yunnan Education Institute and business management in Central Party School. He was awarded a doctoral degree of natural geography from Beijing Normal University while simultaneously working as mayor and deputy party secretary of Puer city, Yunnan in 2007. Five months later, he was appointed as adjunct professor of School of Resources in the same university. Shen was well known as Mayor of Tea for strongly promoting the fermented tea industry in Puer. His thesis was entitled as *Research on the Development of Fermented Tea Industry in Yunnan Province*. He published a series of research papers on fermented tea with his thesis supervisor, Liu Xuemin (刘学敏). Besides, Shen was former Dean of Beijing Institute of Tea. The institute was jointly established by Puer Municipal Government and School of Resources of Beijing Normal University in 2010. Apparently, both a doctoral degree and academic titles injected added value into Shen's Curriculum Vitae. Shen's higher educational advancement to a doctorate and academic collaboration potentially benefited from his local leadership experience in Puer.

⁷³ People's cn, 2014. "Yunnan yuan fushengzhang Shen Peiping de xueli zhi mi" (The Myth of Educational Qualifications for Former Vice Governor of Yunnan Shen Peiping, 云南原副省长沈培平的学历之谜). [Online] (Updated 12 March 2014). Available at: <http://politics.people.com.cn/n/2014/0312/c1001-24617840.html> (accessed on 31 Oct 2014).

Overall, there is no doubt about the growing interest in educational advancement for Chinese provincial leaders. However, part-time education is a top priority. It is principally because of the workload of leadership responsibilities and, more importantly, the age dilemma under the step-by-step promotion mechanism. As analyzed in Chapter 4, career interruptions confer a striking age disadvantage on upward mobility for provincial leaders. It potentially undermines the preference of full-time continuing education.

Alongside the rise of part-time educational advancement, the questioning of its quality is the second reason for distinguishing formal and final education in this chapter. Typically, the CCP launched a nationwide verification of cadres' diplomas between 2002 and 2004⁷⁴. For 670,000 cadres under investigation at the county level and above, one out of 40 cadres had fake diplomas. Pei (2012) conceives the "inflated advanced degree" as "a sign of systemic cheating". Cadres' education scandals deteriorate by way of dubious educational credentials coupled with the major discrepancy between educational qualifications and the corresponding academic training received⁷⁵. In terms of the former, educational degrees are acquired from black-market transactions or maneuver of disqualified degree-granting schools, such as the diploma-selling scandal for Provincial Party School of

⁷⁴ CCP News, 2002. "zhongyang zuzhibu renshibu jiaoyubu guowuyuan xuwei weiyuanhui guanyu jiaqiang he guifan ganbu xueli xuwei guanli gongzuo de yijian" (Central Organization Department, Ministry of Personnel, Ministry of Education, and Academic Degree Commission of State Council's Notice on Regulating Cadres' Educational Qualifications, 中央组织部、人事部、教育部、国务院学位委员会关于加强和规范干部学历学位管理工作的意见). [Online] (Updated on 21 April 2002). Available at: <http://cpc.people.com.cn/GB/64162/71380/102565/182144/10995076.html> (accessed on 31 Oct 2014).

⁷⁵ Changjiang Networks, 2015. "guanyuan xueli zaojia yeshi yizhong 'linglei fubai'" (Receiving Fake Diplomas is a Another Type of Corruption, 官员学历造假也是一种“另类腐败”). [Online] (Updated on 8 May 2015). Available at: <http://news.cjn.cn/cjdp/201505/t2644851.htm> (accessed on 11 May 2015).

Hainan in 2004⁷⁶. The notable examples include former vice governor of Jiangxi, Hu Changqing (胡长清), and former mayor of Shenzhen, Xu Zongheng (许宗衡)⁷⁷. Hu held a forged bachelor's degree from Peking University. As for Xu, his oversea education in International East-West College of U.S.A. was highly questionable.

Regarding the deficiency in educational training, it reveals the cadres' low involvement in lectures, assignments and thesis even though their obtained diplomas are authentic. In this regard, continuing education does not invariably lead to knowledge and capability transfers. Rather, at the core of such education may be the politics-education alliance, as mentioned previously. Its quality and impact is highly questioned. One of the extreme cases is Wang Lijun (王立军), former vice mayor and police chief of Chongqing⁷⁸. His formal degree is merely junior middle school. Nevertheless, Wang successfully raised educational credentials to a doctorate by part-time continuing education. It is worthwhile to underline the starting time of Wang's EMBA and doctoral study. Wang participated in the EMBA program in Northeast University of Finance and Economics (NUFE) in September 2004. After three months, a Social Psychology Laboratory was jointly founded by NUFEE and Municipal Bureau of Public Security of Jinzhou, where Wang worked as

⁷⁶ People.com.cn, 2004. "Hainan chachu wenping da'an, sheng dangxiao weigui fachu shuqian zhang wenping" (Hainan Investigated the Case of Fake Diploma awarded from Hainan Provincial Party School, 海南查处文凭大案, 省党校违规发出数千张文凭). [Online] (Updated on 16 June 2004). Available at: <http://www.people.com.cn/GB/shehui/1061/2574584.html> (accessed on 11 May 2015).

⁷⁷ For Hu's case, please refer to: People.com.cn, 2000. "Beida jielu huchangqing 'Beida biye' zhenxiang" (Peking University Uncovered Hu Changqing's fake diploma earned from Peking University, 北大揭露胡长清 "北大毕业" 真相). [Online] (Updated on 7 September 2000). Available at: <http://www.people.com.cn/GB/channel1/13/20000907/223204.html> (accessed on 11 May 2015); For Xu's case, please refer to: People.com.cn, 2009. "Xu Zongheng de 'wenping' shi jiade?" (Is Xu Zongheng's educational degree fake? 许宗衡的 "文凭" 是假的?). [Online] (Updated on 17 June 2009). Available at: <http://politics.people.com.cn/GB/113795/9491173.html> (accessed on 11 May 2015).

⁷⁸ South Weekly Online, 2012. "xue zhe Wang Lijun" (Scholar Wang Li Jun, 学者王立军). [Online] (Updated on 18 Dec 2012). Available at: <http://www.nbweekly.com/news/special/201212/31976.aspx> (accessed on 31 Oct 2014).

director. In 2007, Wang started his doctoral program in Dalian Maritime University. In July that year, Municipal Bureau of Public Security of Jinzhou became the practical teaching base for juris masters from Dalian Maritime University. Meanwhile, Wang was appointed as adjunct professor and postgraduate supervisor. More cooperative programs came into being with the University particularly after Wang's ascending to deputy director of Municipal Bureau of Public Security of Chongqing in 2008. It is reasonable to indicate that Wang's pursuit of higher education was accompanied by his efforts in promoting exchanges and cooperation between public organizations and universities. In this sense, the corresponding degrees were inevitably suspicious.

In summary, according the preceding analysis, in the first place, the predominance of educational advancement through part-time study has been observed. It virtually results from three aspects: (1) merit-based educational qualification for elite upward mobility, (2) expanding social networks, and (3) the mutually beneficial politics-education alliance. In the second place, the attainment of part-time credentials is of dubious validity by analyzing both the fake diplomas and the inadequate participation in learning activities. Education of Chinese provincial leaders, thereby, calls for independent studies of formal and final education, respectively. Under two separate educational lines of full-time and part-time education, the following section will center on the highest degrees obtained and the corresponding fields of study⁷⁹.

5.1.2 Educational Level: Formal Education versus Final Education

⁷⁹ Specifically, all of Chinese provincial leaders attained the highest formal degrees before entering provincial leadership. To look at the entire educational histories, 2.89% of provincial leaders continued ascending educational achievement after assuming provincial authority posts. That is to say, out of 9,814 life-history observations, 284 preferred to ascend educational levels after leaving leading positions in question. To this end, final education in Section 5.1 exclusively refers to the specific educational credential political leaders hold in office of party secretaries, provincial governors, deputy secretaries or vice governors. Section 5.2 will extend to look at the entire educational trajectories and focus on events of educational changes.

In terms of formal education, based on 9,814 life-history observations, 68.65% of Chinese provincial leaders from 1990 to 2013 are college graduates (Table 27). Among them, only 6.47% are involved in master programs and 2.45% in doctoral programs. With regard to final education, college graduates account for 85.82% of Chinese provincial leaders (including B.A., M.A. and Ph.D.). The proportions of masters and PhDs tremendously increase to 34.09% and 10.35%, respectively. In this sense, Chinese provincial leaders are inclined to raise their educational levels.

Table 27 Educational Level of Chinese Provincial Leaders, 1990-2013

	Formal Education		Final Education	
	Obs.	Percent	Obs.	Percent
High School or Below	2007	20.45	404	4.12
Some College	1070	10.90	987	10.06
B.A.	5862	59.73	4060	41.38
M.A.	635	6.47	3345	34.09
Ph.D.	240	2.45	1015	10.35
Total	9814	100.00	9811	100.00

Source: Author's database.

In the following, a longitudinal and comparative study of college-educated provincial leaders is firstly undertaken. Figure 15 compares the proportions of college graduates in provincial politics with respect to formal and final education, respectively. Secondly, after providing a general account of college-educated elites, this section attempts to explain the historical changes in the ratios of provincial leaders receiving full-time college education. This analysis is rooted in the educational expansions in the mid-1950s and the late 1970s as well as the educational depression during the CR. In addition, the growing trend of college-educated leaders in final degrees has been interpreted in Section 5.1.1. Finally, the percentages of college-educated leaders in formal and final education are further compared between party and government leaders.

As Figure 15 shows, formal college education reveals two rapid-growth episodes, namely, 1990-1999 and 2011-2013⁸⁰. The ratio of college graduates among provincial elites displayed a slowly increasing presence from 57.30% to 63.03% during the period of 1990-1994. A dramatic increase by 5.70% occurred in 1995. Thereafter, the proportion of college graduates reached its height of 75.18% in 1999 and gradually diminished to a lower level of 64.93% in 2008. After a two-year vacillation, there has been a resurgence of college-educated leaders since 2011, starting at the level of 69.23% in 2011 and climbing to 73.94% in 2013.

In sharp contrast to formal higher education, the presence of provincial leaders with college degrees is more straightforward for final education. As expected, Figure 15 illustrates a path of steady growth for college-educated leaders over the past two decades, from 59.93% in 1990 to 99.77% in 2013. In particular, college graduates have overwhelmingly pervaded every corner of provincial leadership since 2011, providing 99.28% in 2011, 99.75% in 2012 and 99.77% in 2013.

The comparison of formal and final higher education is revealing. The gap of formal vis-à-vis final education was widening for the college-educated ratio, particularly during the period of 2000-2010. It provides initial support to the trend of schooling progression for Chinese provincial leaders. In 1990, the ratio of provincial leaders with final college degrees was only 2.63% higher than that with formal college diplomas. However, the college-educated gap increased to 33.07% in 2010 and started to slowly shrink to 25.83% in 2013. What led to the narrowing gap after 2010? The possible explanations are the unprecedented predominance of college graduates for final education on one hand, and the increasing representation of provincial leaders obtaining formal higher education on the other.

⁸⁰ The longitudinal study of college-educated provincial leaders focuses on those with a bachelor's, master's or a doctoral degree. To analyze the timing of college entry, educational history was limited to the timing of starting a bachelor program only. It is possible that a provincial leader obtained the highest formal degree after the CR, while receiving college education before the CR. Accordingly, the timing of entry into college should date back to the pre-CR period.

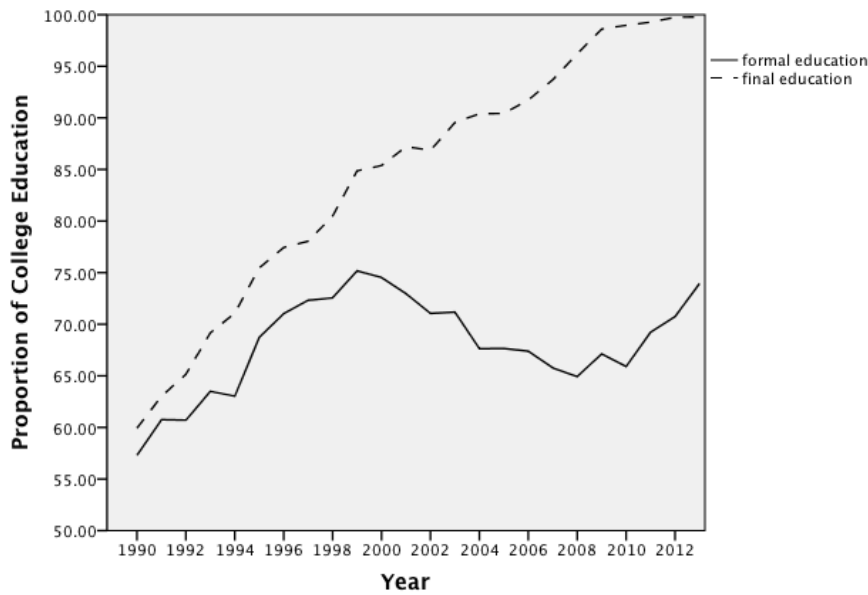


Figure 15 College-educated Chinese Provincial Leaders, 1990-2013

Regarding the persistent growth of final educational levels, Section 5.1.1 has already analyzed why Chinese provincial leaders were interested in improving final educational outcomes. However, in terms of formal education, how could the impacts of historical periods on college-educated ratios be interpreted? In fact, the answer to this question is closely linked to the centralization of educational systems and vacillations of educational policies in Chinese history. First, the increases in college-educated leaders during the periods of 1990-1999 and 2011-2013 conform to two distinctive episodes. One is the first wave of educational expansion after the inception of the P.R.C., from the mid-1950s to the mid-1960s. The other is the reopening of universities, in the immediate aftermath of the CR, from 1977 to 1980.

For the 1990-1999 college-educated provincial leaders, they largely came from the birth cohorts of 1930s (32.94%) and 1940s (60.07%). 93.54% entered universities prior to the CR (Table 28). In particular, 59.82% of the 1990-1999 provincial leaders were enrolled in colleges between 1960 and 1965. The typical examples include Wu Bangguo (吴邦国) (former chairman of NPC, vice premier and party secretary of Shanghai), Li Changchun (李长春) (former member of Politburo standing committee and party secretary of Guangdong and Henan), He Guoqiang (贺国强) (former member of Politburo standing committee and party secretary of Chongqing) and

Guo Jinlong (郭金龙) (current Politburo member and party secretary of Beijing). The educational composition of Chinese provincial leaders from 1990 to 1999 reflects the macropolitical contexts in early years of the P.R.C. The political emphasis and agenda priorities were directed toward massive national building, heavy-industry development and economic growth. Under such historical contexts, the conflict became acute regarding the increasing demand of highly trained labor force and the severe illiteracy rates. Thus, the CCP pragmatically sought to promote both basic and higher education (Hannum, 1999: 195; Zhou, 2004: 75-78). As shown in Figure 16, higher education enrollment increased from 117,000 in 1949 to 962,000 in 1960. There was a gradual moderate decline to 674,000 in 1965.

Table 28 Year of College Entry for College-educated Provincial Leaders, 1990-1999

Year of College Entry	Obs.	Percent
Pre-Cultural Revolution	2317	93.54
Cultural Revolution	90	3.63
Post-Cultural Revolution	70	2.83
Total	2477	100.00

Source: Author's database.

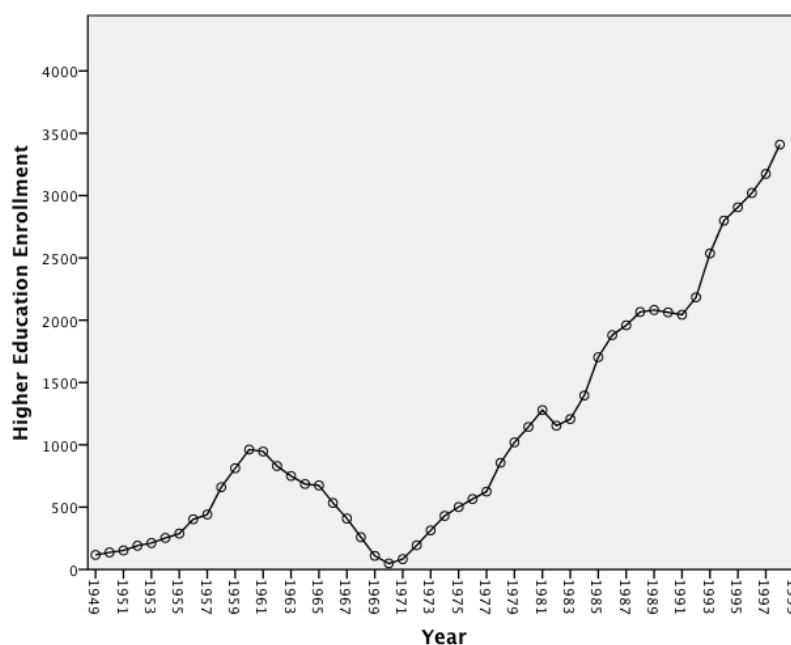


Figure 16 Higher Education Enrollment in China, 1949-199881

⁸¹ The data of higher education enrollment from 1990 to 2012 was drawn from China Statistical Yearbook in 1990, 2005 and 2013. Since 1999, the universities or colleges have expanded their enrollment considerably. The higher education enrollment was

Note: Higher education enrollment is measured in thousand.

Source: China Statistical Yearbook

For the 2011-2013 college-educated provincial leaders, 66.40% were born in the 1950s. 80.02% started formal college education after the CR (Table 29). Most striking is that 45.60% entered universities in 1978. For example, Wang Zhengwei (王正伟), current vice chairman of NPPCC, studied Chinese literature in Ningxia University from 1978 to 1982. Zhou Qiang (周强), current president of SPC, was admitted into Southwest Politics and Law University after working as a sent-down youth for two years. In retrospect, after the chaotic years of the CR, the CCP strove to restore the sociopolitical order and the disrupted educational systems. The National College Entrance Examination was resumed in 1977. This strategy dramatically altered both the educational and future employment opportunities for birth cohorts of the 1950s and the early 1960s. According to Figure 16, approximately 625,000 young students were admitted into colleges in 1977. In 1978, the number of college education enrollment got closer to its peak value before the CR, approximately 856,000. It maintained a drastically rapid growth to 23.91 million in 2012.

Consider the 1990-1999 and 2011-2013 provincial leaders receiving college education in a historical perspective. Given the scarcity, higher education graduates, who had been politically screened before entry into colleges particularly after 1957, appeared to be both “red” and “expert”. A somewhat large pool of leadership candidates—younger, politically reliable and well educated--was created through educational expansions during these periods. In line with Deng Xiaoping’s (邓小平) cadre policy of Four Modernizations (ganbu sihua, 干部四化) in 1980, educational credentials partly facilitated prospective career advancement for these groups of college entrants.

117,000 in 1949, 4,134,000 in 1999 and 23,913,000 in 2012. It increased approximately 35-fold from 1949 to 1999, and 204-fold from 1949 to 2012. To better present educational expansion in early years, Figure 16 was only compiled by the statistical data from 1990 to 1998, before the initiation of higher education enrollment expansion policy. Higher education enrollment in Figure 16 is measured in thousand.

Table 29 Year of College Entry for College-educated Provincial Leaders, 2011-2013

Year of College Entry	Obs.	Percent
Pre-Cultural Revolution	33	3.75
Cultural Revolution	143	16.23
Post-Cultural Revolution	705	80.02
Total	881	100.00

Source: Author's database.

Between extraordinary periods of 1990-1999 and 2011-2013, there had been a decrease in the college-educated percentage of provincial leaders for a decade, from 74.53% in 2000 to 65.90% in 2010. The downward trend emerged in response to the CR era. Numerous universities or colleges were shut down. The role of higher education was downplayed. As indicated in Figure 16, the number of higher education enrollment hit the lowest point of 48,000 in 1970. Exceptionally, in the second half of the CR, young workers, peasants and soldiers, as the pillars of the party state, were recruited into colleges⁸². The decisions on college admission for the worker-peasant-soldier students (gong nong bing xueyuan, 工农兵学员) were based on recommendation instead of academic achievement. The notable examples are Xi Jinping (习近平) (current president of P.R.C.), Wang Qishan (王岐山) (current secretary of CCDI), and Liu Qibao (刘奇葆) (current head of Propaganda Department). In such politically turbulent settings, a large number of Chinese youths were reluctantly transferred or spontaneously preferred to enter work force, rather than regularly continue study in schools. As for the 2000-2010 provincial leaders, 78.14% started their careers during this era (Table 30). 54.29% came from the CR generation, as discussed in Chapter 4, which was particularly affected by lower enrolments of higher education.

⁸² According to "Summary of the National Education Work Conference" (quanguo jiaoyu gongzuo huiyi jiyao, 全国教育工作会议纪要) in 1971, the recruitment criteria of the worker-peasant-soldier students primarily focus on: (1) around twenty years old; (2) at least two- or three-year work experience; (3) educational levels equivalent to junior high school or higher. For those experienced workers, peasants and revolutionary cadres, the limitations of age and educational requirements could be loosened. The selection of the worker-peasant-soldier students strictly adheres to the procedures of self-application, mass recommendation, leaders' approval and colleges' review.

Table 30 Year of Career Entry for Provincial Leaders, 2000-2010

Year of Entry into Labor Force	Obs.	Percent
1966	207	4.22
1967	350	7.14
1968	870	17.74
1969	702	14.31
1970	411	8.38
1971	288	5.87
1972	275	5.61
1973	181	3.69
1974	255	5.20
1975	175	3.57
1976	119	2.43
Total	3833	78.14

Source: Author's database.

After interpreting the changes in formal college-educated rates, the next step is to compare educational credentials of party and government leaders. With respect to formal degrees, prior to 1999, educational levels for government leaders were higher than party leaders (Figure 17). The college-educated gap for two leadership groups fluctuated around 10% from 1990 to 1998. During the period of 1999-2009, there was little difference in the college-educated ratios between party and government leaders. After 2009, the proportion of government leaders with formal higher education again outnumbered that of party leaders.

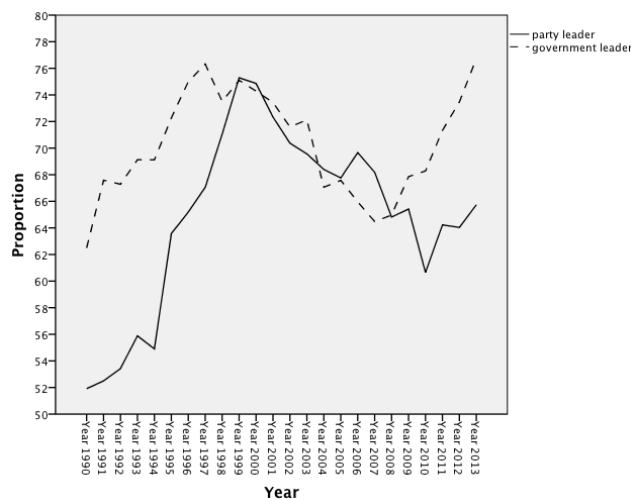


Figure 17 College-educated Provincial Leaders for Formal Degrees by Type, 1990-2013

With respect to final educational attainment, college graduates had produced a markedly larger percentage of government leaders than party leaders by 1998 (Figure 18). The most pronounced difference arose in 1991 when college graduates took 54.17% of party leaders but only 70.34% of government leaders. From 1999 onward, these two leadership groups exhibited a similar and stable increase. By comparing the differences in formal and final educational outcomes, it is worth mentioning that the rate of educational progression for party leaders remarkably accelerated after 2000. It significantly outpaced that for government leaders since 2010. As a result, all party leaders at the provincial level were college graduates from 2011 to 2013.

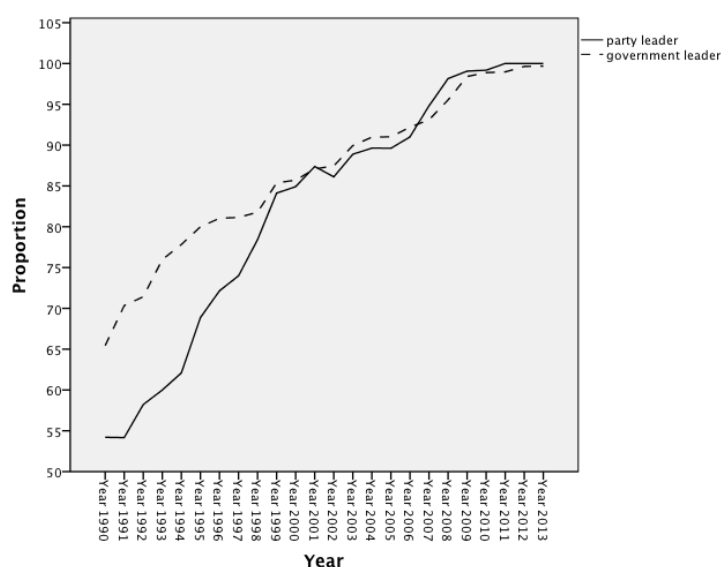


Figure 18 College-educated Provincial Leaders for Final Degrees by Type, 1990-2013

To conclude, educational advancement is well established for the 1990-2013 Chinese provincial leaders. Educational credentials during this period are characterized by the prevalence of higher education. There is no doubt about the persistently increasing presence of college graduates in provincial politics in terms of final educational degrees. However, as for formal education, the pattern of college-educated provincial leaders changed over time. It was fundamentally shaped by the shifting state agendas and educational policies. The growth of college-educated

provincial leaders originated in educational expansions before and after the CR in the long run.

5.1.3 Academic Major: Formal Education versus Final Education

This section delineates the preferences of specialty for Chinese provincial leaders from a historical point of view. It illuminates that science and engineering majors prevailed during the period of 1990-2005 in formal education and during the period of 1990-1999 in final education. To interpret the former finding, this section looks into the sociopolitical transformation and the educational restructuring in the 1950s. For the observation related to final education, the analysis is situated in the prevalence of part-time education and party-school education, along with the compatibility of humanities and social sciences with the job description of party workers, government administrators and the like.

Based on 9,814 life-history observations, the percentage of provincial leaders trained in humanities and social sciences for formal degrees varies with that for final degree (Table 31). Overall, 42.62% of provincial leaders prefer humanities and social sciences in formal education, as compared to 60.69% in final educational attainment. To be specific, provincial leaders are more likely to study science in full-time bachelor, master and doctoral programs. The corresponding figures are 59.69%, 60.16% and 71.25%, respectively. On the contrary, 62.64% of provincial leaders with the educational level of some college tend to select humanities and social sciences as the major field of study.

Regarding final educational degrees, the major field of humanities and social sciences is more favored by provincial leaders with some college, master and doctoral diplomas. The corresponding figures of percentages are 71.07%, 83.03% and 67.49%, respectively. It is merely in the bachelor's degree that science still prevails. To summarize, as for either formal or final education, provincial leaders with the educational level of some college are inclined to study humanities and

social sciences. Those with bachelor's degrees are more interested in science and engineering. Nonetheless, there exists a major shift in selecting academic disciplines for provincial leaders with master's and doctoral degrees. Science substantially attracts more attention in formal education, whereas humanities and social sciences in final education.

Table 31 Academic Major of Chinese Provincial Leaders, 1990-2013

	Formal Education			Final Education		
	Obs.	Humanities & Social Science	Percent	Obs.	Humanities & Social Science	Percent
Some College	918	575	62.64	840	597	71.07
B.A.	5778	2329	40.31	4030	1545	38.34
M.A.	630	251	39.84	3335	2769	83.03
Ph.D.	240	69	28.75	1015	685	67.49
Total	7566	3224	42.61	9220	5596	60.69

Source: Author's database.

Over time, for both formal and final education, the ratios of provincial leaders trained in humanities and social sciences generally exhibited a steady and moderate upward pattern (Figure 19). On the contrary, the ratios of provincial leaders majoring in science experienced a sharp decline after 1999. For the highest formal degree, the relative predominance of science and engineering was evident between 1990 and 2005. It started at the level of 48.63% in 1990 and slowly rose to the peak of 60.73% in 1997. After 1997, it modestly dropped to 37.20% in 2013 with minor fluctuations. Considering those majoring in humanities and social sciences, the changes in proportions started with a small reduce from 24.31% in 1990 to 21.84% in 1993. From 1994 onward, it maintained a steadily slow growth, from 24.78% in 1994 to 52.13% in 2013. Intriguingly, as for formal education, the 1990-2005 Chinese provincial leadership was dominated by higher education graduates majoring in science. Since 2006, more provincial leaders have selected humanities and social sciences as major fields of study relative to science.

In terms of the highest final degree, Figure 19 reveals the accelerated growth of provincial leaders majoring in humanities and social sciences. Before 2000, there was a fluctuating increase in leaders from humanities and social sciences, vacillating

between 32.14% and 44.95%. It was followed by a rapid increase to 50.00% in 2000. Thereafter, provincial leaders with humanities and social sciences constituted a larger portion, from 52.44% in 2001 to 78.64% in 2013. The peak value was 79.64% in 2012. That is to say, the predominance of leaders from academic disciplines of science and engineering has disappeared since 2000. Parallel to the growth of provincial leaders from humanities and social sciences, the ratio of those majoring in science fluctuated between 48.82% and 55.32% across the period of 1990-1999. It displayed a downward pattern from 48.56% in 2000 to 21.36% in 2013. In summary, to look at the composition of academic disciplines in final education, the 1990-1999 provincial leaders tended to study science. Since 2000, the preference of humanities and social sciences has become mainstream.

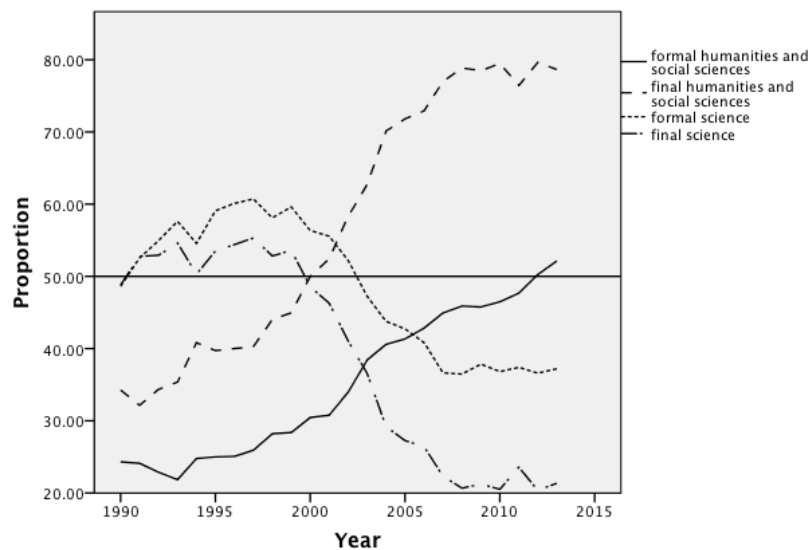


Figure 19 Academic Major of Chinese Provincial Leaders, 1990-2013

The above-mentioned evolution of academic disciplines gives rise to fascinating questions for Chinese provincial leadership. For instance, what induces the dominance of provincial leaders trained in science for formal degrees between 1990 and 2005? What resulted in the increasing representation of elites studying humanities and social sciences in final education?

The answer to the first question virtually dates back to the particular historical period when the 1990-2005 provincial elites were enrolled in higher education. 75%

of this leadership group entered colleges or universities before the CR, particularly between 1960 and 1965. Under state socialism, the CCP, as an overarching authority, determined the focus of state policies in such ways that heavy industry was prioritized. There was, notwithstanding, an acute dearth of high-quality specialists in Mao's era. To solve this bottleneck, the CCP allocated and mobilized resources to better support national development and industrialization⁸³. As analyzed in preceding section, higher education was promoted to nurture a highly specialized manpower with scientific knowledge and technical expertise. To this end, the CCP restructured faculty layouts within and across colleges into the Soviet-type educational system in 1952.

The higher education reform placed profound emphasis on training science-oriented professionals⁸⁴. At the empirical level, across the period of 1949-2012, the size of universities related to science and engineering experienced two waves of expansions. One is in 1960 when the number of universities significantly displayed a 13-fold increase from 68 in 1949 to 880 in 1960. The other started in 2004 when the size of universities specialized in science markedly increased from 363 in 2003 to 823. To

⁸³ The primary purpose of education substantially centered around improving the average educational levels and providing specialists, as highlighted in "State Council's Decision on Reforming Educational Institutions" (zhengwuyuan guanyu gaige xuezhi de jue ding, 政务院关于改革学制的决定) in 1951, "Reforming the Faculties in Colleges and Effectively Training Cadres for National Building" (zuohao yuanxi tiaozheng gongzuo youxiao de peiyang guojia jianshe ganbu, 做好院系调整工作, 有效地培养国家建设干部) in 1952, "Report on Primary, Secondary and Higher Education and the Elimination of Illiteracy" (zhonggong zhongyang pizhuan zhongyang jiaoyubu dangzu guanyu da zhong xiaoxue jiaoyu he saomang yundong deng wenti de baogao, 中共中央批转中央教育部党组关于大中小学教育和扫盲运动等问题的报告) in 1952, "State Council's Instruction on Improving and Developing Higher Normal Education" (zhongyang renmin zhengfu zhengwuyuan guanyu gaijin he fazhan gaodeng shifan jiaoyu de zhishi, 中央人民政府政务院关于改进和发展高等示范教育的指示) in 1953.

⁸⁴ CCP News, 2002. "zuohao yuanxi tiaozheng gongzuo youxiao de peiyang guojia jianshe ganbu" (Reforming the Faculties in Colleges and Effectively Training Cadres for National Building, 做好院系调整工作, 有效地培养国家建设干部). [Online] (Updated on 24 Sep 1952). Available at: <http://cpc.people.com.cn/GB/64184/64186/66657/4492782.html> (accessed on 8 November 2014).

put it in another way, as shown in Figure 20, science-specific universities took over a half of the total universities nationwide during the periods of 1952-1957 and 1978-1981. They accounted for over 60% between 1958 and 1977 (except the first half of the CR, 1966-1970). In this regard, it is reasonable to expect that the CCP strove to invest more in producing professionals in early years, such as engineers and technicians.

In terms of college enrollments illustrated in Figure 21, the percentage of college students majoring in science rose by 10% from 1949 to 1953. With a small fluctuation between 1954 and 1957, it markedly climbed from 67.2% in 1958 to 90.7% in 1969. Despite a sharp fall in 1970, college students trained in science provided over 60% over time for the most part. The compelling reasons for selecting science and engineering as major fields of study could be the practical concerns with individual interest and life chances, the interference and redistribution of the CCP, or both. In some cases, eligible college applicants were chosen very early before the college entrance examinations started. A vast majority of them shared similar convictions that the needs of the party state were their first priority because of party-state-centered ideological indoctrination.

To sum up, the 1952 restructuring of educational systems in China conferred the relative advantage of natural science over humanities and social sciences in higher education in the long run. To a considerable extent, it helps explain why a large number of provincial leaders received full-time training of science and engineering since 1990.

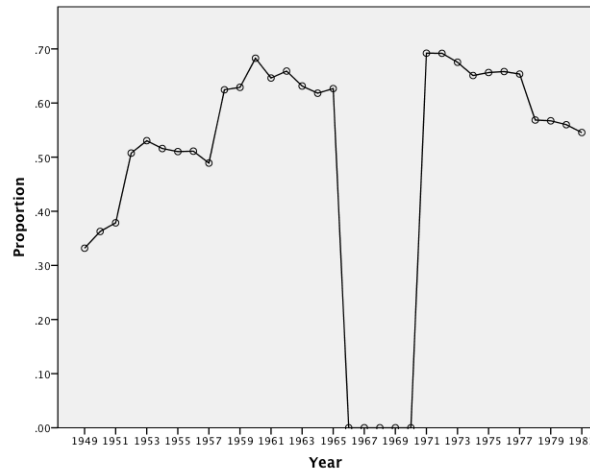


Figure 20 Proportion of Science-specific Universities in China, 1949-1981⁸⁵

⁸⁵ For 1949-1981 data, see “Zhongguo jiaoyu nianjian: 1949-1981” (Education Statistical Yearbook of China: 1949-1981, 中国教育年鉴：1949—1981年) (Beijing: China Encyclopedia Publishing House, 1984), p. 965-967. The statistical data on the number of universities are classified into twelve categories, namely comprehensive universities and universities specialized in industry/engineering, agriculture, forestry, medicine, normal education, Chinese language and literature, economics/finance, legal studies, physical education, arts and others. The statistical data on the number of college students enrolled are based on eleven categories including industry/engineering, agriculture, forestry, medicine, normal education, literature, physics/chemistry, economics/finance, legal studies, physical education and arts. To better present historical changes in academic disciplines, this section integrates 11 categories of college enrollment into two general dimensions, namely science, humanities and social sciences. For the classification of universities, this section focuses on three types, namely comprehensive universities, science-specific universities and those specialized in humanities and social sciences. The major fields of industry/engineering, agriculture, forestry, medicine and physics/chemistry are incorporated into science. It is the so-called physic-engineering-medicine-agriculture category in higher education candidates’ application forms (li gong yi nong lei, 理工医农类). The remaining academic majors consist of the dimension of humanities and social sciences.

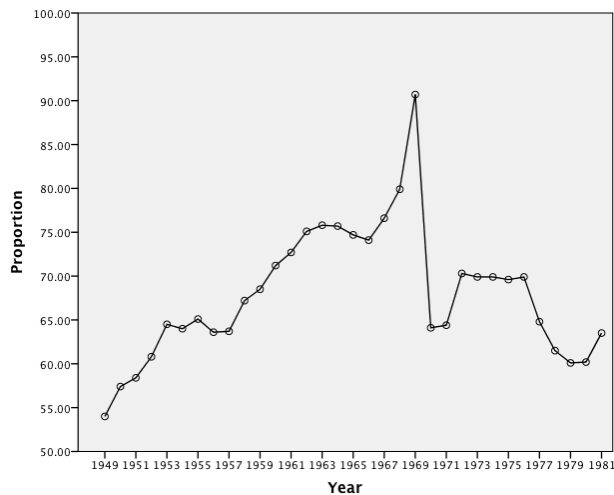


Figure 21 Proportion of College Enrollment Trained in Science, 1949-1981

Concerning the second question, it is important to note that the growth of provincial leaders trained in humanities and social sciences in last degree is accompanied by an increase in the proportion of part-time education. As shown in Figure 22, from the outset, the ratio of provincial leaders with part-time education slowly grew from 14.23% in 1990 to 27.66% in 1999. Thereafter, it exhibited a conspicuous increase from 29.95% in 2000 to 75.36% in 2008. Since 2009, part-time education has been steadily and enormously favored by political elites, amounting to 79.11% in 2013. In this sense, as for final education, the continuing predominance of the 1990-1999 provincial leaders majoring in science is primarily attributed to the fact that part-time education received scant attention before 2000. It is more likely that final educational attainment for provincial leaders between 1990 and 1999 equals to their formal educational degrees. However, the historical period of 2000-2013 tells a different story. Since 2000, a larger ratio of provincial leaders has acquired part-time education and more importantly, preferred humanities and social sciences as fields of concentration. This finding poses another intriguing question. Why was the academic major of humanities and social sciences more popular in the last educational degree after 1999?

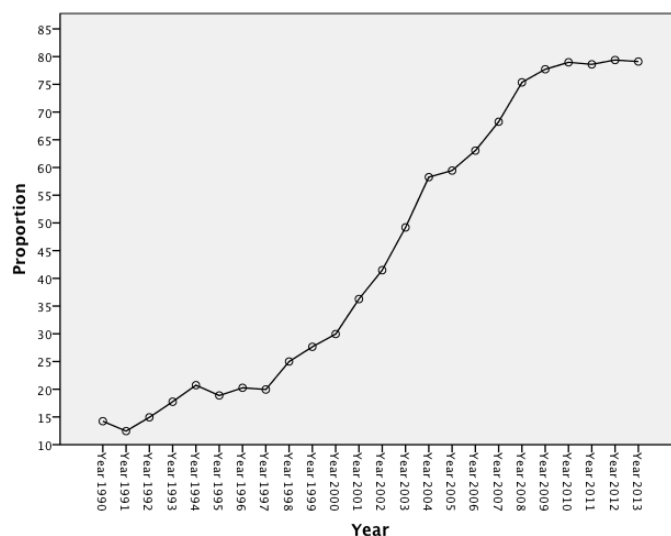


Figure 22 Part-time Education for Chinese Provincial Leaders, 1990-2013

The possible explanations are threefold. First, training in humanities and social sciences is essentially pertinent to the career paths of management and leadership. To return to the educational backgrounds of the 2000-2013 provincial elites, approximately 54.25% were enrolled in the last educational degrees after serving in party apparatus or government bureaucracies. In addition, a certain number of political leaders advanced their educational levels after working as managers in the SOEs for years. Party leaders, government administrators or corporate managers play a pivotal role in policy making and implementation at the crux of the power structure. In this case, such academic majors as finance, political sciences, legal studies or business management are regarded as a proxy for professional knowledge and skills on party affairs, government administration, financial management and the like.

Second, party schools provide a principal avenue for political leaders to obtain educational credentials. They are conceived as the cradle of training leading cadres in contemporary China. In other words, they could be considered as an important mechanism to provide party-sponsored educational opportunities. Not only it is easier for cadre elites to ascend educational achievement, but also engage in networking activities through party schools. Figure 23 reports the historical changes in the proportion of provincial leaders graduating from party schools for educational

degrees. The upward trend is noticeable from 8.24% in 1990 to 37.09% in 2013, with the peak value of 42.82% in 2010. The curriculum from party schools is confined to academic disciplines of humanities and social sciences. Consider the disciplinary structure of Central Party School as an example. Central Party School provides a broad range of modules, such as Marxism, philosophy, economics and finance, legal studies, sociology, political science and so on. Receiving party-school education increases the likelihood of studying humanities and social sciences.

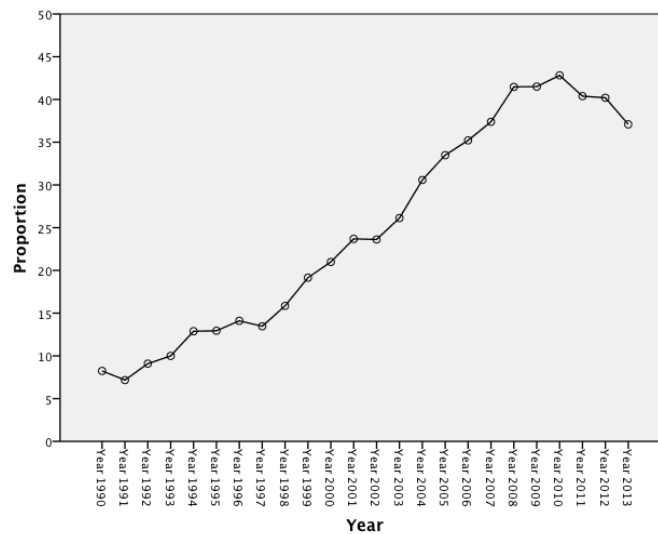


Figure 23 Party-School Education for Chinese Provincial Leaders, 1990-2013

Finally, the pronounced tendency of studying humanities and social sciences stems from the differences in training requirements. In another sense, the disciplinary guidelines and criteria for natural science and engineering studies are far more complex and rigid as compared to those for humanities and social sciences. Like physical or chemistry science, students are more likely to be attached to the laboratories. The college admission is based on the fulfillment and mastery of prerequisite courses (Astin, 1972: 11). To sharp contrast, time and course design are relatively flexible as to humanities and social sciences. Given the heavy workload on a tight schedule, academic majors of humanities and social sciences are apparently a better choice for provincial leaders.

To conclude with the above explanations, the major discipline of humanities and social sciences are more compatible with the leadership responsibilities and time schedules for provincial elites. It effectively responds to the CCP's emphasis on educational advancement. The subsequent section will investigate the events of educational changes over educational histories for the 1990-2013 Chinese provincial leaders⁸⁶. It is guided by the following questions. For instance, at what age and what administrative ranking did provincial leaders ascend their educational levels? To what extent did political elites change their disciplinary backgrounds?

5.2 Education Changes: A Dynamic Analysis

To take insight into educational histories, the analysis of education changes is based on the event-history data derived from 1,260 instead of 1,891 Chinese provincial leaders. The distinction from the leadership dataset of 1,891 provincial elites is that each provincial leader is identified as a distinct case in the former sample regardless of how many provinces or provincial leadership positions they assumed⁸⁷.

⁸⁶ Leadership biographies start with either the year of entry into higher education (including vocational education and some college) or the year of entry into labor force as to provincial leaders without higher education. Therefore, education changes are coded along two critical dimensions: (1) after-working educational progression, or (2) before-working higher educational advancement to a master's degree or a doctorate in regular educational systems. Out of 1,387 observational records related to educational changes, only 38 provincial leaders advanced to a master's degree or a doctorate in regular educational systems prior to entering labor force (2.74%).

⁸⁷ In this thesis, the leadership transformation is mostly based on the event-history data of 1,891 Chinese provincial leaders. The empirical analyses cover demographic characteristics, formal and final education and work experience. In this sample, a number of provincial leaders may appear in the leadership dataset more than once if they experienced job transfers across provinces as provincial chiefs or changes in leadership roles (e.g., from vice governor to governor). On the other hand, in analyzing educational histories and career trajectories, the analyses are based on the event-history data of 1,260 Chinese provincial leaders. Each provincial leader is treated as a distinct case irrespective of inter-province job moves and career advancement across provincial chiefs. Furthermore, the analyses of social capital and elite mobility processes are also based on the leadership dataset of 1,260 provincial

Empirically, 817 out of 1,260 provincial officials experience after-working educational advancement or higher education progression prior to labor force entry, approximately 64.74%. The number of education-changing events under study is 1,387, i.e., 1.10 education changes per provincial leader on average.

Table 32 Number of Education Changes for Chinese Provincial Leaders, 1990-2013

Number of Education Changes	Obs.	Percent
1	374	45.78
2	322	39.41
3	116	14.20
4	4	0.49
5	1	0.12
Total	817	100.00

Source: Author's database.

To be specific, Table 32 demonstrates the number of education changes over the entire educational trajectories for Chinese provincial leaders. Firstly, 374 out of 817 provincial leaders experience one educational progression. For instance, Hu Chunhua (胡春华), current Politburo member and party secretary of Guangdong, completed postgraduate studies from Central Party School in 1999, 16 years after his graduation from Peking University in 1983. Secondly, 39.41% of provincial leaders improve their educational attainment twice throughout educational histories, such as Cao Weixing (曹卫星), current vice governor of Jiangsu. Cao received his bachelor's degree from Yangzhou University in 1982. He accordingly ascended his educational levels to a master's degree and a doctorate from Nanjing Agricultural University in 1985 and Oregon State University in the United States in 1989. Thirdly, 14.20% experience three education changes. Take Chen Xiaoguang (陈晓光), current vice chairman of NPPCC for example. Chen graduated from Jilin University of Technology and advanced his educational levels from basic education to a bachelor's degree in 1982. He continued higher education and was awarded a master's degree in 1985. After one-year working as a teacher, Chen returned to Jilin University of Technology for a doctorate. Lastly, only 4 leaders and one provincial official have

leaders because the changes of social capital and elite mobility across administrative ranks are of interest in this thesis.

educational advancement for four and five times, respectively. Typical examples are Jiang Dingzhi (蒋定之), current provincial governor of Hainan and Han Changfu (韩长赋), current minister of Ministry of Agriculture. Specifically, Jiang improved educational levels four times after two years of working, namely, from basic education to the vocational education of No. 2 Normal School of Zhenjiang in 1979, some-college education from Nanjing University in 1985, an undergraduate study in Central Party School in 1999 and a master's degree in engineering from Nanjing University of Science and Technology in 2001. Strikingly, Han is a provincial leader with the most education changes after entering labor force. His five-time educational advancement respectively occurred in 1976 from basic education to vocational education in Hulan Normal School, in 1985 with two educational progressions to some college and an undergraduate study in Renmin University of China, in 1993 for a master's degree from China University of Political Science and Law and in 2007 receiving a doctorate from Tsinghua University.

Underlying the number of education changes is the fact that multiple education changes largely occurred to provincial leaders who were born during the period of 1952-1960 and those starting working during the CR. Compared with 20.32% for a single education change, those born from 1952 to 1960 constitute 68.85% of provincial leaders with multiple changes in educational backgrounds. In terms of entry into labor force, 76.07% of provincial elites with multiple education changes started working during the CR, as compared to 43.85% with a single education change. Based on the above findings, it is evident to observe the impact of the outbreak of the CR on educational trajectories and the transition from school to work for this group. In the CR era, a large number of this provincial leadership group discontinued their education and simply received basic education before working. In the mid 1990s during the career stages of establishment and advancement, however, they witnessed a growing emphasis on educational standards in the political and administrative spheres. For occupational upgrading, although poorly educated at adolescence, they were significantly motivated to achieve better educational credentials in their 30s and 40s.

5.2.1 Changes in Educational Levels

Overall, whatever educational-level advancement, 62% of provincial leaders with education changes come from the birth cohort of 1950s. Their life chances are markedly shaped by the initiation of the CR. 68.13% of them experienced a major shift away from school life to careers during the CR. To look at educational upgrading to each level independently, there are the most cases ascending educational levels to a master's degree, approximately 40.30% as shown in Table 33. Among 559 cases of education changes, 94.10% occurred after labor force entry (526 cases). The proportions of cases improving educational levels to some college, a bachelor's and a doctoral degree are 14.28%, 31.43% and 13.12%, respectively. For educational improvement to a doctorate, 177 out of 182 cases occurred after labor force entry (97.25%).

In essence, the educational advancement to some college and a bachelor's degree conforms to the post-CR trends in acquiring higher educational credentials between the late 1970s and the 1980s. Returning to the empirical findings, 82.83% of educational upgrading to some college and 55.50% to university education occurred in the 1980s. Noteworthy is that 134 provincial leaders completed college education in 1982 after education interruption in the CR era and working for several years. Additionally, an increase in educational qualifications to a master's or a doctoral degree primarily responds to the rise of education as a meritocratic criterion in leadership selection since the mid 1990s. It is evidenced by the education-related data that 68.87% of educational progression to a master's degree and 80.77% to a doctorate emerged in the 1990s and the 2000s.

With regard to the education-changing cases occurring to high school or below, nearly all obtained educational credentials in vocational schools after working. Vocational education, however, functions as a springboard for further educational achievement for Chinese provincial leaders. The only exception is Amudun Niyaz (阿

木冬·尼牙孜), former vice chairman and deputy party secretary of Xinjiang. He received part-time vocational study from Party School of Xinjiang as his final educational degree.

Table 33 Education Changes of Chinese Provincial Leaders, 1990-2013

To	Obs.	Percent
High School or Below	12	0.87
Some College	198	14.28
B.A.	436	31.43
M.A.	559	40.30
Ph.D.	182	13.12
Total	1387	100.00

Source: Author's database.

The following pages in Section 5.2.1 will look into the dynamics of educational--level changes by answering three fascinating questions: (1) At what age did Chinese provincial leaders improve their educational levels? (2) When did they have educational progression in terms of tenure in the workplace? (3) At what administrative rank did they increase educational qualifications? In fact, the above three questions are somewhat interrelated regarding different dimensions of time. To a certain extent, age is closely associated with job tenure and the hierarchical positions as already analyzed in Chapter 4.

In terms of four age groups as illustrated in Figure 24, there are more provincial leaders increasing educational attainment to some college or a bachelor's degree before reaching the age of 40. The specific ratios are 75.75% for some college and 89.91% for a bachelor's degree. More importantly, 67.33% of provincial leaders under age 40 improved their educational levels to some college after serving in party or government systems, whereas 52.43% advanced to university education before entering public service. As to the latter, the change in educational status is closely related to the dramatic historical event of resuming college examinations in 1977. As to the former, the on-the-job training for the diploma of some college primarily results from the CCP's efforts in improving young cadres' educational credentials in

the early 1980s⁸⁸. The CCP mobilized a wide range of resources in providing degree-specific courses and training for poorly educated cadres, particularly through party-school systems. It is sufficiently evidenced by the empirical assessment of some-college degrees obtained in the 1980s for cadres under age 40. Out of 89 provincial leaders, 74.16% obtained some-college degrees from party schools or specialized cadre training classes (*ganbu zhuanxiu ban*, 干部专修班) from higher education institutions. In brief, the acquisition of some-college education in the 1980s for young cadres could be considered as the party-led educational advancement and party patronage. Furthermore, pursuing a some-college degree also depended on cadres' individual decisions to pursue better career prospects. It is because the diploma of some college appeared to be the minimum educational standards for reserve cadres (*houbei ganbu*, 后备干部). It substantially fostered young cadres' motivation in educational advancement to some college at least⁸⁹.

In addition to the age group under age 40, Figure 24 points out another important finding. Provincial leaders aged in the 30s and 40s were inclined to acquire a master's degree or a doctorate, accounting for 74.96% and 77.47% of that cohort, respectively. For the age group of 30-49, a master's degree or a doctorate is more

⁸⁸ For those aged less than 40 and with education of junior middle school, they should increase their educational levels to some college through three- or five-year training. For more details, see People.com.cn, 1982. "zhonggong zhongyang guowuyuan guanyu zhongyang dangzheng jiguan ganbu jiaoyu gongzuo de jue ding" (CCP and the State Council's Decisions on Education for Cadres from Central CCP and State Organs, 中共中央国务院关于中央党政机关干部教育工作的决定) [Online]. (Updated 3 Oct 1982) Available at: <http://cpc.people.com.cn/GB/64162/71380/71387/71591/4854985.html> [accessed 19 Nov, 2014].

⁸⁹ Reserve cadres are selected based on the following criteria: (1) the solid belief in communist ideology; (2) political loyalty and integrity during the CR; (3) excellent work performance and general analytical skills; (4) the educational level of some college; (5) age limits around 40 and 45 years old; and (6) be healthy. For more details, see People.com.cn, 1983. "zhonggong zhongyang zuzhibu guanyu jianli shengbuji houbei ganbu zhidu de yijian" (Organization Department's Notice on Developing Reserve Cadres Systems of Provincial/Ministerial Levels, 中共中央组织部关于建立省部级后备干部制度的意见) [Online]. (Updated 5 Oct 1983) Available at: <http://cpc.people.com.cn/GB/64162/71380/71387/71591/4855020.html> [accessed 19 Nov 2014].

likely to be awarded to those having started political or administrative careers. The proportions are 83.77% for educational advancement to a master’s degree after entry into public service and 66.67% to a doctorate. In the following, the answer to the third question concerning administrative ranks will shed more light on educational advancement to a master’s degree after working in public service.

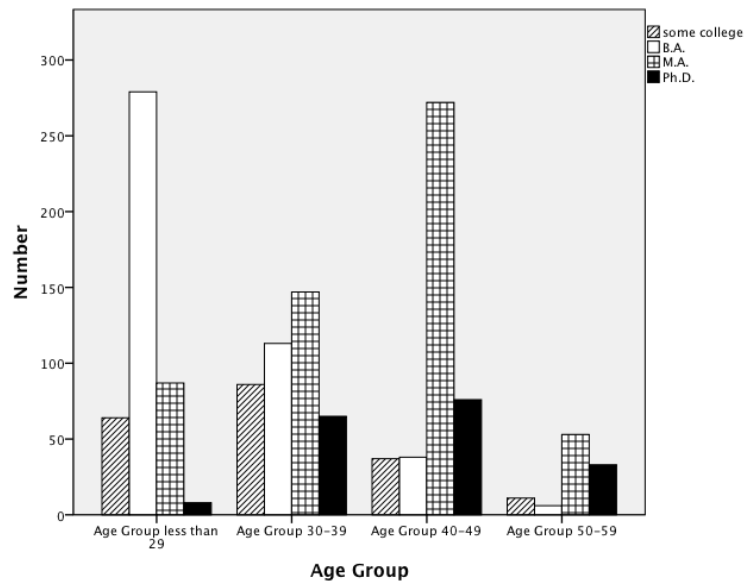


Figure 24 Education Changes of Chinese Provincial Leaders by Age Group, 1990-2013

At what career stage did provincial leaders improve educational levels? Figure 25 shows the occurrence of education changes with tenure in labor force. In terms of educational upgrading to some college and a doctorate, the event occurrences of education changes are evenly distributed by job tenure. On the other hand, over a half of provincial leaders tended to improve educational levels to a bachelor’s degree from 5- to 10-year seniority, particularly after 7-year working experience. They were largely younger than 30 years old and largely improved their educational credentials in the 1980s. It can be assumed that provincial leaders get involved in the undergraduate program at the early start of their careers. By comparison, provincial leaders are more likely to acquire a master’s degree either before working or after over 20 years of working. 29.87% of educational advancement to a master’s degree occurs when provincial leaders have job tenure from 23 to 28 years. With a seniority of 23-28 years, an overwhelming majority of provincial leaders were in the 40s. For

the most part, they completed educational progression in the 1990s. More discussions pertaining to improving educational levels to a master's degree at midcareer will be shown in answering the third question.

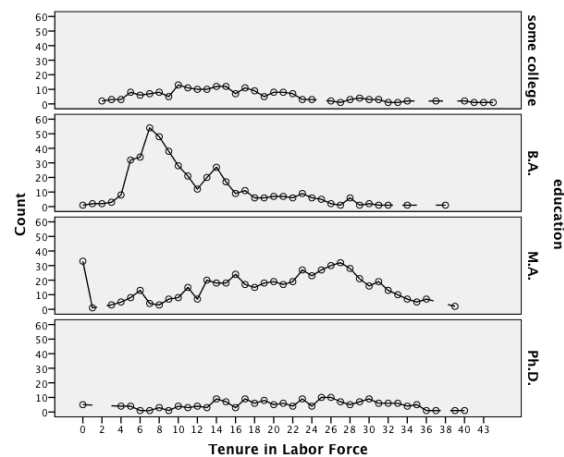


Figure 25 Education Changes of Chinese Provincial Leaders by Job Tenure, 1990-2013

At what administrative rank did education changes occur? The answers are provided in Table 34. First, educational advancement to some college generally occurred before entry into public service or at the administrative ranks of deputy-bureau/director level or below. Second, as mentioned previously, provincial leaders completed college education at the very early career stages, namely either before starting political careers or at administrative ranks lower than deputy-division-head level. A vast majority of them experienced major life transitions and won the educational opportunity after the reopening of universities in 1977. It seems to be the mixed result of both the post-CR educational reforms and the CCP's emphasis on recruiting younger and better-educated cadres. Finally, educational advancements to a master's degree and a doctorate share a similar pattern. More specifically, they mostly occur before working with public organizations or at the administrative ranks between deputy-bureau/director level and vice-provincial/ministerial level. This observation is to a greater extent consistent with the above two findings. One is that provincial leaders in the 30s and 40s are more interested in attaining a master's or a doctoral degree. The other is that provincial leaders, as mid-career cadres, are likely to earn a master's degree.

All these findings provide important empirical support to the vital role of higher education in top leadership selection since 1995. As specified earlier in Section 5.1.1, a master's degree or a doctorate was required in recruiting leading cadres at the vice-provincial/ministerial level in 1995 and 1998⁹⁰. In 2002, this educational requirement was underlined for the cadre appointment at the deputy-bureau/director level or above⁹¹. In response to such achievement-based promotion criteria, educational advancement to a master's degree or a doctorate sprouted in the 1990s and the 2000s. Strikingly, around a half of provincial leaders endeavored to earn a master's degree before climbing to the vice-provincial/ministerial level, namely at the deputy-bureau/director level and bureau/director level. Both the educational level and the timing of educational attainment therefore appear highly significant for political careers.

Table 34 Education Changes of Chinese Provincial Leaders by Administrative Rank, 1990-2013

Administrative Rank	Some College	B.A.	M.A.	Ph.D.
Not in Public Service	49 (24.75%)	208 (47.71%)	140 (25.04%)	52 (28.57%)
Lower than Deputy-Division-Head Level	35 (17.68%)	123 (28.21%)	15 (2.68%)	2 (1.10%)
Deputy-Division-Head Level	26 (13.13%)	19 (4.36%)	10 (1.79%)	3 (1.65%)
Division-Head Level	26 (13.13%)	22 (5.05%)	23 (4.11%)	4 (2.20%)
Deputy-Bureau/Director Level	34	32	117	21

⁹⁰ People.com.cn, 1995. "dangzheng lingdao ganbu xuanba renyong gongzuo zanxing tiaoli" (Interim Regulations on Cadre Recruitment). [Online] (Updated 9 Feb 1995, 党政领导干部选拔任用工作暂行条例). Available at: <http://cpc.people.com.cn/GB/64162/71380/71387/71591/4855103.html> (accessed on 29 Oct 2014); General Office of the CCP Central Committee, 1998. *1998-2003 quanguo dangzheng lingdao banzi jianshe guihua gangyao* (Development Program Concerning the Establishment of a National Party and State Leadership for 1998-2003, 1998—2003 年全国党政领导班子建设规划纲要), No. 16.

⁹¹ People.com.cn, 2002. "dangzheng lingdao ganbu xuanba renyong gongzuo tiaoli" (Regulations on Cadre Recruitment, 党政领导干部选拔任用工作条例). [Online] (Updated 23 Jul 2002). Available at: <http://www.people.com.cn/GB/shizheng/16/20020723/782504.html> (accessed on 29 Oct 2014).

	(17.17%)	(7.34%)	(20.93%)	(11.54%)
Bureau/Director Level	15 (7.58%)	22 (5.05%)	163 (29.16%)	49 (26.92%)
Vice-Provincial/Ministerial Level	11 (5.56%)	8 (1.83%)	84 (15.03%)	46 (25.27%)
Provincial/Ministerial Level	2 (1.01%)	1 (0.23%)	7 (1.25%)	5 (2.75%)
Total	198 (100.00%)	436 (100.00%)	559 (100.00%)	182 (100.00%)

Source: Author's database.

To conclude, the dynamic analysis of education changes, in fact, principally explicates the extent to which educational stratification of the 1950s birth cohort was shaped by the launch of the CR. Although the 1950s cohort takes only 34.37% of the total leadership sample under study in this thesis, it produces 62% of provincial leaders who achieved educational advancement from 1990 to 2013. The 1950s birth cohort of provincial leaders is a unique leadership group. They are, first and foremost, staying in power and actively engaged in contemporary Chinese politics. They became primary or middle school dropouts at youth from the inception of the CR. A large number of them underwent profound life-course transitions from school to work in the middle of the CR. They benefited from the far-ranging educational reforms and returned to school in their 20s during the Deng era. At midcareer, they appeared as political stars in the making. At the same time, they witnessed the growing importance of higher educational credentials in elite mobility in the 1990s. The decisive turning points in the life course of this leadership group emerged at the turning points in the CCP's history. In another sense, it is reasonable to conclude that educational advancement for this group of political actors is inherently policy and politically driven.

5.2.2 Changes in Academic Majors

In parallel to the changes in educational levels as investigated previously, this section will examine the changes in academic majors from educational histories of Chinese provincial leaders between 1990 and 2013. As reported in Table 35, among

education-changing events, the proportion of humanities and social sciences majors remains above and beyond that of science and engineering. A large number of provincial leaders hold the same category of specialty in the course of higher educational advancement. For all the education-changing events, it is important to indicate that 12.84% of provincial leaders make major changes from science to humanities and social sciences. Section 5.1.3 has already explained why academic disciplines of humanities and social sciences prevail in educational attainment for Chinese political elites. This section prefers to look at the events of major changes.

Consider major-changing events from humanities and social sciences to science only. The acquisition of science majors here exhibits three distinct patterns. First, the changes in academic majors to science are pertinent to job description and responsibilities. For example, Bai Aying (白阿莹), current vice governor of Shaanxi, preferred to study management engineering for his master degree in Xi'an Jiaotong University between 1991 and 1993. This apparently departs from his prior academic background of Chinese literature, for either some college or a bachelor's degree. Bai's occupational history shows that Bai has worked from a frontline worker to a leader in Qinchuan Machinery Factory of China North Industries Group Corporation for 24 years. Therefore, the major shift from Chinese literature to management engineering is more occupation-specific. As another example, Wang Maolin (王茂林), former party secretary of Shanxi and Hunan, received adult education catering to cadres in the coal mining industry. Wang changed his academic discipline from accounting to coal mining engineering while serving in the Datong Mining Administration for over ten years.

Second, the major changes are partly due to the interdisciplinary nature of academic majors. For example, degree holders of management science and engineering could be regarded as graduates specialized either in management or in engineering. Out of 26 provincial leaders, ten with a major of management science and engineering are categorized as the science majors, such as Ding Shaoxiang (丁绍祥) graduating from Kunming University of Science and Technology, Feng Jianshen (冯健身) from Harbin

Institute of Technology and Wang Yang (汪洋) from University of Science and Technology of China⁹². It seems the academic discipline of management science and engineering is more likely to be identified as a science major in the science-specific universities. Returning to one of the above examples, Wang was trained in public administration in an undergraduate program in Central Party School from 1989 to 1992. He studied management science in School of Management Science for a master's degree from 1993 to 1995. The former is classified as humanities and social sciences and the latter as science and engineering. Thus, Wang is considered to change academic majors. In comparison, Luo Huining (骆惠宁), current party secretary of Qinghai, earned a bachelor's degree of economics from Anhui University between 1978 and 1982. He received a master's degree of management by studying management science and engineering in School of Business in University of Science and Technology of China from 1999 to 2002. In this respect, Luo was trained in the same specialty of humanities and social sciences for both a bachelor's degree and a master's degree. Comparing Wang's and Luo's educational backgrounds, they exhibit the similar patterns, namely studying humanities and social sciences for university education and management science for a master's degree. However, they are classified into different leadership groups regarding whether or not they have changed academic disciplines in the course of educational advancement. This is because the specialty of management science and engineering is regarded as a major of science in some universities but that of humanities and social sciences in the others.

Finally, a small portion of educational advancement comes from the training program for one-year master study jointly organized by Chinese governments and universities. The typical examples are three current vice governors of Hebei, Jiang Deguo (姜德果), Shen Xiaoping (沈小平) and Xu Ning (许宁). All of them attended

⁹² More examples include Fu Zhifang (付志方) and Song Xuanta (宋璇涛) from Tianjin University, Li Ligu (李立国) from Northeast University of Science and Technology, Qin Guangrong (秦光荣) from Central South University of Technology, Song Enhua (宋恩华) and Yang Yongmao (杨永茂) from Harbin Institute of Technology, and Zhang Xuebin (张学兵) from Tongji University.

the mayors' class launched in 1998⁹³. They graduated as Master of Science in Managerial Economics from Nanyang Technological University of Singapore. They are conceived as master degree holders of science majors, rather than humanities and social sciences.

In summary, education changes for Chinese provincial leaders are characterized by the predominance of academic majors of humanities and social sciences, coupled with the persistence of the same category of academic disciplines. By examining the changes in fields of specialization, the transition from science to humanities and social sciences is more likely to occur for political elites in China.

Table 35 Changes in Academic Majors for Chinese Provincial Leaders, 1990-2013

Changes in Academic Major	Frequency	Percentage	Total
No Major	161	11.62	
Science	173	12.48	360
Humanities & Social Science	26	1.88	(25.97%)
<hr/>			
No Major	377	27.20	
Science	178	12.84	1026
Humanities & Social Science	471	33.98	(74.03%)
<hr/>			
Total	1386	100.00	

Source: Author's database.

To take a step further, Figure 26 illustrates the distribution of academic disciplines by age across different educational level advancement. The dominance of humanities and social sciences is well observed. Specifically, it applies to educational advancement to some college and a bachelor's degree for provincial leaders of all ages, to a master's degree for those aged 32 or over, and to a doctorate for those older than 35 years. This trend is ultimately accounted for by two critical observations found in the above-mentioned leadership groups. One is that majors of humanities and social sciences are highly job-related for provincial leaders who

⁹³ For more details about the Chinese mayors' class from Nanyang Technological University of Singapore, visit the website of <http://cohass.ntu.edu.sg/Academics/Pages/NanyangCentreforPublicAdministration.aspx>.

experienced educational progression after entering public service. The other is that the long time lags between two adjacent educational levels lead to a lack of preparatory courses for science majors.

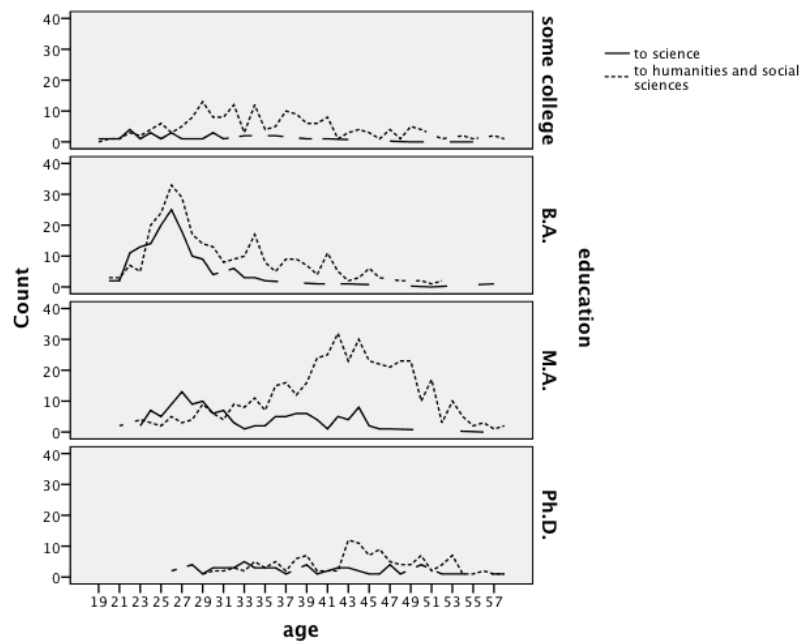


Figure 26 Major Changes of Chinese Provincial Leaders by Age, 1990-2013

At the empirical level, on one hand, a vast majority of these leadership groups improved their educational credentials after starting their political careers. In particular, the proportions for educational progression after entry into public service are 73.23% for some college and 74.06% for a master’s degree (Table 36). As analyzed earlier in Section 5.2.1, the academic training of humanities and social sciences helps enhance the governance-related professional knowledge and decision-making expertise for political elites, such as political sciences, law studies, public administration, economics and finance. Besides, as indicated before, the relative flexibility in schedules and lecturing for humanities and social sciences fits better with political or bureaucratic careers. On the other hand, as shown in Table 36, the average intervals between two educational levels are in a descending order of some college (15.80 years), a master’s degree (15.28 years), a doctorate (11.77

years) and a bachelor’s degree (9.96 years). Noteworthy is that the interval relative to the prior educational level amounts to ten years or longer for 77.78% of provincial leaders with educational advancement to some college and 77.95% to a master’s degree. The long intervals to a certain degree undermine the aspirations of studying science or engineering majors because of the tougher admission requirements, such as mathematics and calculus. As a result, they tended to choose humanities and social sciences as field of concentration.

Table 36 Public Service Tenure and Educational Duration Time in Education-Change Events, 1990-2013

	Obs.	Public Service	Percent	Duration Time
Some College	198	145	73.23	15.80
B.A.	436	224	51.38	9.96
M.A.	449	399	88.86	15.28
Ph.D.	137	117	85.40	11.77

Source: Author’s database.

Note: 1. The analysis of educational advancement to some college and a bachelor’s degree focuses on provincial leaders of all ages. The analysis of educational advancement to a master’s degree focuses on provincial leaders aged 32 or over and to a doctorate focuses on those aged 36 or over.

2. The third column of “public service” summarizes how many provincial leaders improve their educational levels to a specific level after the public service entry.

3. The duration time is measured by year.

On a final note, in Figure 26, the proportion of science majors lags far behind that of humanities and social sciences with respect to educational advancement to some college and a master’s degree. It is partly attributed to the party sponsored adult education through party school systems. Empirically, 58.08% of provincial leaders with educational progression to some college obtained diplomas from party schools or cadres’ training courses. In the case of educational upgrading to a master’s degree, 48.11% of provincial leaders aged 32 or over received party-school education. As already discussed in Section 5.1.3, a high percentage of party-school education is ultimately accompanied by an increase in studying humanities and social sciences because of the modules available within party school systems.

In summary, the selection of specialty for provincial leaders with education changes yields two major characteristics. One is the partial persistence of the same type of

academic disciplines coupled with a number of disciplinary changes at different educational levels. The other is the preponderance of humanities and social sciences in education changes. The preference of humanities and social sciences originates from its linkage with political careers, the difference between two distinct academic disciplines and the influence of party-school education.

Section 5.1 and 5.2 has already grounded the education analysis in the educational trajectories of provincial leaders. The education analysis is based on the comparison of formal and final education along with the dynamic analysis of education changes. The in-depth interpretation of empirical results is placed in the overview of the CCP's history of educational reforms, such as two waves of educational expansions in the 1950s and the late 1970s and the faculty restructuring in the early 1950s. After delineating the educational attainment of provincial leaders, Section 5.3 will proceed to touch on another facet of human capital, namely tenure in public service.

5.3 Seniority in Public Service

In this section, the examination of public service tenure is based on 9,798 event-history observations with the starting year of public service available. Out of 9,798 cases for provincial leaders from 1990 to 2013, 13.38% attain their first job in the party apparatus or government bureaucracy. The average seniority in public service is 23.46 years. For provincial leaders with different leadership titles, the corresponding figures of public service tenure are 28.18 years for party secretaries, 25.33 years for provincial governors, 24.80 years for deputy secretaries and 21.58 years for vice governors (Table 37). It could be concluded that, the tenure with public organizations is positively associated with the hierarchical levels in provincial leadership. That is, the higher position in the power structure, the longer seniority of working in public service.

Table 37 Seniority in Public Service of Chinese Provincial Leaders, 1990-2013

	Obs.	Mean	Std. Dev.	Min	Max
Party Secretary	891	28.18	10.62	3	54

Governor	905	25.33	10.65	0	49
Deputy Secretary	2860	24.80	9.72	0	49
Vice Governor	5142	21.58	10.05	0	53
Total	9798	23.46	10.29	0	54

Source: Author's database.

Longitudinally, Figure 27 shows the historical changes in the average length of time that provincial leaders spent in working with public organizations. It is straightforward to identify a decrease with small fluctuations in the average public service seniority from 1990 to 1999. The lowest value is 21.41 years on average in 1999. From 2000 onward, the average seniority rose steadily over time with a slight drop at every critical turning point of leadership transitions. This pattern is essentially due to the institutionalization of leadership selection as analyzed in Chapter 4. In other words, the stable increase results from the relatively stable term of office provincial leaders held and the comparable duration of time for upward mobility at each administrative rank. The small decreases in the average tenure are the results of recruiting new political elites into provincial leadership. Concerning the changes in the average public service tenure, how could the pre-2000 declining trend be explained?

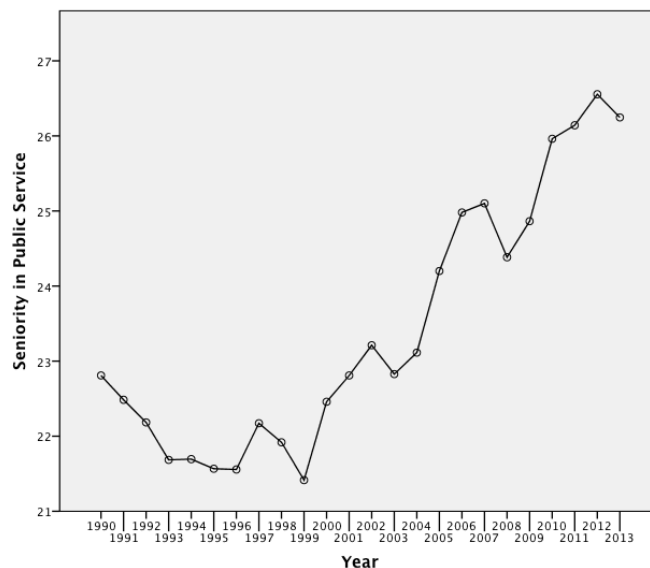


Figure 27 Seniority in Public Service of Chinese Provincial Leaders, 1990-2013

The answer to the above question is embedded in the career experience in the SOEs for Chinese political elites. 54.57% of the 1990-1999 leaders were assigned to the provincial authority positions after serving in the SOEs for a long time. Among them, 66.13% had seniority in the SOEs for more than ten years. As such, given the stability in the average age and the average job tenure, the high proportion of provincial leaders with lengthy tenure in the SOEs accordingly suppressed the accumulation of work experience in public service. The average tenure for political or bureaucratic careers thereby diminished from 1990 to 1999. Section 5.4 in the following will revisit these leaders' occupational history in the SOEs.

In terms of the descriptive analysis of public service tenure, the last characteristic of interest is the year of public organizational entry in comparison with the year of the career start. Regarding the labor force entry, most provincial leaders took their first job during the CR, approximately 60.82%. Figure 28 highlights that the peak of career start is located in the year of 1968 with 13.51% of provincial leaders starting careers at that time. By comparison, in terms of the starting year of public service, a broad majority of provincial leaders embarked on political careers shortly after the CR, particularly in 1983. By overviewing the leadership characteristic transformation in Chapter 4 and the human capital of provincial leaders in this chapter, the long-lasting impact of the CR is evident for the 1990-2013 provincial leadership.

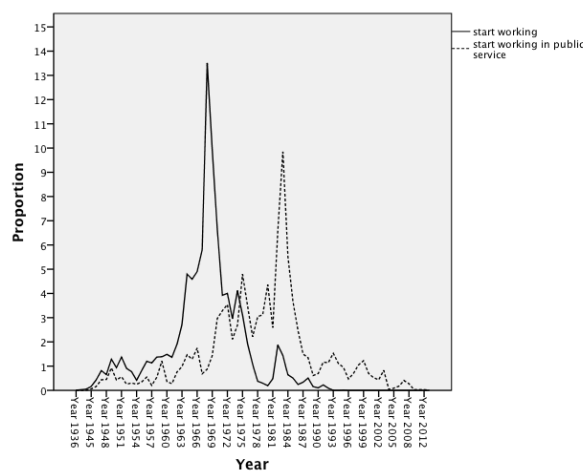


Figure 28 Year of Starting Working and Public Service for Chinese Provincial Leaders, 1990-2013

To conclude, the longitudinal changes in the public service tenure diverge into two distinctive historical periods, namely 1990-1999 and 2000-2013. As to the former, the 1990-1999 provincial leadership selection is characterized by recruiting a large number of elites from the SOEs. The resulting long tenure with the SOEs entailed a declining trend of the average seniority in public service in the 1990s. During the period of 2000-2013, the average tenure in party systems or governments for the most part displays a steady increase.

5.4 Technocracy or Political Technocracy?

Revisiting the above findings on the rise and fall of science and engineering majors, the further examination of educational backgrounds and career experience for Chinese political elites speaks to an ongoing debate over leadership transitions in reforming China. This section will begin by reviewing this scholarly debate surrounding technocracy and political technocracy. On this basis, the bureaucratic-technocracy leadership is identified in provincial politics after the empirical assessment of provincial elite transformation.

Some scholars stress the rise of technocratic politics after the Twelfth Party Congress in 1982 (Li, 2001; Li & White, 1988, 1990, 1998). That is, the ruling elite in post-Mao China is a group of technically trained leaders with professional job experience, such as industrial managers, economic planners or engineers (Li, 2001: 25-28; Li & White: 19, 1998: 235-236). They share similar technocratic identity and a pragmatic orientation (Li & White, 1988: 395-396). They maintain the leadership unity and stability along with mutual recognition (Li & White, 1998: 234). In parallel to this technocracy paradigm, other scholars, however, reject the dominance of technocrats. They, alternatively, point out the coexistence and cooperation of technocrats and career bureaucrats. They argue that neither of these two groups is granted absolute authority or monopolizes the unbounded power. In fact, they share political power (Lee, 1983; Zang, 1991a, 1993, 1999). As Zang (1993: 801) puts it, “the career bureaucrats need the technocrats for their advice and expertise, and

thus need to share power with them. The technocrats need to cooperate with the career bureaucrats in order to climb up the political hierarchy that has been controlled by the latter.” In this respect, the leadership formation is conceived as political technocracy instead of just technocracy (Zang, 1991a: 123).

Both sides interpret the emergence of technocratic elites as a changing way of legitimizing ruling power and responding to the massive political and socioeconomic changes at large (Li & White, 1988: 395-396, 1990: 12-13, 1998: 234). It fundamentally responds to the demands of modernizations, economic achievement and technological development (Zang, 1993: 789-790). In other words, as argued by Li and Bachman (1989: 89), “under the impact of an accelerating worldwide scientific and technological revolution, technical expertise should be a basic credential for leadership and a fundamental reason for popular support. According to these leaders, modern society is so complex that only experts can estimate the implications of a decision.”

The divergence of both sides primarily lies in the weaknesses of technocratic elites and the relative strengths of career bureaucrats observed by the political technocracy thesis. For example, reasonable doubt remains as to whether or not technocrats, as technical specialists, could effectively cope with the complex sociopolitical issues that are basically different from technical issues (Li & Bachman, 1989: 90). As Li and White discuss (1990: 20-21), “social and economic problems sometimes caused by new policies often occur more rapidly than the means technocrats can devise to deal with them. Their technical ‘expertise’ is probably even more important as a legitimacy to justify their rule than as a functional requisite of their leadership.” Rather, career bureaucrats come to the fore from the grassroots level step by step. They possess broad career experience and accumulate political and human capital in diversified functional divisions as well as party and government organs at varying levels. They are relatively advantaged in bureaucratic operation, specialized knowledge and experience in governance. They are better at people skills than technocrats who undertake technical jobs and work with machines for decades.

Therefore, it could be argued that career bureaucrats on one hand co-opt technical professionals into the power center, and on the other, hinder the rise of technocrats.

Although current literature has empirically thrown new light on the above controversy regarding technocracy or political technocracy, the focal point under study is largely central leaders, particularly the members of CCs (Lee, 1983; Li & White, 1988, 1998; Zang, 1991a, 1993, 1999). This section will enrich the understanding of elite transformation by analyzing the specialty and main career patterns of the 1990-2013 Chinese provincial leaders. An intriguing question arises: is the contemporary Chinese provincial leadership characterized as technocracy or political technocracy?

To avoid definitional ambiguities, this section follows the definition of technocracy from Li and White (1990: 19, 1998: 235-236). Technocrats are identified according to three necessary and important elements: (1) specialty in such applied sciences as engineering and natural sciences in formal education of some college or above; (2) professional job experience in engineering, industry and economic planning; and (3) assuming authority positions. For the purpose of operationalization, the technocratic majors are considered as both natural and applied science, such as physics, chemistry, biology, geology, mathematics, engineering, agriculture and medical science. Despite the overlapping occupations, the evaluation of professional and technocratic job experience depends on two components: (1) main career patterns by assessing the length of work experience⁹⁴; and (2) tenure in industry, engineering

⁹⁴ In the empirical analyses of elite transformation, Li and Bachman (1989: 75) and Zang (1993: 797-798; 1999: 107) examine career patterns by studying the frequency and length of job experience. This study partly follows this assessment of career patterns and makes slight refinements. From the established leadership datasets in this thesis, the main career pattern of provincial leaders refers to the specific occupational experience with the longest seniority by comparing the length of tenures with varied occupations. However, the scope of observation periods extends from the entry into labor force to the career exit or to 2013 as for the current leaders. Hence, for the current provincial leaders, there is little difference between main career patterns throughout their careers and those prior to taking the provincial leadership posts. For the former provincial leaders, the difference between the two possibly become apparent because at least five or ten years of

and economics for ten years or longer. In addition to technocrats, this section adopts the definition derived from Zang (1993: 788). Bureaucrats are regarded as “state or party cadres who have worked in the government system, the party hierarchy, mass organizations, the People’s Liberation Army (PLA), or other agencies.” In addition, they are in no case trained in technocratic majors.

At the empirical level, out of 9,814 event-history observations, provincial leaders trained in technocratic majors are composed of 55.44% of the total provincial leadership group (Table 38). In particular, provincial leaders studying engineering constitute 38.22% of the total. In the realm of humanities and social sciences, the major field of economics and finance receives greater attention among political elites at the provincial level, taking 12.10%. The technically trained elites provide a noticeably larger proportion of the 1990-2013 provincial chiefs than those studying humanities and social sciences.

Table 38 Academic Majors of Chinese Provincial Leaders, 1990-2013

	Obs.	Percent
Technocratic Major		
Physics/Chemistry/Biology/Geology/Mathematics	863	11.05
Engineering	2984	38.22
Agriculture	364	4.66
Medical Science	117	1.50
Subtotal	4328	55.44
Humanities & Social Sciences		
Philosophy	210	2.69
Economic/Finance	945	12.10
Legal Studies/Political Science	583	7.47
Education	57	0.73
Literature/Linguistics	958	12.27
History	227	2.91
Management	58	0.74

working experience as party or government cadres are added to their tenure. Even though some of them have assumed professional occupations for many years, they are likely to be considered as career bureaucrats rather than technocrats. The proportion of technocratic elites may be underestimated. To improve the accuracy and adequacy of statistical analyses, this section looks at both main career patterns and work experience as technical expertise in industry, engineering and economics. Those working in these specialized areas for ten years or longer are also regarded as potential technocrats.

Subtotal	3038	38.91
Unknown	441	5.65
Total	7807	100.00

Source: Author's database.

The technocratic major is merely one of the necessary prerequisites for analyzing technocratic leadership. With reference to the definition of technocrats mentioned previously, the next critical step is to classify and examine career patterns. Technocrats generally have career experience in industry, engineering and economics. As shown in Table 39, only 15.77% of elites are recruited into provincial leadership as professional specialists in industry, engineering and economic planning. In sharp contrast, a large number of career bureaucrats conspicuously come to power, taking 64.32% of the total provincial leaders. Noteworthy is party workers account for 52.45%, whereas government administrators only take 8.63%. To take insight into the tenures in industry, finance and engineering respectively, provincial leaders with ten-year tenure or longer provide 21.98% in industry, 10.76% in finance and 0.92% in engineering. Taking both the main career patterns and job tenures in professional occupations together, 32.26% of provincial leaders work as industrial managers, engineers or economic planners.

Table 39 Main Career Patterns of Chinese Provincial Leaders, 1990-2013

	Obs.	Percent
Party Work	5147	52.45
Government Administration	847	8.63
Mass Organization	251	2.56
Military	67	0.68
Subtotal	6312	64.32
Industry	865	8.81
Engineering	90	0.92
Economic/Finance	593	6.04
Subtotal	1548	15.77
Education	658	6.70
Police/Court	101	1.03
Personnel/Organization	144	1.47
Resource/Environment	364	3.71
Propaganda/Media	133	1.36
Others	554	5.64
Total	9814	100.00

Source: Author's database.

By considering both the technocratic majors and the relevant career patterns, technocrats account for 20.13% of the 1990-2013 provincial leaders. Among these technocratic elites, 73.84% acquire professional titles, such as professors, engineers and the like. In addition to the professional competency and specialization experience, technocrats in China's provincial politics simultaneously cultivate political credentials and significant work experience in party or government hierarchies. For example, 97.62% of technocrats are CCP members. Those with CCP seniority for over 20 years make up 83.15% of the provincial leaders with CCP membership. Nearly all the technocrats are engaged in party affairs and government administration. Accordingly, in addition to technical expertise, the recruitment of technocrats in reforming China is constrained by political orthodoxy, ideological conformity and administrative competence.

From a historical point of view, there was a fluctuating increase in the technocratic ratio, from 26.21% in 1990 to 32.79% in 1996 (Figure 29). From 1997 onward, the proportion of technocrats continuously and notably diminished from 32.54% in 1997 to 9.13% in 2013. In this regard, the decline of technocratic leadership at the provincial level is straightforward and well understood (Li, 2012a: 7-9). By contrast, the fluctuating increase in the proportion of technocrats was accompanied by a fluctuating decrease in the proportion of career bureaucrats from 1990 to 1997. As illustrated in Figure 29, the ratio of bureaucrats started to provide 34.46% in 1990 with a small drop to 28.25% in 1993. Thereafter, the percentage of career bureaucrats slightly rose to 30.25% in 1994 and was reduced to 26.67% in 1996 and 26.68% in 1997. The small fluctuation over the period of 1990-1997 was followed by a consecutive ten-year slow increase from 29.07% in 1998 to 44.59% in 2007. Thereafter, the percentage of career bureaucrats slowly reached a peak value of 45.13% in 2010 and modestly decreased to 37.32% in 2013. By comparing technocrats and bureaucrats in provincial politics from 1990 to 2013, the number of career bureaucrats dramatically exceeds that of technocrats during the period of 1990-1991 and from 2000 onwards. The rise of technocratic leadership was discernible in the 1990s, particularly from 1992 to 1999. Overall, the 1990-2013

provincial leadership was distinctively characterized by the alliance of technocrats and career bureaucrats coupled with a decline in technocracy and an increase in bureaucratic leadership. The chapter of conclusions will summarize the demographic characteristics, human capital and social capital of both technocrats and bureaucrats for further comparisons.

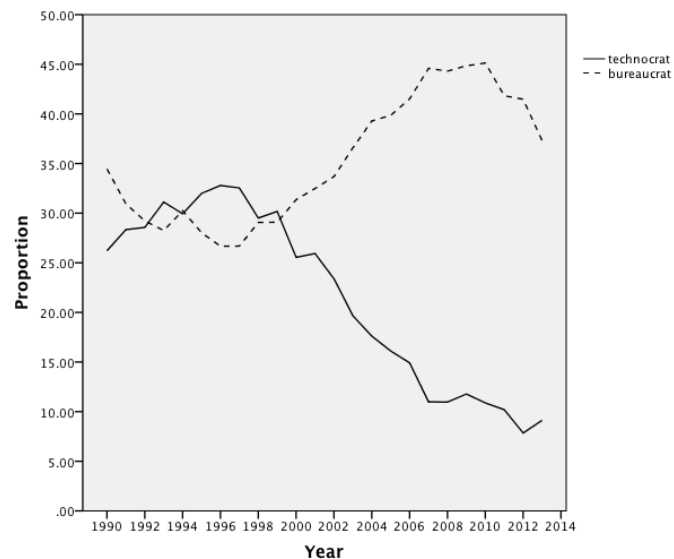


Figure 29 Technocrats and Career Bureaucrats in Provincial Leadership, 1990-2013

To conclude, despite the preponderance of provincial leaders trained in science and engineering, it is far away from realizing the dominance of technocrats in reforming China. In reality, the 1990-2013 provincial elite transformation has turned away from the technocratic leadership. It has alternatively moved toward the bureaucratic-technocracy with a relative dominance of career bureaucrats since 2000.

5.5 Conclusion

The preceding sections have already addressed four central issues regarding human capital of Chinese provincial leaders from 1990 to 2013. Before embarking on a comprehensive and empirical analysis of education and work experience, this chapter rests on an important question as a starting point. That is, why is it necessary to differentiate full-time formal education from final educational degrees?

The findings in this chapter, on one hand, point to “the educational advancement fever” and particularly the prevalence of part-time education for provincial elites, and, on the other hand, the suspicion of the quality of part-time education. Consequently, this chapter draws on the independent analysis of formal and final education along with their comparison.

This chapter approaches the in-depth analysis of formal education in the history of educational reforms in China. For example, in terms of formal educational levels, the proportions of college-educated leaders grew remarkably during the periods of 1990-1999 and 2011-2013. By examining the years of college entry, the growing educational credentials in provincial leadership is fundamentally in accord with two waves of educational expansions in the 1950s and in the late 1970s after the CR. Conversely, a reduction in the share of college-educated leaders from 2000 to 2010 is the consequence of disrupting educational systems in the turbulent decade of the CR. As to the major area of study, provincial leaders tended to study science and engineering majors from 1990 to 2005. After 2005, more provincial leaders preferred humanities and social sciences. Returning to the Chinese history of higher education, the 1952 faculty restructuring produces lasting effects on the 15-year predominance of leaders majoring science and engineering in provincial politics during the period of 1990 and 2013.

The analysis of final education places considerable emphasis on the influence of part-time education and party-school education. In the first place, the historical changes in final educational levels show a continuing increase in provincial leaders with college education. This observation largely stems from the growing role of education in leadership selection, interconnected alumni networks and the “tricky” alliance of politics and educational institutions. In the second place, since 2000, academic disciplines of humanities and social sciences have been predominantly favored in final educational attainment. It is argued that the training of humanities and social sciences entails better matches of political elites to leadership roles and governance. Its flexibility of lecturing and assignments fits more readily into the

schedules of provincial leaders. In addition, receiving higher education from party schools improves the probability of studying humanities and social sciences.

Along with the separate investigation of formal and final education, this chapter proceeds to undertake a dynamic analysis of educational advancement by looking at educational histories of provincial leaders. Provincial leaders experiencing education changes were largely born in the 1950s. They grew up and received basic education prior to the CR. They experienced a life transition from school to work in the context of the CR chaos. A large number of them returned to school in the late 1970s when the college entrance examinations resumed in 1977. They were encouraged to promote educational achievement in their formative years in response to the universalistic criteria of upward mobility. Overall, they witnessed the shifting state policies. Their life courses were significantly affected by these policies, such as the initiation of the CR, the reopening of universities and the resumption of college entrance examinations after the CR, and the strengths of higher education in attaining elite status in the mid 1990s. In this sense, the empirical assessment of education changes to a certain degree shows the extent to which the shifting state policies and major historical events affected life chances of provincial leaders, particularly the 1950s birth cohort.

In Section 5.3, evidence on work experience shows that the leadership group under study in this thesis largely entered labor force in the course of the CR. They started their political careers shortly after the CR. With respect to the seniority in public service, there was a decrease in the average seniority in the 1990s, followed by a steady increase since 2000. The declining public service seniority is attributed to the fact that elites with a long tenure with the SOEs were recruited into provincial leadership from 1990 to 1999.

Based on the previous education analysis, Section 5.4 goes a step further to evaluate the extent to which technocracy affects provincial politics. It provides a general account of the current scholarly debate over technocracy or political technocracy in contemporary China. The historical changes in the ratio of technocratic elites are

traced through analyzing the percentage of provincial leaders with technocratic specialty and lengthy seniority in professional occupations. The empirical findings offer compelling evidence to support political technocracy thesis rather than the technocracy paradigm. The reasons for this are twofold. One is the fact that career bureaucrats profoundly outnumbered technocrats from 2000 onwards. Strikingly, bureaucrats were over twice as many as technocrats during the period of 2004-2012. Noteworthy is that the number of bureaucrats was 5.28 times that of technocrats in 2012. The other is that an overwhelming majority of technocrats joined the CCP and similarly worked as party workers and government cadres for decades. In a broader sense, these technocratic elites can be considered as career bureaucrats as well.

To summarize, based on the above statistical results, the accumulation of human capital reflects the changing nature of leadership cohorts. There exists a clear-cut dividing line between provincial leaders in the 1990s and those since 2000. The former provincial leadership group came from the birth cohorts of the 1930s and the 1940s. They grasped the unique opportunity for full-time college education in the 1950s when the reforms of educational expansion and faculty restructuring were introduced. A high proportion of them were trained in technocratic majors and worked as industrial managers, economic planners and engineers in the SOEs after college graduation. Their tenure in party or government organizations was relatively short. In sharp contrast, the leadership cohort of the 1950s comprises a large share of provincial leaders since 2000. The CR was launched during their adolescence. As summarized earlier, the life chances of the leadership cohort of the 1950s were, to a considerable extent, affected by the outbreak of the CR. They are labeled as “the lost generation” (Bonnin, 2006: 245, 266-267). After studying human capital of provincial leaders, the analytic focus of Chapter 6 will be on the accumulation of social capital in the workplaces.

Chapter 6 Social Capital of Chinese Provincial Leaders

This thesis aims to analyze the effects of human capital and social capital on elite mobility in Chinese provincial politics. Chapter 5 has already described both the educational attainment and work experience for Chinese provincial leaders from 1990 to 2013. Chapter 6 directs the analysis towards their social capital accumulated from formal work relationships and occupational trajectories. As introduced previously in Chapter 3, social capital is assessed by the characteristics of social network available for political elites, namely network size, network diversity and upper reachability. Specifically, according to Chapter 3 on research methodology, the number of network size varies with the changes in workplaces, occupations and the occupational upgrading from the non-leadership post to the leadership post. Network diversity is contingent upon the number of career patterns, such as party work, government administration, industry, economics/finance and so on. Upper reachability in this thesis is interested in whether or not provincial leaders acquire secretary experience or work as CC members or alternate members. It captures two different dimensions of the upper reachable social resources. One is the full position at one level higher than the administrative rank occupied by provincial leaders for those without secretary experience. This is defined as the regular contacts in Section 6.2.3. The other is the administrative rank of the superiors for those who work as secretaries or the state-leader level accessible for the CC members and the alternate members. The above assessment sharpens the operationalization of social capital as an emerging research concept.

By quantitatively evaluating social capital, this chapter is organized into two parts. In the first place, Section 6.1 takes a descriptive look at the historical trends of social capital for the Chinese provincial leaders during the period of 1990-2013. This empirical assessment exclusively focuses on network size and network diversity only. Along with the longitudinal analysis, the specific leadership cases are further examined with respect to the maximum and minimum values of the network formation. The composition of upper reachability is not investigated in this section

because all the provincial chiefs are assumed to have access to the highest echelons in power. The value of upper reachability is alike for the leadership group at either the vice-provincial/ministerial level or provincial/ministerial level. In terms of the operational definition of upper reachability, the upper reachable administrative rank is the state-leader level for provincial chiefs under study.

In Section 6.2, research attention is shifted away from the description of social capital possessed by four types of the provincial top leaders. Instead, it turns to the dynamic analysis of the processes of accumulating social capital across administrative ranks. It asks an important research question. That is, how did the average social capital change with the administrative ranks from the section-head level to the state-leader level? The answers to this question are concerned with the variations in social capital along political elites' elevation to the top leadership position.

It is important to mention here that, the concluding remarks of the whole thesis will further discuss the empirical analysis of social capital in this chapter. Regarding the operational definition and the measurement strategies as noted earlier in both Chapter 3 and the foregoing paragraphs, social capital under study here centers on the specific capital developed from formal career histories and work connections. In this sense, to a considerable extent, human capital and social capital are overlapping and closely intertwined.

6.1 Social Capital of Chinese Provincial Leaders

6.1.1 Network Size

As explained in Chapter 3, network size indicates the number of social networks accessible from the formal work contacts. As to the operational measurement, network size increases with the changes in localities, organizations and occupations along with the occupational upgrading from the non-leadership position to the

leadership position. Based on 9,814 life-history entries, as a whole, the average social network size is 14.50 (Table 40). There are the most provincial leaders with the network size of 13, accounting for 9.38% of the total. The value of network size ranges from 4 to 39 for all the provincial leaders from 1990 to 2013.

The network size of four types of provincial leaders is compared on five descriptive statistics in Table 40, including mean, standard deviation, mode, minimum and maximum. The average network size is 18.73 for party secretaries, 16.41 for provincial governors, 15.37 for deputy secretaries and 12.93 for vice governors. It could be concluded with confidence that network size is positively correlated to the political power and the hierarchical levels: the more powerful the political officials, the larger the network size. This conclusion also applied to the basic statistics of mode. The values that occur with the highest frequency are 16 for party secretaries (10.77%), 14 for provincial governors (10.24%), 13 for deputy secretaries (11.01%) and 11 for vice governors (10.67%). Regarding the standard deviation, there is the most variability and dispersion in network size for party secretaries and the least variability for deputy secretaries.

Table 40 Network Size of Chinese Provincial Leaders, 1990-2013

Title	Obs.	Mean	Std. Dev.	Mode	Min	Max
Party Secretary	891	18.78	4.84	16	8	39
Provincial Governor	908	16.41	4.36	14	6	34
Deputy Secretary	2869	15.37	4.00	13	6	32
Vice Governor	5146	12.93	4.05	11	4	35
Total	9814	14.50	4.54	13	4	39

Source: Author's database.

The following analysis provides vivid examples of the provincial leaders standing at the extreme ends of the network-size spectrum before leaving the corresponding office as provincial chiefs (Table 41). In terms of party secretary, the largest value for network size is 39 and the smallest is eight. For instance, Chen Mingyi (陈明义), former party secretary of Fujian, is the only provincial party secretary with a network size of eight. Chen developed social ties from his career experience in Shanghai Jiao Tong University, Fisheries College of Jimei University, Fujian Provincial Science &

Technology Commission and provincial leadership roles as vice governor, party secretary and minister of Organization Department in Fujian Province. The sparse social network is primarily attributed to Chen's 18-year seniority in universities and the higher hierarchical level assumed upon the organizational entry of public service (i.e., the deputy-bureau/director level). Chen rarely experienced job transitions throughout his career. By 2000 when serving as party secretary, Chen only had worked in two different provinces (i.e., Shanghai and Fujian) and experienced job mobility from education, technology, government administration, personnel management to party affairs. In sharp contrast, Xu Guangchun (徐光春), former party secretary of Henan, had the largest network size of 39. His wide-ranging social network partly results from the frequent job shifts across four provinces (i.e., Beijing, Anhui, Shanghai and Henan) and across twelve career patterns as specified in Table 41. The typical example is Xu's job moves within Xinhua News Agency during the period of 1979-1991, from branch offices of Anhui, Shanghai to Beijing in turn. Moreover, it also results from the concurrent positions held by Xu. For instance, Xu became bureau director of State Administration of Press, Publication, Radio, Film and Television while concurrently working for the Propaganda Department of the CC of the CCP (below in short, the Central Propaganda Department) as vice minister.

Table 41 Selected Examples of Provincial Leaders with the Largest and the Smallest Network Size, 1990-2013

	Party Secretary		Governor		Deputy Secretary		Vice Governor	
	Chen Mingyi	Xu Guangchun	Abdul'ahat Abdulrixit	Zhao Zhihao	Ma Qingsheng	Zhao Zhihao	Chen Kangfu	Zhuo Kangning
1. Network Size	8	39	6	34	6	32	4	35
2. Job Mobility Across Provinces	Shanghai, Fujian	Beijing, Anhui, Shanghai, Henan	Xinjiang	Shandong	Guangxi	Shandong	Shandong	Hunan
3. Job Mobility Across Career Patterns	5	12	5	7	3	7	3	11
Party Work	Y	Y	Y	Y	Y	Y	Y	Y
Government Administration	Y		Y	Y		Y	Y	Y
Industry		Y					Y	
Engineering								Y
Economics			Y	Y		Y		Y
Education	Y			Y	Y	Y		
Culture		Y						
Technology	Y							
Mass Organization		Y						Y
Audit/Supervision		Y						
Police/Court		Y		Y		Y		Y
Military		Y		Y		Y		
Agriculture		Y						Y
Civil Affairs								Y

Research			Y				
Personnel Management	Y					Y	
Resource/Environment		Y					
United-Front Work							Y
Transportation		Y					
Propaganda		Y		Y		Y	Y
Rural Work							Y
People's Congress		Y	Y				

Source: Author's database.

Note: "Y" indicates that provincial leaders have worked in a specific career pattern.

For provincial governors, former vice chairman of CPPCC, Abdul'ahat Abdulrixit (阿不来提•阿不都热西提) followed fairly straightforward career paths that created the smallest network size of six. He maintained his professional career in Xinjiang Survey & Design Institute of Civil Engineering for 18 years. He was transferred to the Planning Commission of Xinjiang as vice director and party secretary from 1983 to 1991. Abdul'ahat Abdulrixit took up the office of vice chairman of Xinjiang in August 1991 and deputy party secretary and chairman of Xinjiang in 1993. Overall, he remained working in Xinjiang and experienced five distinctive career patterns of party work, government administration, research (particularly in civil engineering), economics and PPC in Xinjiang. By comparison, despite the work location limited to Shandong Province, Zhao Zhihao (赵志浩) acquired the largest network size of 34 among provincial governors from 1990 to 2013. Zhao is also ranked as first among deputy secretaries regarding the accumulation of network size. His dense social network is the mixed result of the following occupational attributes: (1) the early career start at the age of 15 working for the National Salvation Union in Longdong District of Huang County and later working as a tax collector in Luanjiakou Office of Yantai Customs; (2) diverse career patterns including party and government work, economics, education, police and military affairs as well as propaganda; (3) the occupational ascend in politics from the grassroots level to the provincial/ministerial level; and (4) the concurrent leadership responsibilities, e.g., simultaneously working as deputy party secretary, vice governor and director of Commission for Economic Restructuring from 1988 to 1989.

For deputy party secretaries, Ma Qingsheng (马庆生), former deputy party secretary of Guangxi had the smallest network size of six whereas Zhao Zhihao (赵志浩) obtained the largest social network as noted above. Ma spent 27 years in Agricultural College of Guangxi and made an important career change from the educational realm to the political arena. Ma started his political career by working as minister of Guangxi Organization Department in 1992. He was elected deputy party secretary and simultaneously appointed as president of party school in Guangxi. The limited social connections ultimately stems from the attachment to the same

workplace in Guangxi and the lengthy seniority in education as a late career starter in politics.

In terms of provincial vice governors, Chen Kangfu (陈抗甫), former vice governor of Shandong, possessed the smallest network size of four. Chen worked in Qingdao Hongqi Chemical Factory for 15 years from 1963 to 1978 and 18 years in Bureau of Petroleum and Chemical Engineering in Shandong from 1978 to 1996. In this regard, Chen devoted most of the career life to petroleum and chemical technology as a professional. It is not until 1996 that he came to administrative power and worked as vice governor at the age of 55. Being a non-CCP member, Chen only engaged in party affairs while taking up the leading post of vice chairman of the Central Committee of the Jiusan Society (九三学社)⁹⁵. Given little job mobility, Chen developed dense network ties from the professional career line and little involvement in politics and government administration. In contrast to Chen, at the other extreme, Zhuo Kangning (卓康宁), former vice governor of Hunan, had the largest social network of 35. Zhuo entered the workforce as a local rank-and-file cadre after graduating from Cili Middle School in Hunan. He climbed up the political hierarchy step by step and enjoyed frequent job reassignments across eleven distinctive career patterns. On average, it merely took 15.72 months for each job transfer in Zhuo's career trajectory. To mention only a few, Zhuo had worked for CCYL of Cili County, Propaganda Department and United-Front-Work Department of Changde Prefecture, Rural Work Office of the Provincial Committee of the CCP in Hunan, General Office of Provincial Government and so on.

As revealed in the above introduction, what is noteworthy is that provincial leaders with lengthy tenure in the professional career lines mostly have sparse network ties. The possible explanations are twofold. On one hand, as to the early professional career paths, this group of professionals-turned-politicians generally enjoys career

⁹⁵ The Jiusan Society was founded in 1945. It is one of the eight legally recognized minor democratic parties in China for the political alliance, cooperation and participation. Members of the Jiusan Society are largely recruited from the professionals in the fields of science and technology.

stability for decades regarding both the low rates of job mobility and few changes in workplaces. There is little doubt that they largely remain in the similar occupation for years as experts. More importantly, professional career lines are structured in relatively flat organizations compared to the party and government hierarchies⁹⁶. Therefore, the expansion of social connections is hindered. Consider Zhou Tienong (周铁农), former vice chairman of CPPCC as an example. Zhou's network size during the period of 1960-1983 is three given the internship as a tutor in Harbin Institute of Technology and the work experience in Yanshan University from tutor to associate professor as well as deputy director of Teaching and Researching Section. In sharp contrast, the extension of social networks rapidly accelerated and rose to 13 since 1983 when Zhou became vice mayor of Qiqihar. On the other hand, as to the occupational transitions towards political or administrative elite status at midcareer, their political careers generally seem to be straightforward in line with the professional backgrounds. A majority of them consistently take charge in the corresponding functional divisions. A typical example is Liu Qi (刘淇), former Politburo member. Liu worked for Ministry of Metallurgical Industry as minister in 1993 after serving in Wuhan Iron and Steel Company for 25 years. By considering the above explanations, among the provincial leaders from 1990 to 2013, professionals-turned-politicians are inclined to acquire narrow social networks.

From a historical point of view, there were minor fluctuations in the average network size from 1990 to 1999, that is, between 13.01 and 13.86 (Figure 30). The network size for the post-2000 Chinese provincial leaders was extended to 16.51 in both 2010 and 2013. The peak value of 16.59 emerged in 2012. To take insight into the stories behind these historical changes, two interesting findings need to be

⁹⁶ Take academic jobs as an example. The academic ranks in Chinese universities simply consist of four tiers, namely tutors (助教), lecturers (讲师), associate professors (副教授) and professors (教授). In terms of the measurement of network size as noted previously, the accumulation of network ties is hampered because it by no means depends on the occupational elevation in the above-mentioned tiers. Alternatively, it depends on the workplace mobility and career transitions from non-leadership posts to leadership posts (i.e., department heads, faculty deans and presidents of universities).

highlighted. First, the relatively sparse social network of provincial leaders throughout the 1990s could be partly explained by recruiting long-tenured elites in the SOEs into the authority positions in Chinese politics. At the empirical level, by comparing provincial leaders during the periods of 1990-1999 and 2000-2013, the former leadership group has 37.23% of provincial leaders working in the SOEs for ten years or more whereas the latter has 23.09%. In terms of the seniority in universities, there is little difference between two groups. To be specific, the corresponding proportions of provincial leaders with seniority in universities for over ten years are 9.17% in the 1990s and 7.62% from 2000 to 2013. As argued above, such professional occupational histories as serving in the SOEs, universities and the like are more likely to enhance career stability and thereby restrict the accumulation of social networks.

Second, the incremental progress of institutionalization in the cadre exchange system is partly responsible for the modest increase in network size for the post-2000 provincial leadership. Specifically, it is concretely stipulated four major ways of job exchanges for political leaders at the deputy-division-head level or above: (1) job exchanges to the grassroots-level leadership experience for over two years; (2) job exchanges across leadership positions at the same administrative rank; (3) job replacements into different workplaces; and (4) serving out of birthplace for such leadership positions as audit/supervision, personnel management, budgeting and police business⁹⁷. All these measures effectively facilitate networking activities.

⁹⁷ For more details, please refer to the following regulations on cadre exchanges: News of the Communist Party of China, 1990. “zhonggong zhongyang guanyu shixing dang he guojia jiguan lingdao ganbu jiaoliu zhidu de jue ding” (CCP’s Decisions on Exchange Systems for Party and State Leading Cadres, 中共中央关于实现党和国家机关领导干部交流制度的决定) [Online]. (Updated 07 July 1990) Available at: <http://cpc.people.com.cn/GB/64162/71380/71387/71591/4855056.html> [accessed 03 Jan 2015]; News of the Communist Party of China, 1999. “dangzheng lingdao ganbu jiaoliu gongzuo zanxing guiding” (Interim Provisions on Exchange Work for Party and Government Leading Cadres, 党政领导干部交流工作暂行规定) [Online]. (Updated 22 April 1999) Available at: <http://cpc.people.com.cn/GB/64162/71380/71382/71480/4854009.html> [accessed 03 Jan 2015]; Xinhuanet, 2006. “dangzheng lingdao ganbu jiaoliu gongzuo guiding” (Provisions on Exchange Work for Party and Government Leading Cadres, 党政领导

Political elites are more likely to get acquainted with new colleagues and develop a broad range of network contacts. By and large, the more job mobility, the wider network sizes developed.

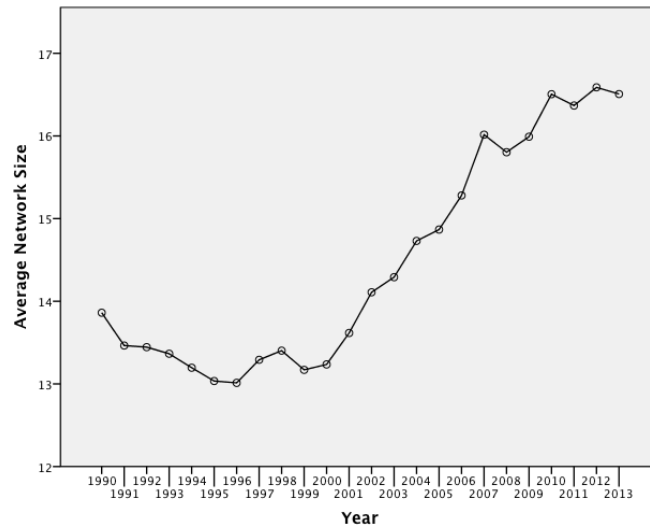


Figure 30 Network Size of Chinese Provincial Leaders, 1990-2013

To summarize, the ordering of the average network size is consistent with the level of elite status and the distribution of political power for four types of provincial top leaders. This section has provided specific examples of provincial leaders with the most sparse and dense social networks. On this basis, it could be inferred that the lengthy tenure in professional career lines to a certain extent hampers the rapid increase in network contacts. From a longitudinal perspective, the average network size of the provincial leaders in the 1990s yields a relatively stable pattern. This is partially contingent upon the elite recruitment from the professional career lines. By comparison, the growing trend of network ties from the formal work experience is potentially associated with the institutionalization of the cadre exchange mechanism since the late 1990s.

6.1.2 Network Diversity

干部交流工作规定) [Online]. (Updated 06 August 2006) Available at: http://news.xinhuanet.com/politics/2006-08/06/content_4926453.htm [accessed 03 Jan 2015].

Along with network size, the empirical assessment of network diversity exclusively centers around the number of career patterns provincial leaders have experienced. On average, network diversity is 5.89 for all the Chinese provincial leaders from 1990 to 2013 (Table 42). By comparing four types of provincial leadership, similar to the above finding on network size, the ordering of the average network diversity corresponds to political power and authority positions. Specifically, social network is the most diverse for party secretaries (7.05) on average and the least diverse for vice provincial governors (5.55). Moreover, the corresponding figures are 6.18 for provincial governors and 6.04 for deputy party secretaries. With respect to the ranges of network diversity, network diversity available for party secretaries ranges from 3 to 13. For the remaining three leadership groups, this dimension exhibits the same pattern. That is to say, the minimum network diversity is two and the maximum is 12.

Table 42 Network Diversity of Chinese Provincial Leaders, 1990-2013

Title	Obs.	Mean	Std. Dev.	Mode	Min	Max
Party Secretary	891	7.05	2.03	6	3	13
Provincial Governor	908	6.18	1.75	5	2	12
Deputy Secretary	2869	6.04	1.69	5	2	12
Vice Governor	5146	5.55	1.66	5	2	12
Total	9814	5.89	1.77	5	2	13

Source: Author's database.

Table 43 shows a detailed summary of provincial leaders with the least diverse social network. Two intriguing characteristics are discernible. One is the career progression exclusively confined to such leading positions as party or government leaders. This pattern rarely occurs to the sample of provincial leaders from 1990 to 2013 under study. The other is the converging professional or functional experience for years that limits the complexity of occupational histories. To be specific, a unique case for the first pattern is Guo Gengmao (郭庚茂), current party secretary of Henan. Guo embarked on his political career by serving as a party cadre in Chengguan and Baiya People's Communes, Hebei during the period of 1975-1982. He moved up along hierarchically ordered positions step by step within the party apparatus or the government bureaucracy, namely from the county level, the prefectural level, the

municipal level to the provincial level. In this light, based on the career trajectories before 2013, Guo’s network diversity was peculiar to career patterns of party affairs and government administration. The third career pattern of People’s Congress was added to the existing two career lines when Guo was subsequently promoted to party secretary and chairman of People’s Congress in Henan in 2013.

In terms of the second pattern, this group of provincial leaders experienced job shifts along the same career line for decades. For instance, Jia Zhijie (贾志杰), former party secretary of Hubei, had a major career transition directly from the SOE to the high-status position within the party hierarchy. Jia stayed working in Lanzhou Petrochemical Machinery Factory for 23 years. His network diversity was only two while assuming the leadership post of deputy secretary in Gansu in 1983. The similar career path occurred to Huo Ronghua (霍荣华) and Chen Chuanping (陈川平). Huo was appointed as vice provincial governor of Jilin after 25-year working in Jilin Chemical and Industrial Company. Chen occupied the leading post of vice governor in Shanxi after serving in Taiyuan Iron & Steel Company for 26 years. In addition, it is noteworthy that the network diversity also turned out to be two for Zhou Yongkang (周永康), former member of the 17th Politburo Standing Committee, on the position of party secretary of Sichuan in 1999. Zhou’s main career patterns were restricted to party work and natural resources despite the multiple job moves across Daqing Oil Field, Liaohe Petroleum Exploration Bureau, Ministry of Petroleum Industry, the China’s National Petroleum Corporation and Ministry of Land and Resources.

Table 43 Selected Examples with the Minimum Network Diversity, 1990-2013

Name	Career Pattern	Highlight of Work Experience
1. Party Secretary		
Guo Gengmao	Party work, government administration, PPC	Step-by-step political mobility from the grassroots level
He Guoqiang	Party work, government administration, industry	Industry: 1967/09-1986/03, 1991/02-1996/10
Jia Zhijie	Party work, government administration, industry	Industry: 1960/09-1983/03
Wang Lequan	Party work, government administration, CCYL	CCYL: 1982/03-1986/09

Wen Shizhen	Party work, government administration, industry	Industry: 1965/08-1985/06
Zhou Yongkang	Party work, government administration, resource	Resource: 1967/09-1999/12
2. Provincial Governor		
Guo Gengmao	Party work, government administration	Step-by-step political mobility from the grassroots level
3. Deputy Secretary		
Liang Guoying	Party work, military	Military: 1955/07-1983/09
4. Vice Governor		
Chen Chuanping	Government administration, industry	Industry: 1982/08-2008/04
Du Yijin	Government administration, education	Education: 1958/10-1988/03
Huo Ronghua	Government administration, industry	Industry: 1966-1991
Li Lanfang	Government administration, agriculture	Agriculture: 1965-1984
Li Lihui	Government administration, finance	Finance: 1977/02-2002/09
Zhang Rongming	Government administration, industry	Industry: 1968/06-1984/12
Zhang Taolin	Government administration, research	Research: 1989/12-1999/09

Source: Author's database.

In contrast to the minimum network diversity shown in Table 43, Table 44 provides the typical examples of provincial leaders with the most social network diversity. Concretely, Ji Bingxuan (吉炳轩), current vice chairman of NPC and former party secretary of Heilongjiang, possessed the network diversity of 13. Provincial leaders with the network diversity of 12 are Ruan Chongwu (阮崇武) (former governor of Hainan), Sun Gan (孙淦) (former deputy secretary of Guizhou) and Ma Junqing (马俊清) (current vice governor of Jilin). How could the high network diversity of these provincial leaders be explained? Possible answers are virtually rooted in the career trajectories. First, frequent job changes at early and mid career substantially promote the growth of career patterns and network diversity. Consider Ma Junqing (

马俊清) as an example. Ma became an agricultural laborer among millions of sent-down youth after graduating from Jilin University with an economic management degree in 1975. He received six job moves within five years between 1978 and 1983, accordingly working in Huaide Shipping & Transport Company, Labor Bureau in Huaide County, Production Safety Administration Office of Huaide Government, General Office of Huaide County CCP, Policy Research Office of CCP and CCYL in Huaide. Ma was subsequently promoted to secretary of CCYL and director of Propaganda Department in Huaide County during the period of 1983-1985. By examining Ma's career trajectories, the specific career patterns for the first ten years comprise agriculture, party work, transportation, social welfare, government administration, public policy, mass organization and propaganda. Ma's network diversity in the formative years of 1975-1985 is thus eight.

Second, in addition to the multiple job assignments for fast job movers as noted above, the concurrent posts are another important reason for developing diverse social networks for provincial leaders. For instance, Ruan Chongwu (阮崇武) simultaneously assumed the leading posts of deputy secretary, vice mayor and director of Municipal Planning Commission in Shanghai in 1983. This work experience generates social connections in the realms of party affairs, government administration and economic management. Another example is Ji Bingxuan (吉炳轩). Ji's concurrent jobs from 2003 to 2008 included vice minister of Central Propaganda Department, head of General Office of the Central Guidance Commission on Building Spiritual Civilization coupled with member of the Central Leading Group for Taiwan Affairs, the Central Coordination Group for Hong Kong and Macau Affairs, the Central Leading Group for Propaganda and Ideological Work, the Central Leading Group for Maintaining Stability, the Rural Work Leading Group of the CCP, the Central Coordination Group for Human Resources, the State Informatization Leading Group and the Central Leading Group for Cultural System Reform. In this regard, Ji's 2003-2008 formal work connections readily produce network diversity across seven domains of propaganda, foreign affairs, culture, police business and social stability, rural work, personnel and information management.

Table 44 Selected Examples with the Maximum Network Diversity, 1990-2013⁹⁸

Career Pattern	Ji Bingxuan	Ruan Chongwu	Sun Gan	Ma Junqing
Party work	Y	Y	Y	Y
Government administration	Y	Y	Y	Y
Economic/finance		Y	Y	
Education	Y		Y	Y
Mass organization	Y	Y	Y	Y
Police affairs	Y	Y	Y	Y
Military	Y	Y	Y	Y
People's Congress	Y	Y		
Agriculture		Y	Y	Y
Research		Y	Y	
Propaganda	Y			Y
Social welfare		Y		Y
Technology		Y	Y	
Foreign affairs	Y	Y		
Culture	Y			
Information	Y			

⁹⁸ The event-history entries for each provincial leader are on the yearly basis. The coding of network diversity focuses on how many career patterns provincial leaders have experienced on any of the four leadership posts. However, network diversity may be overestimated when provincial leaders leave the office of party secretaries, provincial governors, deputy secretaries or vice governors and obtain the other authority positions of a different career pattern in the same year. For example, Ruan Chongwu (阮崇武) worked as party secretary of Hainan between 1993 and 1998. In March 1998, Ruan was assigned to Standing Committee member of NPC. Therefore, in developing the event-history observational record and coding the network diversity for Ruan Chongwu (阮崇武) in 1998, the career pattern of NPC was taken into consideration and contributed to the network diversity in 1998. However, the specific career history of NPC should be removed in tracing the network diversity Ruan had accumulated by 1998 when Ruan still worked as party secretary of Hainan before being recruited into NPC. To look at the overall provincial leadership dataset, this overestimation issue is effectively controlled and the resulting statistical errors are reduced because of the following facts: (1) a certain number of provincial leaders are incumbents so that the influence of later career histories is still obscured; (2) the job changes across different career patterns probably occur in different years; and (3) if still remaining in public service, political elites, by and large, turn to CPPCC, NPC or PPC in the same year while stepping down from the provincial leadership posts. However, a large number of them have already worked in CPPCC, NPC or PPC in their early or mid career. It is also possible that the career experience in CPPCC, NPC or PPC appears to be concurrent jobs for political elites on the provincial leadership posts as summarized in the leadership biographies. In this sense, the career trajectories after leaving the office of provincial leadership make little difference to the coding of network diversity.

Rural Work	Y			
Personnel management	Y			
Public policy				Y
CPPCC			Y	
Audit/supervision			Y	
Engineering				Y
Transportation				Y
Total	13	12	12	12

Source: Author's database.

Note: "Y" indicates that provincial leaders have worked in a specific career pattern.

By examining the historical trends of network diversity in provincial politics, Figure 31 illustrates the relative stability in network diversity between 1990 and 1999 and the slow growth from 2000 onwards. Provincial leaders in the 1990s generally have less diverse networks than those in the post-2000 era. The network diversity is 5.42 for the former group on average and 6.17 for the latter. The average network diversity slightly fluctuated between 5.25 and 5.60 over the period from 1990 through 1999. The first decade of the 21st century witnessed a small increase in network diversity from 5.53 to 6.45 in Chinese provincial leadership. The only exception during this period is a minor drop from 6.45 in 2007 to 6.43 in 2008. The peak value of 6.58 appeared in 2010, followed by a small decline to 6.49 in 2013.

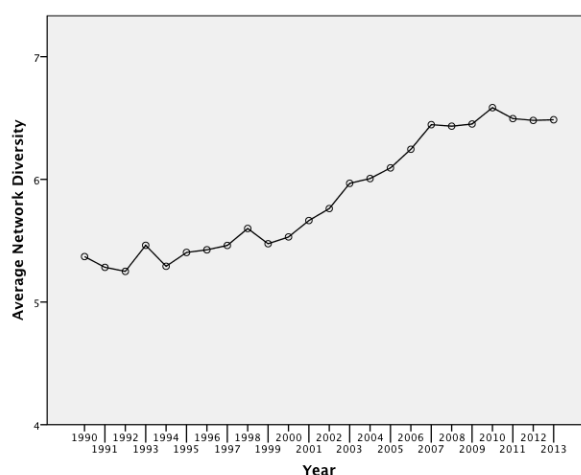


Figure 31 Network Diversity of Chinese Provincial Leaders, 1990-2013

How then does one explain the finding that social network was less diverse for provincial leaders in the 1990s than those in later years? The possible answer is rooted in the recruitment of elites with lengthy tenure in industry into the very apex

of provincial politics. According to Table 45, 43.52% of the 1990-1999 provincial leaders work in the industry domain whereas political elites with industry experience account for 36.60% of the 2000-2013 provincial leadership. As for the leadership group acquiring industry experience and coming to prominence in the 1990s, 66.42% started working with industry in the 1950s and 1960s. This finding is closely related to the CCP's initiatives to nurture industrial experts and engineers in early years of P.R.C. as mentioned previously in Chapter 4 and 5.

How could the occupational attainment in industry lead to the limited network diversity of provincial leaders in the 1990s as measured in this chapter? The explanations are twofold. First, the average industry tenure is five years longer for provincial leaders with industry experience in the 1990s than those in later years (179.37 months versus 123.16 months). To a greater extent, such long seniority induces the relative job stability within the career pattern of industry and in turn restricts the accessibility of primary social contacts to the industry domain. Empirically, provincial leaders working in the industry-specific SOEs provide 94.18% of provincial leaders in the 1990s and 92.61% from 2000 to 2013. Within the SOEs, network diversity is largely confined to industry only. It is occasionally extended to personnel, party work or mass organization if the elites obtain such management posts as director of organization department, secretary in the party system or CCYL. With only a few exceptions, however, network diversity substantially increases with the attainment of multiple management posts. The typical example is Gu Jinchi (顾金池), former party secretary of Gansu and Liaoning. Gu entered Beijing Machine Factory as a worker in 1947. He became secretary of CCYL in Beijing No.1 Machine Tool Works in the 1950s and moved ahead to deputy party secretary and head of Organization Department there in 1961. Gu accordingly developed social ties in the career patterns of industry, party work, mass organization and personnel management.

Second, the above-noted lengthy tenure in industry is mostly accompanied by the late entry into public service. 60.48% of the 1990-1999 provincial leaders with

industry experience assume the leading posts at the deputy-bureau/director level or above upon the entry into party or government organizations. Given the short tenure in public service, their career trajectories tend to be straightforward. They rarely get ahead along the power hierarchy step by step from the grassroots level. They are less likely to hold concurrent jobs. As latecomers in political mobility competitions, instead, this elite group is inclined to occupy the industry-related positions in the functional divisions or leadership posts within the municipal governments or party apparatus. As a result, they develop constrained social networks from a limited number of career patterns, which apparently hampers the expansion of network diversity. As a telling example, Jia Zhijie (贾志杰) rose to power as deputy secretary of Gansu in 1983 after serving in Lanzhou Petrochemical Machine Factory for 23 years. Three years later, Jia became deputy party secretary and provincial governor in Gansu. In 1992, he was transferred to Hubei as deputy secretary and provincial governor and further promoted to party secretary in 1993. It is well observed that Jia's social contacts from career experience are limited to industry, party work and government administration.

Overall, the preceding analysis is interested in interpreting the historical changes in network diversity by comparing the leadership group in the 1990s with that from 2000 to 2013. It is important to highlight the possible explanations for the relatively low network diversity for provincial leaders in the 1990s, namely the large-scale selection of elites with lengthy industry tenure and their consequential late political career start.

Table 45 Provincial Leaders with Industry Experience, 1990-2013

	1990-1999	2000-2013
Industry experience		
% Having industry experience	43.52	36.60
SOE experience		
% Having SOE experience	94.18	92.61
Year of working in industry		
Average seniority for leaders with industry experience (in months)	179.37	123.16
Entry into the industry domain		
% Starting working in industry in the 1950s and 1960s	66.42	28.70

Entry into public service		
% At the deputy-bureau/director level or above	60.48	38.18

Source: Author's database.

To summarize the above empirical assessment of network diversity for provincial leaders, the average network diversity is 5.89 for provincial leaders over the period of 1990-2013. As to four types of leadership groups, the ordering of network diversity reflects the hierarchy of political power and elite status, that is, party secretaries, provincial governors, deputy secretaries and vice governors in turn. From a longitudinal perspective, the composition of network diversity yields a stable presence in the 1990s and a small increase since 2000. It is argued that the long seniority in the industry domain and the late entry into party or government systems lead to the limited job mobility across different career patterns and the relative low network diversity in the 1990s.

6.2 Social Capital across Administrative Ranks

Section 6.1 has already explicated the network transformation of provincial leaders. The subsequent examination in Section 6.2 is directed toward the process of accumulating social capital across distinctive administrative ranks by analyzing 33,557 event-history observations for 1,260 provincial leaders⁹⁹. In line with the measurement strategy specified in Chapter 3, social capital is embedded in the structure of social networks developed from work contacts. Each subsection, thus, commences with drawing a general picture of how network size, network diversity or upper reachability varies with occupational upgrading along the hierarchy from

⁹⁹ Section 6.1 has analyzed the network characteristics of 1,891 provincial leaders on the basis of 9,814 event-history entries. Provincial leaders appear more than once if they could be categorized into four types of provincial chiefs over the period of 1990-2013. Different from the empirical analysis in Section 6.1, Section 6.2 gives special attention to the network transformation over the entire career histories. In this regard, the quantitative study of the entire career histories has taken into account the job shifts across different provincial leadership positions or across different provinces. Therefore, the double-counting cases are eliminated from the provincial leadership database under study in Section 6.2. Section 6.2 focuses on 1,260 provincial leaders rather than 1,891.

the section-head level to the state-leader level. On this basis, this section looks more specifically at the extent to which social capital increases at each administrative rank by comparing the average social capital between two adjacent levels. It attempts to ground the dynamic analysis of network transformation in the context of career trajectories.

6.2.1 Network Size

As shown in Table 46, it is well recognized that network size increases with career progression across administrative ranks, that is, the higher the administrative rank, the larger the network size. The average network size ranges from 5.08 at the section-head level to 22.23 at the state-leader level. It is easy to understand the expansion of social networks in career advancement because of the occurrence of job placements. As introduced in Chapter 3, network size is measured through the number of formal social contacts developed in the career trajectories. It grows with the occupational transitions across different workplaces and organizations along with the changes in occupational status from non-leadership posts to leadership positions.

Table 46 Network Size across Administrative Ranks, 1990-2013

Administrative Rank	Obs.	Mean	Std. Dev.	Min	Max
Section-Head Level	959	5.08	2.16	1	15
Deputy-Division-Head Level	2289	6.09	2.37	2	18
Division-Head Level	2655	7.39	2.77	2	21
Deputy-Bureau/Director Level	4575	8.71	3.20	2	24
Bureau/Director Level	6246	11.07	3.72	2	31
Vice-Provincial/Ministerial Level	11912	13.22	4.10	4	35
Provincial/Ministerial Level	4270	17.43	4.43	6	39
Vice-State-Leader Level	533	18.40	4.47	11	32
State-Leader Level	118	22.23	5.53	15	33
Total	33557	11.67	5.12	1	39

Source: Author's database.

Further insights are gained into the specific examples of provincial leaders with the largest and smallest social networks at each administrative rank. There exist some

overlapping cases for varying administrative ranks. For instance, Zhao Zhihao (赵志浩) developed large-scale work interactions and multiplex social networks at the section-head level, the deputy-division-head level and the division-head level. As indicated in Section 6.1.1, the growth of social connections potentially depends on the following occupational characteristics: (1) whether political elites have early career start in labor force or in public service; (2) whether they move across diverse career patterns; (3) whether they change jobs rapidly; (4) whether they obtain multiple concurrent posts; or (5) whether they get ahead step by step from the bottom. Table 47 shows provincial leaders in possession of the largest social network at each hierarchical level. It provides supporting evidence in favor of the earlier summary formulated in Section 6.1.1. Specifically, in terms of the empirical findings in Table 47, provincial leaders with the maximum social networks largely entered the workforce during their formative years, younger than 20 years old. The number of their career paths widely ranges from 6 to 12. A vast majority of them frequently changed jobs, each within two years on average.

Along with provincial leaders with dense social networks, Table 48 exemplifies those with the smallest networks. Their sparse networks yield some interesting findings on career background traits, which is similar to what has been observed in Section 6.1.1. In the first place, it is possible for provincial leaders to directly attain the low-ranking elite status at the section-head level upon the labor force entry. In this case, their network diversity is as small as one at the section-head level. For example, Tomur Dawamat (铁木尔·达瓦买提), former chairman of Xinjiang and vice chairman of NPC, became a peasant farmer at youth. He was subsequently elected township head in Toksun at a critical juncture of Xinjiang's liberation. In the second place, more importantly, as analyzed before, the professional career experience, such as working in universities, research institutes or SOEs, drastically impedes the increase in social contacts. This gives rise to the limited network size at the deputy-division-head level or above. The typical examples are Jin Yinhan (金银焕), Wang Lixia (王莉霞), Qian Qi'ao (钱其璈), Chen Kangfu (陈抗甫), Abdul'ahat Abdulrixit (阿不来提·阿不都热西提), Zhou Tienong (周铁农) and Wu Bangguo (吴邦国) who developed

the minimum network size. To be specific, for instance, Qian Qi'ao (钱其璈), former vice mayor of Tianjin, is the political elite with the smallest social network at the bureau/director level. Qian had worked in Nankai University for 25 years. He was assigned to director of Higher Education Bureau in Tianjin in 1983. In this sense, it is from such organizations as Nankai University and Higher Education Bureau that Qian's social ties were generated. His career pattern is merely restricted to education.

Table 47 Selected Examples with the Maximum Social Network at Each Administrative Rank, 1990-2013

Rank	Name	Network Size	Age1	Age2	Career Pattern	Job Duration
Section-Head Level	Zhao Zhihao	15	15	15	6	22.27
Deputy-Division-Head Level	Zhao Zhihao	18	15	15	6	22.94
Division-Head Level	Zhao Zhihao	21	15	15	7	25.06
Deputy-Bureau/Director Level	Zhuo Kangning	24	18	18	10	12.92
Bureau/Director Level	Mao Weiming	31	21	35	8	11.77
Vice-Provincial/Ministerial Level	Zhuo Kangning	35	18	18	12	16.20
Provincial/Ministerial Level	Xu Guangchun	39	25	51	12	13.38
Vice-State-Leader Level	Zhang Qingli	32	20	25	9	16.03
State-Leader Level	Xi Jinping	33	16	26	7	16.27

Source: Author's database.

Note: Age1=the age of entering labor force; Age2=the age of entering public service; job duration is measured in months.

Table 48 Selected Examples with the Minimum Social Network at Each Administrative Rank, 1990-2013

Rank	Name	Network Size	Age1	Age2	Career Pattern	Job Duration
Section-Head Level	Tomur Dawamat	1	23	23	1	NA
Deputy-Division-Head Level	Jin Yinhuan	2	22	23	2	6.50
Division-Head Level	Wang Jialiao	2	20	21	2	6.00
Deputy-Bureau/Director Level	Wang Lixia	2	24	36	1	72.00
Bureau/Director Level	Qian Qi'ao	2	25	50	1	150.00
Vice-Provincial/Ministerial Level	Chen Kangfu	4	22	37	3	99.00
Provincial/Ministerial Level	Abdul'ahat Abdulrixit	6	23	41	4	56.50
Vice-State-Leader Level	Zhou Tienong	11	22	45	5	40.64
State-Leader Level	Wu Bangguo	15	26	42	5	28.27

Source: Author's database.

Note: Age1=the age of entering labor force; Age2=the age of entering public service; job duration is measured in months.

The forgoing paragraphs have sketched the basic characteristics of network size in the political hierarchy. The following pages pose another crucial research question—To what extent does network size increase at each administrative rank? Before answering this question, it is important to bear in mind that, the above empirical analysis of the average network size across administrative ranks is drawn from 33,557 event-history observations. In the provincial leadership dataset, the network size of provincial leaders is in the person-year structure and is thus reported on the yearly basis. The network size at the upper level is the cumulative total number of network size at the lower levels. One of the prominent examples is Xi Jinping (习近平), current president of P.R.C. (Table 49). Xi had the same network size of four at the section-head level for each year between 1979 and 1982 by considering his work experience as sent-down youth and party branch secretary in Yanchuan coupled with a personal secretary to Geng Biao (耿飚) in General Office of State Council and CMC. This network size of four was accumulative over the specific period of 1969-1982.

However, to examine the increase in network size, the following analysis will focus on the final network size at each administrative rank and compares the difference between two adjacent ranks. The difference in the final network size is equal to the number of job assignments occurring to the relatively higher rank. In this way, the comparison of this difference looks into how often political officials change jobs across administrative ranks. Again, in the present example, as illustrated in Table 49, Xi was promoted to the deputy-bureau/director level by assuming the leadership position of vice mayor of Xiamen in 1985. His network size during the period of 1985-1988 turned out to be eight, which is also Xi's final network size at the deputy-bureau/director level. Xi subsequently stayed at the bureau/director level for five years. Based on Xi's biography, this period of career histories is divided into two major parts. One is that Xi obtained party secretary of Ningde and simultaneously worked as the first party secretary of PLA in Ningde from 1988 to 1990. The other is that from 1990 to 1993, Xi advanced to party secretary of Fuzhou with the concurrent posts of chairman of MPC, the first party secretary of PLA, president of

municipal party school and president of Minjiang Vocational University in Fuzhou. To sum up, Xi's network size was ten during the period of 1988-1990 and rose to 14 between 1990 and 1993. Xi's final network size was thus 14 at the bureau/director level. By comparing the between-level difference, Xi's network size increases by six from the deputy-bureau/director level to the bureau/director level. In another sense, Xi had a total of six job assignments at the bureau/director level.

Table 49 Career Histories and Network Size of Xi Jinping, 2013

Administrative Rank	Network Size	Year	Work Experience
Not in public service	2	1969-1975	Sent-down youth and party branch secretary at an agricultural commune, Yanchuan County, Shaanxi
Section-Head Level	4	1979-1982	Secretary of General Office of CMC and General Office of the State Council
Deputy-Division-Head Level	5	1982-1983	Deputy party secretary, Zhengding County, Hebei
Division-Head Level	7	1983-1985	Party secretary of Zhengding County, 1 st political commissar and party secretary of Chinese People's Armed Police Force, Zhengding County, Hebei
Deputy-Bureau/Director Level	8	1985-1988	Vice mayor, Xiamen City, Fujian
Bureau/Director Level	14	1988-1990	Party secretary of Ningde Prefecture, 1 st party secretary of PLA, Ningde Prefecture, Fujian
		1990-1993	Party secretary of Fuzhou City, chairman of MPC, 1 st party secretary of PLA, president of municipal party school, president of Minjiang Vocational University, Fuzhou City, Fujian
		1993-1995	Member of Fujian Provincial Party Committee, party secretary of Fuzhou City, chairman of MPC, 1 st party secretary of PLA, Fuzhou City, Fujian
Vice-Provincial/Ministerial Level	17	1995-1996	Deputy party secretary of Fujian, party secretary of Fuzhou, chairman of MPC, 1 st party secretary of PLA, Fuzhou City, Fujian
		1996-1999	Deputy party secretary of Fujian, 1 st political commissar of Fujian Reserve Artillery Division, Fujian; alternate member of the 15 th CC
		1999-2000	Deputy party secretary and acting governor of Fujian, deputy director of Nanjing National Defense Mobilization Committee, director of Fujian National Defense Mobilization Committee, 1 st political commissar of Fujian Reserve Artillery Division
Provincial/Ministerial Level	27	2000-2002	Deputy party secretary and governor of Fujian, deputy director of Nanjing National Defense Mobilization Committee, director of Fujian National Defense Mobilization Committee, 1 st political commissar of Fujian Reserve Artillery Division
		2002-2002	Deputy party secretary and acting governor of Zhejiang, deputy director of Nanjing

			National Defense Mobilization Committee, director of Zhejiang National Defense Mobilization Committee
		2002-2003	Party secretary and acting governor of Zhejiang, 1 st secretary of Zhejiang Military District, deputy director of Nanjing National Defense Mobilization Committee, director of Zhejiang National Defense Mobilization Committee
		2003-2007	Party secretary of Zhejiang, chairman of PPC, 1 st secretary of Zhejiang Military District
		2007-2007	Party secretary of Shanghai, 1 st secretary of Shanghai Garrison
		2007-2008	Politburo member of the CCP Standing Committee, secretary of the Secretariat of the CC, president of Central Party School
		2008-2010	Politburo member of the CCP Standing Committee, secretary of the Secretariat of the CC, vice president of the P.R.C., president of Central Party School
State-Leader Level	33	2010-2012	Politburo member of CCP Standing Committee, secretary of the Secretariat of CC, vice president of the P.R.C., vice chairman of CMC of the CCP and the P.R.C., president of Central Party School
		2012-2013	General secretary of the CC, chairman of CMC of the CCP, vice president of the P.R.C., vice-chairman of CMC of the P.R.C.
		2013-present	General secretary of the CC, chairman of CMC of the CCP, president of the P.R.C., chairman of CMC of the P.R.C.

Source: Author's database.

Based on the above clarifications, Table 50 shows the average network expansion at each administrative rank from the deputy-division-head level to the state-leader level. By and large, the increase in network size is in an ascending order of lower levels, middle levels and higher levels. The only exception is a considerably slackened increase of 2.65 at such a high ranking as the vice-state-leader level, which will be discussed later. To look at the network transformation across administrative ranks, specifically, network size slightly increases by 1.57 at the deputy-division-head level and 1.44 at the division-head level. In sharp contrast, the most significant growth occurs at the vice-provincial/ministerial level. That is to say, social network expands by 3.80 for political elites at this tier on average. In addition, the top political leaders at the provincial/ministerial level and the state-leader level also have a profound network increase by 3.45 and 3.25, respectively. Network size modestly increases at the deputy-bureau/director level and the bureau/director level. The corresponding figures are 2.12 and 2.82.

Table 50 The Increase in Network Size at Each Administrative Rank, 1990-2013

Administrative Rank	Obs.	Increase in Network Size
Deputy-Division-Head Level	246	1.57
Division-Head Level	530	1.44
Deputy-Bureau/Director Level	728	2.12
Bureau/Director Level	947	2.82
Vice-Provincial/Ministerial Level	1133	3.80
Provincial/Ministerial Level	450	3.45
Vice-State-Leader Level	81	2.65
State-Leader Level	16	3.25
Total	4131	2.78

Source: Author's database.

It should be noted that the increase in network size virtually touches on the number of job changes at a given hierarchical level. It could be inferred from the above empirical findings that provincial leaders are more likely to experience job changes or hold concurrent posts at the higher administrative ranks than the lower ones. Or rather, career mobility and the consequential increase in network size become more salient at the bureau/director level or above. As a matter of fact, political leaders at the higher administrative ranks remain at the helm of party apparatus or governments. They take on enhanced leadership responsibilities. It is expected that

their career backgrounds become more diversified and multifaceted at the upper tiers. Consider the specific example of Xi Jinping (习近平). It is not until at the bureau/director level or above that Xi changed workplaces and organizations at the same administrative rank and simultaneously obtained multiple leadership positions. As illustrated in Table 49, Xi developed sparse social connections from the relative career stability at the deputy-bureau/director level or below in the early life course. Accordingly, network size increases slightly at those lower hierarchical levels. Nevertheless, Xi's social networks grow remarkably at the bureau/director level or above because of rapid career transfers and a range of concurrent jobs (Table 49). Take Xi's career histories at the provincial/ministerial level as an example. He moved across the provinces of Fujian, Zhejiang and Shanghai. He assumed elite positions with two or three concurrent jobs at each career interval. His career patterns involve party work, government administration, military and People's Congress. His network size, thereby, increases by ten, namely from 17 at the vice-provincial/ministerial level to 27 at the provincial/ministerial level. Based on the above empirical findings and the typical example of Xi, it is well observed that job changes are more likely to occur at the higher administrative rank, which accordingly produces the substantial growth in social network.

Next, it is important to investigate the timing of elite status attainment at each administrative rank for the 1990-2013 provincial leaders under study. This issue is critical because the odds of job mobility do not differ by administrative ranks only. Alternatively, they possibly depend on whether or not the institutionalization of cadre exchange system is adopted and promoted. That is to say, the more observable increase in network size at the higher tier could be induced by either the higher probability of job transfers at the bureau/director level and above as analyzed previously, or the initiation of the cadre exchange system. The following empirical evidence pertaining to the timing of attaining the administrative ranks will support the latter argument. Based on the provincial leadership dataset, a vast majority of provincial leaders from 1990 to 2013 stayed at the deputy-bureau/director level or below from the 1970s through the 1990s. In comparison, they obtained the elite positions from the bureau/director level to the provincial/ministerial level in the

1990s and particularly in the 2000s. They came to political prominence at the vice-state-leader level and the state-leader level from the 2000s onward. In short, provincial leaders over the period of 1990-2013 were more likely to occupy the higher-status positions at the bureau/director level or above after the late 1990s, when the institutionalization of the cadre exchange system was initiated. This robust empirical finding reinforces the argument in Section 6.1.1 that the institutionalized mechanism of cadre exchanges indeed imposes considerable influence on career moves and the consequential increase in network size.

On a final note, as stated before, the network size roughly grows by over three at the vice-provincial/ministerial level or above, aside from an increase of only 2.65 at the vice-state-leader level. How could one explain the exceptional network accumulation at the vice-state-leader level? Political leaders for the most part stay at the vice-state-leader level by holding such posts as vice president, vice premier, vice chairman of CPPCC or NPC, Politburo member, state councilor, member of the Secretariat of the CC, and president of the SPC¹⁰⁰. The career trajectories and changes in network size exhibit two distinctive patterns for this leadership group. On one hand, political leaders at the vice-state-leader level develop extensive social

¹⁰⁰ Chapter 3 has provided specific illustrations by linking the leadership positions to the corresponding administrative ranks. Provincial leaders obtain the vice-state-leader level if working as politburo member, state councilor, member of secretariat of the CC, secretary of the CCDI, secretary of CPLC, vice president or vice premier of the P.R.C., vice chairman of NPC, CPPCC or CMC, president of the SPC, procurator-general of the SPP and the like. However, provincial leaders from 1990 to 2013 merely remain at the vice-state-leader level by serving as vice president, vice premier, vice chairman of CPPCC or NPC, Politburo member, state councilor, member of the Secretariat of the CC and president of the SPC. Out of 81 provincial leaders who get promoted the vice-state-leader level, 26 of them have obtained more than one of these top leadership positions. There are also 26 provincial leaders who currently obtain the vice-state-leader level. In terms of the number of provincial leaders on each leadership position, 28 leaders worked as vice chairmen of CPPCC and 18 as vice chairmen of NPC. 38 provincial leaders took up the post of Politburo members and seven became state councilors. Eleven provincial leaders served at the Secretariat of the CC and eight got promoted to vice premiers. Only Zhou Qiang (周强), former party secretary of Hunan, becomes president of the SPC and Li Yuanchao (李源潮), former party secretary of Jiangsu, eventually advanced to the post of vice president of the P.R.C.

connections from their work experience as Politburo members. They tend to serve as members of Secretariat of the CC or vice premier simultaneously or subsequently, such as Li Zhanshu (栗战书) and Hui Liangyu (回良玉). As promising top leaders, not surprisingly, they are likely to occupy multiple leading posts, such as minister of the Central Propaganda Department, minister of Public Security Bureau and deputy secretary of CPLC. At the empirical level, out of 38 provincial leaders working as Politburo members, 73.68% take up multiple prominent positions (28 cases). As one of the specific examples, Li Yuanchao (李源潮) was concurrently posted as Politburo member, member of the Secretariat of the CC and minister of the Central Organization Department between 2007 and 2013. He eventually came to power as vice president of the P.R.C. in 2013. Consequently, such occupational histories at the vice-state-leader level contribute four social ties to Li's accessible networks.

On the other hand, it could be argued that the status attainment of vice chairman of CPPCC or NPC to a greater extent leads to the comparatively reduced increase in network size at the vice-state-leader level. 45 out of 81 provincial leaders become highly placed in the power hierarchy as vice chairmen of CPPCC or NPC, such as Xu Kuangdi (徐匡迪) (vice chairman of the 11th CPPCC) and Yan Juanqi (严隽琪) (vice chairwoman of the 11th and 12th NPC). This is a single leadership position attained at the vice-state-leader level for 28 leaders. Their career background at this tier is overwhelmingly straightforward. In other words, a single job reassignment simply leads to a one-point increase in their network size. This potentially undermines the remarkable expansion of social networks for top leaders at the very pinnacle of political power in China. As a result, the increase in network size at the vice-state-leader level seems to be less pronounced than that at the other higher administrative ranks, namely the vice-provincial/ministerial level, the provincial/ministerial level and the state-leader level.

To summarize some of the highlights in this section, first, the average network size at each administrative rank grows with the hierarchical levels. Second, by studying the difference in network size between two adjacent levels, the average increase in

network size is more significant at the higher administrative ranks than the lower levels. One plausible explanation is that the process of accumulating social ties varies modestly depending on administrative ranks. Political elites probably have access to more extensive social networks at the upper tiers because of the higher likelihood of frequent job mobility and concurrent posts. Another possible explanation is that the institutional mechanism of cadre exchanges accounts for the more striking network expansion at the bureau/director level or above. By identifying the timing of obtaining specific hierarchical levels, a broad majority of provincial leaders from 1990 to 2013 occupied the bureau/director level or above from the 1990s onward, when the institutionalization of the cadre exchange system began to sprout. Finally, the increase in network size is 2.65 at the vice-state-leader level on average, as compared to more than three at such higher tiers as the vice-provincial/ministerial level, the provincial/ministerial level and the state-leader level. The slackened network growth stems from the restricted job placement as vice chairman of CPPCC or NPC.

Along with the in-depth examination of network size across administrative ranks in Section 6.2.1, Section 6.2.2 and 6.2.3 will proceed to a brief analysis of network diversity and upper reachability in the course of elite mobility.

6.2.2 Network Diversity

For provincial leaders from 1990 to 2013, the average network diversity yields the same positive association with the administrative ranks as the network size (Table 51). That is, social network for political elites becomes increasingly diverse along the political mobility from the section-head level to the state-leader level. The average network diversity ranges from 3.31 at the section-head level to 7.42 at the state-leader level. This finding is definite and well understood regarding the cumulative effect of career trajectories and the associated social capital as indicated in Section 6.2.1. There exists a viable possibility that the prior career patterns seem to be increasingly complex and multidimensional when provincial leaders move ahead

from the bottom to the top. As a result, the average network diversity grows with career progression. It is, however, significant to point out that, despite the discernible growing trend, the average network diversity varies slightly across administrative ranks.

Table 51 Network Diversity across Administrative Ranks, 1990-2013

Administrative Rank	Obs.	Mean	Std. Dev.	Min	Max
Section-Head Level	959	3.31	1.22	1	9
Deputy-Division-Head Level	2289	3.57	1.33	1	9
Division-Head Level	2655	4.02	1.43	1	9
Deputy-Bureau/Director Level	4575	4.31	1.55	1	10
Bureau/Director Level	6246	5.06	1.64	1	12
Vice-Provincial/Ministerial Level	11912	5.72	1.69	2	12
Provincial/Ministerial Level	4270	6.76	1.90	2	14
Vice-State-Leader Level	533	7.14	1.83	3	13
State-Leader Level	118	7.42	1.62	5	11
Total	33557	5.22	1.92	1	14

Source: Author's database.

In terms of the ranges of network diversity at each administrative rank, provincial leaders with the most or the least diverse social network are somewhat overlapping across administrative ranks. For example, the diversity of Zhuo Kangning's (卓康宁) social network diversity is conspicuously ranked the highest from the section-head level to the deputy-bureau/director level and at the vice-provincial/ministerial level. He Ting (何挺) is the provincial leader who possesses the least diverse networks over five administrative ranks from the section-head level to the bureau/director level. In addition, there is an overlap between the typical examples with the maximum network diversity among four types of provincial leadership groups as stated in Section 6.1.2 and those at each administrative rank in Section 6.2.2¹⁰¹. This section

¹⁰¹ To exemplify provincial leaders with the maximum network diversity, Section 6.1.2 focuses on the career histories and network diversity of Ji Bingxuan (吉炳轩), Shi Zongyuan (石宗源), Ruan Chongwu (阮崇武), Sun Gan (孙淦), Ma Junqing (马俊清), Zhang Jiuhuan (张九汉) and Zhuo Kangning (卓康宁). In Section 6.2.2, those with the maximum network diversity across hierarchical levels are respectively Zhuo Kangning (卓康宁) from the section-head level to the deputy-bureau/director level, Ma Junqing (马俊清) at the bureau/director level, Ma Junqing (马俊清), Zhang Jiuhuan (张九汉) and Zhuo Kangning (卓康宁) at the vice-provincial/ministerial level,

gives little attention to the political elites having the most diverse networks because their occupational histories and the characteristics of social network have been mostly delineated in Section 6.1.2. Alternatively, it will provide an overview of the leadership cases with the minimum network diversity.

The minimum diversity remains one at the bureau/director level or below whereas turns out to be two for political leaders at both the vice-provincial/ministerial level and the provincial/ministerial level. Besides, the corresponding figures are three at the vice-state-leader level and five at the state-leader level. Overall, noteworthy is the vice-provincial/ministerial level as a dividing line. Below the vice-provincial/ministerial level, a vast majority of provincial leaders held the network diversity of one by remaining in the same career line and working in the functional divisions, particularly in the economic realm. For instance, Chen Rongkai (陈荣凯), current vice governor of Fujian, climbed from a rank-and-file cadre to deputy director by serving in the Division of Budgeting, Fujian Department of Finance. Thus, Chen developed social contacts in the same organization and through a single career pattern of finance/economics from the section-head level to the deputy-bureau/director level.

In comparison, the minimum network diversity increases to two at the vice-provincial/ministerial level. As illustrated in Table 52, there are a total of 25 political leaders with the network diversity of two at this tier. They mostly advanced to the vice-provincial/ministerial level by taking up the offices of deputy party secretary of the provincial CCP, provincial vice governor or provincial party committee member¹⁰². They could be categorized into three leadership groups regarding their specific career patterns. The first group includes 19 political elites. They had the past

Linghu An (令狐安) at the provincial/ministerial level, Ji Bingxuan (吉炳轩) at the vice-state-leader level and Jia Qinglin (贾庆林) and Wang Qishan (王岐山) at the state-leader level.

¹⁰² As exceptional cases, six political leaders moved to this level by working as deputy director in the provincial/ministerial-level organizations, such as National Science & Technology Commission, General Office of the State Council, Ministry of Coal and Petroleum, Ministry of Finance, Ministry of Light Industry and CCYL.

professional experience in a single career pattern. Their network diversity consists of party work or government administration coupled with one professional career pattern, such as industry, education, economics, engineering and the like. Consider the previous example of Du Yijin (杜宜瑾). Du was attached to the career pattern of education by working in Anhui Normal University, Anhui University and Anhui Provincial Education Commission. He was appointed as vice governor of Anhui and came to the vice-provincial/ministerial level in 1988. Du's network diversity at this tier amounts to two, namely education and government administration in this regard.

The second group is four political elites who experienced step-by-step political mobility from the grassroots level to the vice-provincial/ministerial level. Their career patterns are limited to party work and government administration. The remaining three political elites constitute the third group that is different from the former two groups. Specifically, Ma Qingsheng (马庆生) was attached to Agricultural College of Guangxi before working as provincial party committee member and director of provincial Organization Department. As a result, his career patterns include education and personnel management. Xiao Jie (肖捷) remained in the career pattern of finance/economics by serving in Ministry of Finance. As vice minister of Finance, Xiao was selected as vice chairman of the Red Cross Society of China. Therefore, Xiao's network diversity covers finance/economics and mass organization. The last example is Yuan Chunqing (袁纯清), who started his career as a policeman and entered the CCYL as a rank-and-file cadre after graduating from Peking University. Yuan held the vice-provincial/ministerial post by working as secretary of Central Secretariat of the CCYL. In this sense, Yuan's network diversity is police business and mass organization.

Table 52 The Minimum Network Diversity At the Vice-Provincial/Ministerial Level, 1990-2013

Name	Network Diversity
An Qiyuan	Resource, party work
Chen Chuanping	Industry, government administration
Du Yijin	Education, government administration

Guo Gengmao	Party work, government administration
Guo Shuyan	Research, government administration
He Guoqiang	Industry, party work
Huo Ronghua	Industry, government administration
Jia Zhijie	Industry, party work
Li Bingjun	Industry, government administration
Li Lanfang	Agriculture, government administration
Li Lihui	Economic, government administration
Liang Guoying	Military, party work
Ma Qingsheng	Education, personnel management
Mao Dehua	Research, government administration
Meng Qiliang	Party work, government administration
Ni Tianzeng	Engineering, government administration
Tomur Dawamet	Party work, government administration
Wang Jintang	Resource, party work
Wang Jun	Resource, party work
Xiao Jie	Economic, mass organization
Xiao Zuofu	Party work, government administration
Xu Rongkai	Industry, party work
Yuan Chunqing	Police business, mass organization
Zhang Rongming	Industry, government administration
Zhang Taolin	Research, government administration

Source: Author's database.

To go a step further, this part replicates the prior examination of the growth of network size in Section 6.2.1. It analyzes the average increase in network diversity at each administrative rank from deputy-division-head level to the state-leader level. The empirical results in Table 53 show that network diversity increases by approximately 0.50 at each lower tier from the deputy-division-head level to the deputy-bureau/director level. At the upper tiers, social networks become more diverse at each level. The increase in network diversity fluctuates between 0.80 and 1.18 at the bureau/director level or above. Altogether, these findings imply that the career mobility across varying career patterns is more apparent at the higher administrative ranks as compared to that at the lower levels.

Table 53 The Increase in Network Diversity at Each Administrative Rank, 1990-2013

Administrative Rank	Obs.	Increase in Network Diversity
Deputy-Division-Head Level	246	0.48
Division-Head Level	530	0.49
Deputy-Bureau/Director Level	728	0.57
Bureau/Director Level	947	0.83

Vice-Provincial/Ministerial Level	1133	1.18
Provincial/Ministerial Level	450	1.17
Vice-State-Leader Level	81	0.80
State-Leader Level	16	1.00
Total	4131	0.86

Sources: Author's database.

To sum up, this section offers a brief account of network diversity across administrative ranks for the 1990-2013 provincial leaders. First, there is an increasing pattern of the average network diversity along the political ladder from the section-head level to the state-leader level—the higher administrative rank, the more diverse social networks. Second, with regard to the political leaders with the minimum network diversity at each hierarchical level, the section stresses that they started to move across different career patterns at the vice-provincial/ministerial level. They possessed the minimum network diversity of two at this level. Most of them worked with such career patterns as party work or government administration along with one professional career pattern. Finally, the average diversity increase at each administrative rank is more evident at the upper tiers than that at the lower tiers.

6.2.3 Upper Reachability

This section provides only a snapshot of upper reachability across administrative ranks. As stated in Chapter 3, to develop the provincial leadership dataset over the period of 1990-2013, upper reachability is measured by the highest administrative rank accessible for political elites. The upper reachable work contacts could be separated into three groups, namely the lower contacts, the regular contacts and the higher contacts. The regular contacts are in accord with the superior-subordinate relationships, following the chain of command within the hierarchical structure. In operational term, the regular contacts refer to the full positions at one level above the administrative rank of political leaders. For example, it is assumed in this thesis that the superiors at the provincial/ministerial level are readily accessible for the political elites at the bureau/director level. If the political elites are successfully

linked to the work connections above the regular contacts, they are grouped into those with the higher contacts. Conversely, if the highest position available is below the regular contacts, it is regarded as the lower contacts. As for the above-mentioned three groups, an overwhelming majority of political elites maintains regular contact with superiors at each administrative rank. A very small percentage develops social connections with the lower contacts. Notwithstanding, this thesis is interested in the effect of upper reachability on elite upward mobility. The underlying assumption is that the social contacts of higher status and prestige play a more crucial and positive role in elite upward mobility.

The descriptive analysis in this section, therefore, is concerned with the proportion of higher contacts rather than the specific best possible hierarchical level of social contacts at each administrative rank. It thus seeks to address a specific research question—To what extent do provincial leaders access to higher contacts? As shown in Table 54, political elites who interact with higher contacts account for 10.95% at the section-head level. Compare the leadership group of full titles and deputy titles adjacently, such as the deputy-division-head level vis-à-vis the division-head level and the deputy-bureau/director level vis-à-vis the bureau/director level. Provincial leaders at full positions are more likely to access to higher contacts. Empirically, political elites reaching higher contacts produce 8.70% at the division-head level whereas 6.77% at the deputy-division-head level. Those with higher contacts constitute 3.43% at the bureau/director level as compared to 1.22% at the deputy-bureau/director level. Furthermore, compare the political leaders at the full positions only. There is a reduction in the percentage of political elites with higher contacts. With reference to the operational definition of upper reachability as articulated in Chapter 3, it could be inferred that political elites of full leadership titles are more inclined to work as secretaries, CC members or alternate CC members than those at the deputy positions.

According to Table 54, political elites have no higher contact at the vice-provincial/ministerial level or above. This is because political leaders at these upper

tiers undoubtedly stay in regular contact with the paramount leaders at the state-leader level, based on the way of measuring upper reachability.

Table 54 Upper Reachability across Administrative Ranks, 1990-2013

Administrative Rank	Obs.	Higher Contact	Percent
Section-Head Level	959	105	10.95
Deputy-Division-Head Level	2289	155	6.77
Division-Head Level	2655	231	8.70
Deputy-Bureau/Director Level	4575	56	1.22
Bureau/Director Level	6246	214	3.43
Vice-Provincial/Ministerial Level	11912	0	0.00
Provincial/Ministerial Level	4270	0	0.00
Vice-State-Leader Level	533	0	0.00
State-Leader Level	118	0	0.00
Total	33557	761	2.27

Source: Author's database.

6.3 Conclusion

This chapter has delineated the characteristics of social capital for Chinese provincial leaders from 1990 to 2013. It is organized around two sections. One is the historical change in social capital for four types of provincial leaders. The other is the variation in social capital across distinctive administrative ranks. The whole empirical study of social capital is grounded in the configuration of social networks and the occupational pathway. It focuses on such dimensions of social capital as network size, network diversity and upper reachability.

Section 6.1 provides insight into the transformation of network size and network diversity during the career intervals of obtaining provincial leadership positions. The empirical findings of network size and network diversity share similar patterns. For example, the ordering of both the average network size and network diversity conforms to the ordering of political authority and power. In terms of the specific examples with the minimum network size or diversity, the dramatic effect of professional experience is observable. It has been argued in the preceding sections that the professionals-turned-politicians tend to have narrow network size and limited network diversity. They largely remain in the same professional career line

and experience career stability for decades. Accordingly their job histories are likely to be straightforward. As to the typical cases with the maximum network size or diversity, the attainment of concurrent positions leads to the increase in network size and diversity. Noteworthy is that fast job changers inevitably develop extensive and dense social connections but unnecessarily have diverse networks.

In the longitudinal examination in Section 6.1, the historical trend of both network size and network diversity in the 1990s modestly deviates from that in the post-2000 era. Both network size and network diversity display a relatively steady presence in the 1990s whereas present a mild growth after 1999. To go a step further, the narrow network size and the low network diversity in the 1990s are the result of selecting professionals and specialists into the political leadership groups at all hierarchical levels. The growing trend of network size and network diversity since 2000 deeply originates from the institutionalization of the cadre exchange mechanism. Beginning in the late 1990s, the far-reaching effects of this important policy are to promote elite mobility and potentially facilitate their network expansion.

Section 6.2 investigates the process of social capital accumulation throughout the entire career histories for the 1990-2013 provincial leaders. Likewise, the changes in network size and network diversity across administrative ranks show a similar picture. On one hand, both the average network size and network diversity grows along the political mobility from the section-head level to the state-leader level. On the other hand, either network size or network diversity increases more substantially at each administrative rank for the upper tiers than the lower tiers. In terms of the above empirical findings, Section 6.2 proposes two general explanations. First, it has been argued that both network size and network diversity differ by administrative ranks per se. Political elites at higher ranks are more inclined to experience frequent job transfers and simultaneously hold multiple posts because of their increasing roles in politics and administration. Second, the between-level difference in network size or network diversity becomes more evident in the context of cadre exchange

institutions. This is evidenced by the fact that the attainment of higher administrative ranks mostly occurred in the late 1990s and in the post-2000 era.

To look at the empirical findings in both Section 6.1 and 6.2, how could the similar evolution of network size and network diversity be accounted for? The answer is rooted in the operational definition and measurement in Chapter 3. Network diversity basically depends on job mobility across distinct career patterns, while network size varies with the changes in workplaces, occupational positions, career patterns and the like. This implies that network size probably expand with the increase in network diversity. As a consequence, network size and network diversity are somewhat interrelated.

In addition to network size and network diversity, Section 6.3 briefly introduces the accessibility of resource-rich social contacts. Political elites at the division-head level are more likely to reach higher contacts than those at the deputy-division-head level. Likewise, political elites with higher contacts provide a higher proportion of the total leaders at the bureau/director level than at the deputy-bureau/director level. To look at the full positions only, the percentage of political elites with higher contacts declines with the career progression.

Chapter 7 Political Upward Mobility of Chinese Provincial Leaders

This chapter will explore the political mobility for 1,891 Chinese provincial leaders from 1990 to 2013. The promotion-relevant information is neatly compiled in the person-year structure and readily available in the current provincial leadership dataset, such as the particular year and age at promotion, the duration time at the prior administrative rank and the promotion outcome. Such career data decomposes the duration time at each administrative rank, uncovers upward trajectories for provincial leaders under study and helps to answer for how long provincial leaders stay at the same administrative rank and at what ages they move ahead towards a higher-ranked position.

Based on these empirical data, the following analysis is divided into two major parts. Section 7.1 focuses on the time points of promotion and starts by asking two basic research questions—At what age did political officials get promoted along the hierarchical ladder? For how long have they stayed at the prior administrative rank at promotion? To answer the first question, Section 7.1.1 directly turns to the occurrence of promotion events at the respective administrative ranks under study. The second question is addressed differently in Section 7.1.2 by considering the duration time between two successive promotion events. This section primarily grounds the answer to the second question in the step-by-step promotion mechanism. It brings substantial attention to the leadership cases that assume the leading positions at two adjacent hierarchical levels. However, the entry level in public service drops out from the study because the duration time here exclusively refers to political mobility within the party or government systems, rather than the career transition from the non-public service to public service. In addition, Section 7.1.3 moves on to outline the exceptional cases with the leapfrog promotion and briefly examine at what administrative rank the leapfrog promotion occurs.

Section 7.2 specifies four critical issues related to the adoption of the life table method, namely the selection of the observational records, the estimated bias resulting from the elimination of the censored observations, the observed promotion outcomes derived from the retrospective career data and the selection of administrative ranks of interest. More importantly, Section 7.2 raises a further research question—What is the chance of promotion over time? To answer this question, Section 7.2 describes the process of upward mobility by computing the life tables and plotting the survival functions across administrative ranks. The life table technique is a straightforward descriptive method for identifying the duration distribution. As a starting point, the observation periods are split into smaller career intervals of twelve months in this section. As primary statistical outputs, the probability of promotion occurring at the end of each year is estimated, coupled with the proportion of the leadership sample staying at the same administrative rank. Besides, the cumulative promotion rates are generated. Consistent with the duration analysis in Section 7.1.2, the analysis of the political mobility process in Section 7.2 is situated in the step-by-step promotion context. There is an underlying assumption that political officials experiencing promotion are at risk of advancing to the next hierarchical level. It should therefore be noted that the above statistical procedure is based on the leadership sample with career experience at two adjacent hierarchical levels. In other words, the occurrence of the promotion event and the tenure at the adjacently lower level are observed at the respective hierarchical levels under study. For instance, to look at the process of advancing to the deputy-division-head level, political officials are selected only if they have worked at the section-head level and successively climbed to the deputy-division-head level. Besides, the leadership cases with the leapfrog promotion are eliminated from the study, e.g., promotions from the deputy-section-head level to the deputy-division-head level, or from the section-head level to the division-head level. Consider the promotion from the deputy-section-head level to the deputy-division-head level as a specific example of the leapfrog promotion. If the observations related to this leapfrog promotion were included in the life table analysis, they would be censored in the life table of the upward mobility towards the section-head level. This is because political officials in the leapfrog have no promotion to the section-head level when the observation is

terminated. After removing the leapfrog promotion, there is no censored observation included in analyzing the course of political mobility at each administrative rank in Section 7.2.

7.1 Upward Mobility across Administrative Ranks

This section touches upon the average age for provincial leaders at promotion in the course of upward mobility in Section 7.1.1. Section 7.1.2 examines the waiting time at the previous administrative rank before reaching the respective hierarchical levels. For analytical purposes, Section 7.1.1 is based on a larger leadership sample because the central concern in this subsection is the occurrence of promotion events irrespective of either the type or the timing of promotions occurring. Therefore, Section 7.1.1 takes into consideration the ages of political officials with the leapfrog promotion coupled with the ages of the newcomers upon the entry into public service. By comparison, as mentioned earlier, Section 7.1.2 exclusively focuses on the step-by-step promotion events, analyzing the record of the political officials working at two successive administrative ranks and omitting the records of leapfrog promotions or the origin status in civil service. To supplement, Section 7.1.3 empirically assesses the occurrence of leapfrog promotions throughout political careers.

7.1.1 The Age at Promotion

The average ages for provincial leaders grow with the bottom-up career progression. According to Table 55, the average ages range from 29.11 at the section-head level to 61.52 at the state-leader level. Consider the age distribution across administrative ranks for the 1990-2013 provincial leaders. Approximately a half of provincial leaders get promoted between the ages of 26-31 at the section-head level, 27-33 at the deputy-division-head level, 31-37 at the division-head level, 37-42 at the deputy-bureau/director level, 40-46 at the bureau/director level, 45-51 at the vice-provincial/ministerial level and 54-59 at the provincial/ministerial level. As to the

ages at promotion at the vice-state-leader level, conspicuously, 12.15% of political officials are aged 59 and 12.62% have reached the age of 62. At the state-leader level, the top leaders aged 64 produce 29.31% and those aged 66 account for 20.69%.

Table 55 Average Age at Promotion for Chinese Provincial Leaders, 1990-2013

Administrative Rank	Obs.	Average Age at Promotion	Age of Ineligibility for Promotion
Section-Head Level	443	29.11	40
Deputy-Division-Head Level	924	32.20	45
Division-Head Level	1008	35.22	50
Deputy-Bureau/Director Level	1486	38.90	52
Bureau/Director Level	1638	42.90	55
Vice-Provincial/Ministerial Level	1879	48.30	58
Provincial/Ministerial Level	1038	55.33	63
Vice-State-Leader Level	214	59.59	67
State-Leader Level	58	61.52	67

Source: Author's database.

Kou, C.W. & Tsai, W.H., 2014. "Sprinting with Small Steps" Towards Promotion: Solutions for the Age Dilemma in the CCP Cadre Appointment System. *The China Journal*, 71, 153-171.

Note: The rightmost column is drawn from the finding of Kou and Tsai(2014)¹⁰³.

As compared to the ages of ineligibility for promotion, the 1990-2013 provincial leaders, as competitive political players, have striking age advantages at every administrative rank. They are early starters in each stage of their political careers. In particular, the discrepancy between the average age at promotion and the upper age limits for promotion seems to be more pronounced at the lower administrative ranks. Specifically, the ages at promotions are ten years younger than the ages of

¹⁰³ The age of ineligibility for promotion has been explicitly promulgated in the formal legislative guidelines in some regions or implicitly put into practice in appointing and selecting cadres. Despite possibly slight differences in upper age limits, Kou and Tsai (2014: 157) state the ages of ineligibility are 40 for cadres at the deputy-section-head level and at the section-head level, 45 at the deputy-division-head level, 50 at the division-head level, 52 at the deputy-bureau/director level, 55 at the bureau/director level, 58 at the vice-provincial/ministerial level, 63 at the provincial/ministerial level, 67 at the vice-state-leader level and at the state-leader level. The age requirements at promotion were also identified according to the 2009 survey organized by People's Tribune. More details refer to: Du, F.J., 2009. "Shitu 'tianhuaban'" (A Career Under the "Glass Ceiling", 仕途 "天花板"), *Renmin luntan* (People's Tribune), 23, 17.

ineligibility from the section-head level to the bureau/director level. This observation suggests the possibility that the political officials in question successfully break through the age dilemma by rapid promotions at the bureau/director level or below (Kou & Tsai, 2014: 159)¹⁰⁴.

Furthermore, the age advantage is the most significant at the division-head level, namely 14.78 years. That is to say, political officials get ahead at age of 35.22 on average, whereas cadres aged 50 at this rank generally become ineligible for further advancement. Interestingly, according to the 2009 survey organized by *People's Tribune* in China, it is at the division-head level that there exist the most cadres who become trapped under career ceiling and stay on the lower posts¹⁰⁵. One of the possible explanations for the emergence of “ceilinged cadres” (tianhuaban ganbu, 天花板干部) is the upper age limitation as a major hindrance to upward mobility. Turning to the earlier finding, in sharp contrast, the 1990-2013 provincial leaders

¹⁰⁴ Chien-wen Kou and Wen-Hsuan Tsai (2014) point out the age dilemma by comparing the discrepancy between the age of ineligibility for promotion and the expected age at promotion under the regulated tenure. The expected age at promotion is calculated by assuming that a cadre aged 30 obtains Deputy Section Head and successfully gets promoted after fulfilling each office of term for 5 years. Under this step-by-step promotion mechanism, the expected ages at promotion accordingly start at 30 at the deputy-section-head level with an addition of 5 for every promotion. It is important to note that the age of ineligibility is equal to the expected age at promotion at the bureau/director level. Thereafter, political officials are likely to be confronted with the age dilemma above the bureau/director level where the expected age at promotion is larger than the age of ineligibility for promotion. On this basis, Kou and Tsai (2014: 159) observe that “to resolve this predicament, cadres must steer their career into the fast lane and accrue as large an age advantage as possible before getting caught on the horns of the age dilemma at the rank of Bureau Director”.

¹⁰⁵ *People's Tribune* organized the survey in 2009 by conducting the online questionnaire of 7,869 network users, the paper questionnaire of 280 cadres and interviews of 32 heads of the Organization Department and 130 party cadres and government officials. The sample size is totally 8,311. In terms of the empirical findings, 64% of the participants indicate that there are the most ceilinged cadres at the division-head level, whereas 12% choose the bureau/director level, 3% the provincial/ministerial level and 18% select ‘others’. More details refer to: Du, F.J., 2009. “Shitu ‘tianhuaban’” (A Career Under the “Glass Ceiling”, 仕途“天花板”), *Renmin luntan* (People's Tribune), 23, 17.

circumvent the ceiling effect at this crucial juncture of career advancement. They retain massive competitive advantages in the later years of political careers.

With the occupational upgrading to the vice-provincial/ministerial level or above, the age advantage becomes less noticeable. After seeking rapid promotions at the lower levels, a large number of political officials tend to remain on the higher-ranking positions for a longer tenure, which will be reconfirmed in Section 7.1.2. In this way, part of the age advantage is transformed into diverse work experience at the higher levels and social interactions with upper echelons.

To summarize, it is well-defined that the average age at promotion increases with the hierarchical levels in the career progression. This subsection has drawn a comparison between the average age at promotion and the upper age limits for promotion at each administrative rank. On the basis of the discrepancy between these two ages, it has pointed out that the age advantages become less pronounced for provincial leaders at the upper levels than at the lower levels.

7.1.2 The Duration at the Prior Administrative Rank at Promotion

In parallel to the above introduction of the average age at promotion, Section 7.1.2 examines the duration time at the prior administrative rank before promotion. As shown in Table 56, the average tenure at the previous rank is roughly three or four years when cadres climb high to the bureau/director level or below. It takes longer for the promotion events occurring at the vice-provincial/ministerial level or above. This is consistent with the finding of the reduced age advantage at higher levels in Section 7.1.1. Most strikingly, political officials stay at the vice-provincial/ministerial level for 8.60 years before advancing to the provincial/ministerial level. A broad majority of them are likely to serve a five-year term at least at the upper levels without interruption¹⁰⁶.

¹⁰⁶ Chapter 4 has already introduced the legislative guidelines regarding the length of term and its term integrity. The typical example is “Interim Provisions on the Term of

The relative lengthy duration at the higher levels could be explained by the combination of the exceedingly limited vacant positions and the increasingly important role played by the political officials at the higher levels. As to the former, there is little doubt that the prospective P.R.C. leaders should wait longer for their advancement opportunities in the fierce mobility competition. As to the latter, for top leadership selection, the CCP constructs a pool of talented candidates. The CCP nurtures these candidates and improves the job-person matches by assigning them to different leadership posts and localities. The duration time grows with job reassignments at the same rank. For example, out of 1,891 provincial leaders, the proportions with lateral transfers across provinces are 37.82% for party secretaries, 11.00% for provincial governors, 26.64% for deputy secretaries and 5.89% for vice governors. The resulting tenure is 8.60 years at the vice-provincial/ministerial level and 7.50 years at the provincial/ministerial level.

Table 56 Average Tenure at the Prior Administrative Rank at Promotion, 1990-2013

Administrative Rank	Obs.	Average Tenure at the Prior Administrative Rank at Promotion
Section-Head Level	255	42.64
Deputy-Division-Head Level	397	41.15
Division-Head Level	738	45.27
Deputy-Bureau/Director Level	926	43.92
Bureau/Director Level	1386	51.88
Vice-Provincial/Ministerial Level	1637	64.30
Provincial/Ministerial Level	1026	103.20
Vice-State-Leader Level	210	89.98
State-Leader Level	47	75.36

Source: Author's database.

Note: The average tenure is measured in years.

The specific distribution of the duration time at the prior rank will be formulated later in Section 7.2. Alternatively, this subsection proceeds to shed light on four

Office for Party and Government Leading Cadres" in 2006 (dangzheng lingdao ganbu zhiwu renqi zanxing guiding, 党政领导干部职务任期暂行规定). It is stipulated that each term of office is subject to five years and should be completed without interruption for party and government leaders.

possible factors contributing to the lengthy career episodes. Firstly, job reassignments at the same administrative rank account for the increase in the duration time¹⁰⁷. For instance, according to the 1999 and 2006 regulations on cadre exchanges, job exchanges, particularly lateral transfers, are introduced for the following purposes: (1) better job-person matches; (2) improving leadership ability and professional expertise; and (3) rule of avoidance¹⁰⁸. Typically, cadres at the deputy-division-head level or above should accept job exchanges if they have served on the same post or remained at the same rank in the same locality for ten years. In addition, as stipulated in Article 7 of the “Regulations on Selecting and Appointing Party and Government Leading Cadres” (dangzheng lingdao ganbu xuanba renyong gongzuo tiaoli, 党政领导干部选拔任用工作条例), cadres should obtain more than two positions at the prior rank before advancing to the deputy-division-head level or above¹⁰⁹. Therefore, the tenure increases with the within-rank job reassignments.

¹⁰⁷ It has been widely believed that for how long cadres should wait for the next promotion virtually depends on the number of promotional opportunities coupled with the job-cadre matches and the competitive advantage maintained. However, the analysis of such factors should be located in a much broader framework. For example, it will present an evolutionary picture of the vacant positions across different ranks over time in the Chinese bureaucracies. Or it will look into the leadership characteristics of those who fail in each mobility competition. Such analysis is beyond the scope of this thesis and beyond its capability because this thesis merely focuses on human capital and social capital of the 1990-2013 provincial leaders. Instead of taking a closer look at the above factors, this subsection turns to the within-rank job exchanges that essentially stem from the above factors.

¹⁰⁸ News of the Communist Party of China, 1999. “dangzheng lingdao ganbu jiaoliu gongzuo zanxing guiding” (Interim Provisions on Exchange Work for Party and Government Leading Cadres, 党政领导干部交流工作暂行规定) [Online]. (Updated 22 April 1999) Available at: <http://cpc.people.com.cn/GB/64162/71380/71382/71480/4854009.html> [accessed 03 Jan 2015]; Xinhuanet, 2006. “dangzheng lingdao ganbu jiaoliu gongzuo guiding” (Provisions on Exchange Work for Party and Government Leading Cadres, 党政领导干部交流工作规定) [Online]. (Updated 06 August 2006) Available at: http://news.xinhuanet.com/politics/2006-08/06/content_4926453.htm [accessed 03 Jan 2015].

¹⁰⁹ Xinhua Net, 2002. “dangzheng lingdao ganbu xuanba renyong gongzuo tiaoli” (Regulations on Selecting and Appointing Party and Government Leading Cadres, 党政领导干部选拔任用工作条例) [Online]. (Updated 09 July 2002) Available at:

Noteworthy here is the career move from the CCYL route to local leadership. To guarantee the leadership vitality, the CCYL imposes strict age restrictions on cadre appointments¹¹⁰. The CCYL cadres are transferred to the equivalent rank in the regular party or government systems as getting older. The tenure at this rank accordingly increases. To provide a specific example, Bayanqolu (巴音朝鲁), current deputy secretary and governor of Jilin, stayed in the CCYL route for ten years. He successively climbed the hierarchical ladder within the CCYL from the deputy-bureau/director level to the vice-provincial/ministerial level. In 1998, Bayanqolu (巴音朝鲁) became executive secretary of the Secretariat of the CCYL Central Committee and chairman of the All-China Youth Federation. Three years later, he was transferred out of the CCYL route and laterally reassigned to vice governor of Zhejiang. In December 2003, he was elected Zhejiang Party Standing Committee member and party secretary of Ningbo. In 2010, Bayanqolu (巴音朝鲁) was transferred to Jilin as deputy party secretary after working in Zhejiang for nine years. He rose to chairman of Jilin Provincial CPPCC in 2011 and obtained the provincial/ministerial level. He was subsequently appointed deputy party secretary and governor of Jilin in 2013. To summarize, at the vice-provincial/ministerial rank, Bayanqolu (巴音朝鲁) experienced critical job reassignments from the leading positions in the CCYL to local leadership in Zhejiang and Jilin. His duration at the vice-provincial/ministerial level amounts to 13 years, namely three years as a notable CCYL cadre and ten years as a top leader in the party or government system.

Secondly, the duration of waiting time at a given rank grows with the career transitions from the civil service systems to the non-public organizations, such as the

http://news.xinhuanet.com/ziliao/2003-01/18/content_695422_1.htm [accessed 03 March 2015].

110 The notable regulation on the age limits for CCYL cadres was promulgated in 1982, that is, “The CCP Central Organization Department Forwards CCYL Central Secretariat’s Opinions on Age Issues of Leading CCYL Cadres at All Ranks” (zhonggong zhongyang zuzhibu zhuanfa tuan zhongyang ‘guanyu geji tuanwei lingdao ganbu nianling wenti de yijian’, 中共中央组织部转发团中央“关于各级团委领导干部年龄问题的意见”).

SOEs or universities¹¹¹. As stressed previously, the duration time in this chapter is measured by the interval between two adjacent administrative ranks. Under this circumstance, political officials temporarily stay out of the rank system in the civil service. They instead work in the non-public organizations and subsequently return to the administrative career line. The seniority in the non-public organizations is added to the tenure at the lower rank. Consider Cheng Weigao (程维高), former party secretary of Hebei, as an example. In 1965, Cheng was reassigned to head of Changzhou Tractor Factory from the division-head rank, then director of Changzhou Municipal Party Committee Office in Jiangsu. Seven years later, he was transferred to Shanghuang Coal Mine in Changzhou and worked there for five years. Between 1977 and 1980, Cheng occupied the leading posts of deputy director of Changzhou Planning Commission and director of Changzhou Construction Committee. In 1980, he was promoted to the deputy-bureau/director level as vice mayor and deputy secretary of Changzhou. Cheng's tenure in the SOEs ultimately contributes a total of twelve years to the duration at the division-head rank.

Thirdly, the duration increases by considering the length of time spent in full-time schooling after public service entry. In line with the method of evaluating the duration time in this chapter, the year of schooling is incorporated into the tenure at the specific administrative rank before exit from public service. Among 1,891 provincial leaders from 1990 to 2013, 9.97% prefer to suspend their political career and pursue the full-time educational advancement (188 cases). After earning an educational degree, they resume their leadership posts. Nearly all of them improve educational credentials to some college or above. The average length of full-time study is 2.60 years. It is important to indicate that such educational advancement mostly occurs below the vice-provincial/ministerial level. As stated above, the tenure

¹¹¹ The reverse is the career transition from non-public organizations to the civil service system. However, this career transition makes little difference in the growth of duration time. In other words, the tenure in the non-public organizations is eliminated from the duration analysis. This is due to the way of defining the observation period and of evaluating the duration time. Specifically, as indicated in Chapter 3, the starting point of the observation period for elite mobility is the point of origin in the civil service system. In addition, the duration time in this chapter is measured by the interval between two adjacent administrative ranks.

at the lower ranks is merely three or four years. The addition of 2.60 years makes a significant difference to the duration time at a specific rank. A typical example is Xie Kangsheng (谢康生), former deputy secretary of Hunan. Xie held the post of deputy secretary of Hunan Provincial CCYL in 1982. He experienced a transition from work to school and studied in Hunan Normal University from 1983 to 1985. After graduation, he was appointed deputy director of Hunan Agriculture Department. As a result, the continuing educational experience contributes two years to Xie's seven-year at the deputy-bureau/director level.

Lastly, the outbreak of the CR discontinued the cadres' political careers. A large number of cadres were expelled from their posts. The career interruption in the CR era lengthens the tenure at the related ranks where they stayed before reluctantly leaving office. For provincial leaders from 1990 to 2013, 12.67% entered public service prior to the CR (239 cases). In particular 5.09% stepped down from their posts during the CR (96 cases), for the most part below the deputy-bureau/director level. The average length of disrupted careers is 1.77 years. For instance, Ma Zhongchen (马忠臣), former party secretary of Henan, started to occupy the deputy-division-head level in 1966, working as deputy party secretary of Tai'an County in Shandong. From February 1967 to May 1970, he was expelled and sent to work on the farm. Fortunately, Ma returned to power in 1970. He was selected as Tai'an County Standing Committee member and deputy director of Production Office of Tai'an Revolutionary Committee. In 1976, he got promoted from deputy secretary of Tai'an County to party secretary of Zhangqiu County at the division-head level. In terms of the above-noted career trajectories, Mao stayed for ten years at the deputy-division-head level where his political career was disrupted for three years.

To sum up, this subsection has observed the longer tenure at the prior administrative rank for promotions at the upper levels than at the lower levels. It has also explained the ways in which the career duration increases at a given administrative rank. On one hand, the factor of within-rank job exchanges is closely associated with the balance of the vacant positions available and the cadre

management and training strategies. In such pyramid-shaped organizational hierarchy as Chinese party and government systems, the higher level the political officials stay at, the less promotional opportunities they have, the more fierce mobility competition they are confronted with. This means that a large number of political officials are expected to wait for a promotion chance for a long time at the same rank and experience job reassignments at that rank. Or through job exchanges, they become more matched to the leadership posts at the higher levels and therefore seize the promotional opportunity. On the other hand, the remaining three factors statistically result from the measurement of the duration time in this thesis. In other words, the length of time for a temporary transfer out of public service is added to the duration time at the specific rank before leaving office, such as the career transition towards the non-public organizations, the continuing education or the career disruption in the CR era.

7.1.3 The Leapfrog Promotion

The preceding subsections are concerned with the step-by-step promotion regarding the age and the duration time. Section 7.1.3 sketches the basic characteristics of the leapfrog promotion. Out of 1,891 provincial leaders, 23.06% leapfrog their way up the promotion ladder (436 cases). 393 provincial leaders only experience one leapfrog promotion and 43 leaders have two. For the 479 observations of leapfrog promotions, 68.68% occurred in the 1980s (329 cases) when the CCP embarked on the leadership rejuvenation by recruiting young cadres, as formulated in Chapter 4. In terms of the administrative rank, a vast majority of leapfrog-promotion events occur from the deputy-division-head level to the vice-provincial/ministerial level. In particular, 32.15% of the leapfrog promotion events occur at the deputy-bureau/director level (154 cases) and 22.34% at the vice-provincial/ministerial level (107 cases).

7.2 Life Tables of Political Upward Mobility

This section will delineate how provincial leaders from 1990 to 2013 advance to the provincial leadership positions from the lower levels. To this end, it will develop a dynamic account of how promotion chances change over time and conduct an independent analysis on promotion at each administrative rank. The research interest in this section is “time to promotion events”. The study of political mobility is placed in the context of the step-by-step promotion. It differs from the promotion models in Chapter 8, which will be further discussed in the next chapter. As described in Chapter 3, in addition to the step-by-step promotions, the promotion models are extensively concerned with the leapfrog promotions and the entry into public service.

With respect to the political mobility process, the questions of interest in this section are questions like: What is the probability of upward mobility at each administrative rank if the political officials are eligible for promotion? How many of them remain at the same rank without promotion during a given career interval? How many of them get promoted? When do 50% of the political officials successfully get promoted to the succeeding higher level? To answer all these questions, the life table method is ideally suited to such a dynamic analysis. In this statistical technique, the pertinent information on two essential variables is gathered, namely the promotion outcome at a given administrative rank and the career duration at its prior rank. The career duration is divided into smaller intervals of twelve months. On this basis, the life table analysis provides a rigorous summary of such a large sample as the provincial leadership dataset, including the number of promotion events, the proportion remaining at the same rank, the proportion being promoted coupled with the cumulative proportion of experiencing career advancement at a given career interval. More importantly, the survival curve for each administrative rank is plotted as a step function and the median survival time is computed.

7.2.1 The Life Table Method

Before a closer look at the political mobility process, several clarifications pertaining to the life table method are worth examining here. The first issue is the selection of the observational records for promotion at each administrative rank of interest. As mentioned before, this section exclusively focuses on the step-by-step political mobility. Similar to the duration analysis in Section 7.1.2, the observational records are thus derived from the provincial leadership dataset if they have career experience at two adjacent levels. The career experience in public service is recorded and followed until political officials successfully become provincial chiefs. Each career interval extends from the timing of obtaining the lower rank up to that of being promoted to the adjacent higher level. It is assumed that political officials are eligible to advance to the succeeding higher level after obtaining a given administrative rank. For example, to examine the promotion at the deputy-division-head level, those with work experience at both the section-head level and the deputy-division-head level constitute the observational records. The life table is computed on the basis of the promotion status at the deputy-division-head level and the tenure at the section-head level. The selection of observational records takes no account of leapfrog promotions and the entry status at a given rank. Thus, it is important to note that, although the above selection of observational records is somewhat arbitrary and may bias the estimated promotion probability, it is in line with the step-by-step promotion, which will be explained below.

The second issue is to discuss the possible bias in results after eliminating the observations out of the step-by-step promotion. The exceptional cases in political mobility—for example, the occurrence of leapfrog promotions or the entry into public service—are excluded in the life table analysis of promotion at each rank. The former refers to the upward mobility from the lower level to the higher but not adjacent level. The promotion at the rank between these two levels no longer occurs. The latter reflects the life transition from the full-time study to public service or the career transition from the SOEs or universities to public service. Consider once again the promotion at the deputy-division-head level as an example. In the step-by-step promotion mechanism, those working at the section-head level are eligible for promotion at the deputy-division-head level. By comparison, in the leapfrog

promotion, what is different is that political officials working at the section-head level are not promoted at the deputy-division-head level. They instead advance to the rank higher than the deputy-division-head level. In addition, a number of political officials directly obtain the deputy-division-head level upon the public service entry. Is there any variance in estimates of promotion rates by taking into account the above-noted exceptional cases in leadership promotion?

On one hand, in estimating the duration distribution and promotion chances at the deputy-division-head level, those without promotion at this rank in leapfrog are originally withdrawn from the study and censored in the life table. In this regard, the proportion of promotion is expected to decline in the presence of these censored observations¹¹². Furthermore, the influence of the leapfrog promotion can be understood from a different perspective. In the study of promotion proportions at the destination rank higher than the deputy-division-head level, the promotion occurs. The promotion rates increases with the inclusion of such leapfrog promotions as compared to those under the step-by-step promotion mechanism¹¹³.

¹¹² In the life table method, the number of not experiencing promotion at the interval start time (t) and the number of observations exposed to promotion risk will change by considering the effect of these censored observations. The number exposed to risk (R_t) is equal to the number of surviving cases (S_t) minus one half of the number of censored observations (W_t). That is, $R_t = S_t - W_t/2$. The promotion probability (P_t) is the number of promotion events (d_t) divided by the number exposed to risk (R_t). It is computed using the formula: $P_t = d_t/R_t$ where $R_t = S_t - W_t/2$. That is to say, the promotion of probability is computed using the formula: $P_t = d_t/(S_t - W_t/2)$. After removing the censored observations, the number of promotion events (d_t) remains the same. However, the number of exposed to risk (R'_t) is equal to the number of surviving cases (S'_t), using the formula $R'_t = S_t - W_t$. In this case, the promotion probability is calculated as: $P'_t = d_t/S'_t$ where $S'_t = S_t - W_t$. By comparison, the proportion of promotion in the presence of censored observations is smaller than the proportion without censored observations. In terms of the promotion at the deputy-division-head level, as indicated in Section 7.1.3, there are 50 political officials free of promotion at this rank and leapfrogging their way up to the division-head level.

¹¹³ In examining the promotion rates at the destination level in leapfrog, the rate of not experiencing promotions (Q_t) is computed by using the formula: $Q_t = S_t/R_t$. Under the step-by-step promotion mechanism, the number of leapfrog promotions (L_t) is omitted from the study. Therefore, the rate of not experience promotions (Q'_t) is computed by using the formula: $Q'_t = S'_t/R'_t$ where $R'_t = R_t - L_t$. In both cases, the

On the other hand, the promotion occurs if political officials enter public service by obtaining the deputy-division-head level. The incorporation of these observational records leads to the increase in the promotion rate. At the empirical level, 148 provincial leaders started their political career by assuming the deputy-division-head rank, producing 27.16% of promotion rate at the interval start time (i.e., time zero)¹¹⁴. Nevertheless, returning to the principal research purpose, this section focuses on how provincial leaders climb the political ladder from one rank to another. The events of public service entry are inherently beyond the scope of the political mobility analysis. Besides, as outlined in Chapter 6, the leapfrog promotion is exceptional in political mobility and merely provides a small share of promotion events at each rank. Consequently, despite the possible bias in estimating promotion rates, only the step-by-step promotion events are selected as the observational records in developing life tables.

The third issue is that the promotion status is well defined. This section analyzes the retrospective career data of provincial leaders from 1990 to 2013. These political leaders are considered as political winners who have risen to prominence in provincial politics. Given both, the promotion outcomes are definite at administrative ranks lower than the last observed rank. Or rather, party secretaries and provincial governors are assumed to attain promotions at the provincial/ministerial rank or below after working in party or government systems. Similarly, deputy party secretaries and vice governors presumably get promoted at the vice-provincial/ministerial rank or below. Under the step-by-step promotion mechanism, there are no censored observations in the separate analysis of the promotion rates at each level lower than the last observed rank. The reasons for this

number of not experiencing promotion remains the same. As a result, the rate of not experience promotion with the leapfrogs is lower than that in the step-by-step promotion. Besides, the promotion rate is equal to one minus the proportion of not experiencing promotion. Therefore, the promotion rate is expected to rise by considering the leapfrog promotions.

¹¹⁴ The number of observational records is 397 under the step-by-step political mobility. The total number of observational records will increase to 447 by incorporating 148 provincial leaders obtaining the deputy-division-head level as their start level in public service.

are threefold. Firstly, as stated previously, either the leapfrog promotion or the public service entry is eliminated from the political mobility analysis. Secondly, according to the above-mentioned selection of observational records, those with unknown promotion status at the end of the career interval are excluded in the study. Lastly, the life table analysis of political mobility is based on the retrospective career data for promotion at each rank of interest. Only those having successfully advanced to provincial leadership positions and having complete career-history data are included in the study. To put it differently, there exists no possibility that provincial leaders drop out of the study for reasons of resignation, criminality or death before the observation period ends.

The final issue is the selection of administrative ranks of interest. This section focuses on the political mobility from the deputy-division-head level to the provincial/ministerial level. It is important to emphasize that the provincial leadership dataset contains a complete sample of provincial leaders from 1990 to 2013, as introduced in Chapter 3. The primary concern of this section is to examine the political mobility process of this leadership group. In other words, it simply takes insight into how these leaders come to power in provincial politics from the lower levels step by step. Attempts to generalize from the resulting promotion rates of provincial leaders must be cautious. In terms of selecting the administrative ranks of interest, the promotion at the section-head level or below is not investigated here because of the missing data on career histories. As to the promotion at the vice-state-leader level and the state-leader level, a very small number of provincial leaders succeed in the promotion competition for national power. In sharp contrast, as late career starters or late public service entrants, quite a number of the provincial leaders had failed to achieve promotion at these two levels by the end of the observation period. These leaders are considered to be censored if taken into account in the life table method. The crude removal of these observations is expected to generate the significant estimated bias. As a result, this section will focus the life table analysis on the changes in promotion rates from the deputy-division-head level to the provincial/ministerial level.

7.2.2 Promotion to the Deputy-Division-Head Level

The following subsections will provide the life tables on the career progression towards the ranks from the deputy-division-head level to the provincial/ministerial level. Before presenting the empirical results, three highlights are worth mentioning here. First, the promotion rates are computed on the basis of the duration time at the prior rank. The duration time at each rank is subdivided into smaller fixed intervals in units of months. Each small interval lasts 12 months in this political mobility analysis. This primarily depends on the total duration time at each rank. The total duration time ranges from 17 years to 30 years from the section-head level to the vice-provincial/ministerial level. It is meaningful to describe the promotion dynamics and examine the variations in the promotion rate for every year by identifying 12 months as each interval. Second, it is critical to clarify that political officials are considered to “survive” or be “alive” if not experiencing promotions. Reversely, they are considered to be “dead” once the terminal events of promotion occur. Therefore, the parameter of “the cumulative proportion surviving at end of interval” represents the cumulative proportion of not experiencing promotions. It is equivalent to the probability of surviving at the most recent interval multiplied by that for all the previous intervals. Noteworthy is that the cumulative promotion rate of interest is accordingly equal to one minus the cumulative proportion surviving. Finally, the median survival time is calculated, indicating the time point at which half of the political officials have experienced upward mobility and half of the officials remain at the same rank without any promotion. In addition, the survival curve gives pertinent information on how the cumulative proportion of surviving changes with the passage of the career duration time.

Table 57 shows the life table on the upward mobility from the section-head level to the deputy-division-head level. There are a total of 397 provincial leaders under study. They raise their administrative rank to the deputy-division-head level within 22 years. It is illustrated in the life table that 33 political officials successfully get promoted within the first year. They could be regarded as the strongest political competitors and the fastest runners from the section-head level to the deputy-

division-head level. For instance, Miu Ruilin (繆瑞林), former vice governor of Jiangsu, was appointed section head in the Agriculture Division of Jiangsu Provincial Agriculture Department from September 1989 to August 1990. After working at the section-head level for eleven months, Miu received a rapid promotion and became deputy head in this division.

By looking at the changes in the promotion rate during the career interval of 22 years, the promotion rate at the beginning of the 12th month is 8.31%. The five-year cumulative promotion rate is 77.83%. By Year 10, the cumulative promotion rate has risen to 97.98%. Political officials working at the section-head level tend to get ahead towards the deputy-division-head level within the first seven years. The cumulative promotion rate amounts to approximately 96.47%. In particular, the number of promotion events occurring is conspicuous at Year 2, Year 3 and Year 4. The corresponding figures are 96 at Year 2, 88 at Year 3 and 54 at Year 4. Moreover, the survival curve for calculating the promotion rates is shown in Figure 32. According to the survival curve, there are few political officials staying at the section-head level after seven years.

The median survival time is 33.48 months. This means that 50% of the political officials remain serving at the section-head rank approximately in the past three years. If the political officials fail to get ahead in the first three years, to a certain degree, they are disadvantageously positioned in the promotion to the deputy-division-head level.

Table 57 The Life Table on Promotion to the Deputy-Division-Head Level, 1990-2013

Interval Start Time	Number Entering Interval	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Cumulative Promotion Rate at End of Interval
0	397	33	0.08	0.92	0.92	8.31%
12	364	96	0.26	0.74	0.68	32.49%
24	268	88	0.33	0.67	0.45	54.66%
36	180	54	0.30	0.70	0.32	68.26%
48	126	38	0.30	0.70	0.22	77.83%
60	88	25	0.28	0.72	0.16	84.13%

72	63	22	0.35	0.65	0.10	89.67%
84	41	27	0.66	0.34	0.04	96.47%
96	14	3	0.21	0.79	0.03	97.23%
108	11	3	0.27	0.73	0.02	97.98%
120	8	3	0.38	0.63	0.01	98.74%
132	5	0	0.00	1.00	0.01	98.74%
144	5	2	0.40	0.60	0.01	99.24%
156	3	0	0.00	1.00	0.01	99.24%
168	3	0	0.00	1.00	0.01	99.24%
180	3	0	0.00	1.00	0.01	99.24%
192	3	0	0.00	1.00	0.01	99.24%
204	3	0	0.00	1.00	0.01	99.24%
216	3	1	0.33	0.67	0.01	99.50%
228	2	0	0.00	1.00	0.01	99.50%
240	2	0	0.00	1.00	0.01	99.50%
252	2	2	1.00	0.00	0.00	100.00%

Source: Author's database.

Note: 1. The median survival time is 33.48 months.

2. The career interval is measured in months.

3. No observation is withdrawn from the study during the interval.

4. The number of entering the interval is equal to the number exposed to risk.

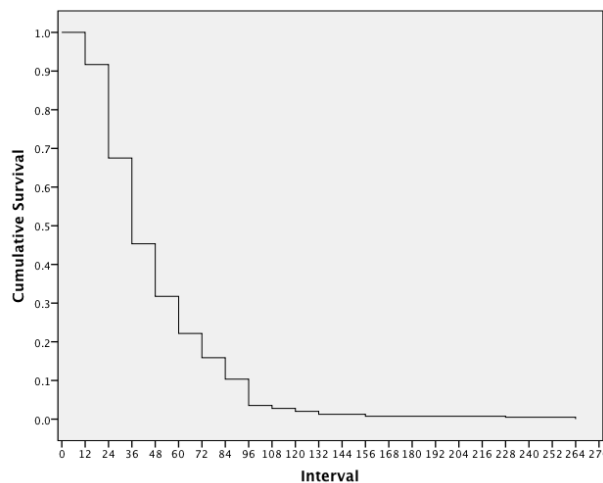


Figure 32 Survival Curve of Promotion to the Deputy-Division-Head Level, 1990-2013

7.2.3 Promotion to the Division-Head Level

Table 58 illustrates the upward mobility from the deputy-division-head level to the division-head level. In the life table, 738 provincial leaders have work experience at both ranks. It takes less than 29 years for all of them to attain the promotional opportunity. According to Table 58, 34 political officials win the early promotion

round within the first year. The promotion rate is 4.61% at the end of the first year. For example, former deputy party secretary of Henan, Ye Dongsong (叶冬松), was promoted from deputy head to head of Policy and Regulation Division in Anhui Provincial Bureau of Geology and Mineral Resources in 1991. Before this promotion, Ye worked at the deputy-division-head level for five months during the period of July 1991 and December 1991. Another example is Lei Yulan (雷于蓝), former vice governor of Guangdong. Lei got into the fast track along the pathway of the CCYL. After working as deputy secretary for seven months only, she occupied the leading posts of secretary of the Foshan Municipal CCYL and chairman of the All-China Youth Federation in Foshan.

By comparing the first-year promotion rate, the proportion of promotion events occurring is smaller for advancing to the division-head level than to the deputy-division-head level. With respect to the changes in the promotion rate, the five-year cumulative promotion rate is 75.75%. The ten-year cumulative promotion rate is 95.53%. As illustrated in Figure 33, the cumulative promotion rate grows by 22.35% in the second year, 21.55% in the third year, 16.94% in the fourth year. From the longitudinal perspective, the number of promotion events increase sharply to 165 at Year 2, 159 at Year 3 and 125 at Year 4. Since Year 5, there has been a modest decrease in the number of promotion events occurring. There are merely three political officials without upward mobility after Year 15.

The median survival time is 37.06 months. Similar to the promotion towards the division-level, 50% of political officials have experienced promotions in the past three years.

Table 58 The Life Table on Promotion to the Division-Head Level, 1990-2013

Interval Start Time	Number Entering Interval	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Cumulative Promotion Rate at End of Interval
0	738	34	0.05	0.95	0.95	4.61%
12	704	165	0.23	0.77	0.73	26.96%
24	539	159	0.29	0.71	0.51	48.51%

36	380	125	0.33	0.67	0.35	65.45%
48	255	76	0.30	0.70	0.24	75.75%
60	179	52	0.29	0.71	0.17	82.79%
72	127	38	0.30	0.70	0.12	87.94%
84	89	27	0.30	0.70	0.08	91.60%
96	62	21	0.34	0.66	0.06	94.44%
108	41	8	0.20	0.80	0.04	95.53%
120	33	13	0.39	0.61	0.03	97.29%
132	20	5	0.25	0.75	0.02	97.97%
144	15	7	0.47	0.53	0.01	98.92%
156	8	3	0.38	0.63	0.01	99.32%
168	5	2	0.40	0.60	0.00	99.59%
180	3	0	0.00	1.00	0.00	99.59%
192	3	1	0.33	0.67	0.00	99.73%
204	2	0	0.00	1.00	0.00	99.73%
216	2	0	0.00	1.00	0.00	99.73%
228	2	0	0.00	1.00	0.00	99.73%
240	2	0	0.00	1.00	0.00	99.73%
252	2	0	0.00	1.00	0.00	99.73%
264	2	0	0.00	1.00	0.00	99.73%
276	2	0	0.00	1.00	0.00	99.73%
288	2	0	0.00	1.00	0.00	99.73%
300	2	0	0.00	1.00	0.00	99.73%
312	2	0	0.00	1.00	0.00	99.73%
324	2	0	0.00	1.00	0.00	99.73%
336	2	2	1.00	0.00	0.00	100.00%

Source: Author's database.

Note: 1. The median survival time is 37.06 months.

2. The career interval is measured in months.

3. No observation is withdrawn from the study during the interval.

4. The number of entering the interval is equal to the number exposed to risk.

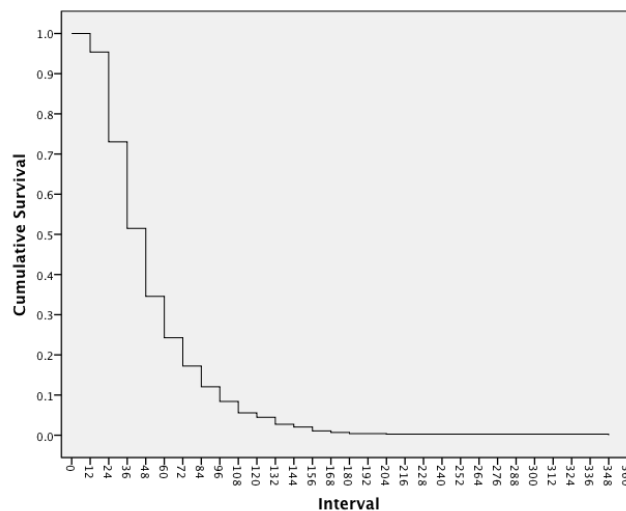


Figure 33 Survival Curve of Promotion to the Division-Head Level, 1990-2013

7.2.4 Promotion to the Deputy-Bureau/Director Level

This subsection attempts to examine the career advancement from the division-head level to the deputy-bureau/director level. Above all, the pertinent observational records under consideration are drawn from the promotion outcomes and tenure at the division-head level for 926 provincial leaders. For this leadership group, the maximum tenure at the division-head level is 17 years. Table 59 presents the life table on the duration distribution and the resulting promotion rates. The life table shows that there are a total of 74 political officials promoted at the end of the first year. The corresponding promotion rate is 7.99%. For example, Wang Yang (汪洋), current Politburo member and vice premier, stayed at the division-head level as head of the Propaganda Department in the Anhui Provincial CCYL from October 1982 to August 1983. It takes only ten months for Wang to receive a promotion to the deputy-bureau/director level as deputy secretary of the Anhui Provincial CCYL. As another example, Wan Qingliang (万庆良), former vice governor of Guangdong, became the Meizhou Municipal Standing Committee member after serving as party secretary of Jiaoling County in Guangdong for six months.

With the passage of the duration time at the division-head level, the number of promotion events increases from 74 at Year 1 to 178 at Year 2. It reaches the peak value of 193 at Year 3. After three years, the number of political officials with upward mobility yields a continuing decrease until all the leaders are successfully promoted. With regard to the cumulative promotion rates, the proportion of promotion is 75.81% in the past five years and 97.30% in the past ten years. Political officials under study are inclined to gain better political careers towards the deputy-bureau/director level within the first nine years, approximately 96.54%. As illustrated in Figure 34, the increase in the cumulative promotion rates is the most pronounced at Year 3, approximately 20.85%.

The median survival time is 37.43 months. Similar to the promotion at the division-head level, 50% of political officials have experienced upward mobility in the past three years.

Table 59 The Life Table on Promotion to the Deputy-Bureau/Director Level, 1990-2013

Interval Start Time	Number Entering Interval	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Cumulative Promotion Rate at End of Interval
0	926	74	0.08	0.92	0.92	7.99%
12	852	178	0.21	0.79	0.73	27.21%
24	674	193	0.29	0.71	0.52	48.06%
36	481	151	0.31	0.69	0.36	64.36%
48	330	106	0.32	0.68	0.24	75.81%
60	224	72	0.32	0.68	0.16	83.59%
72	152	49	0.32	0.68	0.11	88.88%
84	103	41	0.40	0.60	0.07	93.30%
96	62	30	0.48	0.52	0.03	96.54%
108	32	7	0.22	0.78	0.03	97.30%
120	25	7	0.28	0.72	0.02	98.06%
132	18	7	0.39	0.61	0.01	98.81%
144	11	2	0.18	0.82	0.01	99.03%
156	9	0	0.00	1.00	0.01	99.03%
168	9	2	0.22	0.78	0.01	99.24%
180	7	2	0.29	0.71	0.01	99.46%
192	5	1	0.20	0.80	0.00	99.57%
204	4	4	1.00	0.00	0.00	100.00%

Source: Author's database.

Note: 1. The median survival time is 37.43 months.

2. The career interval is measured in months.

3. No observation is withdrawn from the study during the interval.

4. The number of entering the interval is equal to the number exposed to risk.

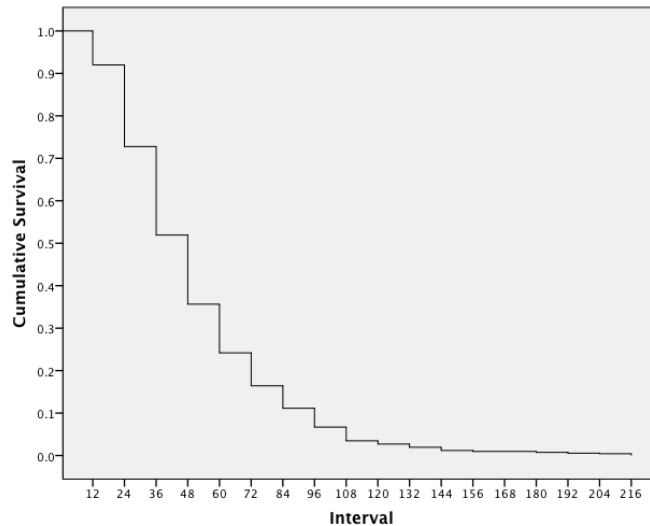


Figure 34 Survival Curve of Promotion to the Deputy-Bureau/Director Level, 1990-2013

7.2.5 Promotion to the Bureau/Director Level

Table 60 describes the promotion dynamics from the deputy-bureau/director level to the bureau/director level. At the beginning of the duration time at the deputy-bureau/director level, 1,386 political officials are at risk of being promoted to the bureau/director level. In the first year, approximately 7.94% of them experience upward mobility (110 cases). Among them, consider Wang Rulin (王儒林), current party secretary of Jilin, and Yang Jing, current secretary of the Secretariat of the CC and state councilor, as examples. Wang was elected deputy secretary of Jilin Provincial CCYL in November 1986. It takes nine months for Wang to get ahead towards secretary of Jilin Provincial CCYL from the deputy position. As another example, Yang Jing (杨晶) also received a critical job move from the deputy-bureau/director level to the bureau/director level. More specifically, Yang worked as deputy director of Bureau of Statistics in Inner Mongolia for seven months before getting ahead. He was subsequently transferred to director of Inner Mongolia's Tourism Administration in June 1992.

At the end of the second year, the number of promotion events has a conspicuous growth to 206. As depicted in Table 60, it reaches the peak value of 226 at Year 3 and starts to drop slowly. At the beginning of Year 14, there are only 18 political

officials who remain free of career progression to the bureau/director level. The first-year promotion rate is 7.94% as outlined above. The five-year cumulative promotion rate is 63.42%. 95.17% of political officials have attained the promotional chances in the past ten years. Strikingly, the first eight years is the time period with the massive promotion events occurring. That is, 88.82% of political officials enjoy occupational upgrading within the first eight years. The survival curve in Figure 35 draws a clear picture of the upward mobility competition, showing the relative significant increase in the cumulative promotion rates from Year 2 to Year 6.

The median survival time is 46.12 months. One half of the political officials is positioned advantageously in the promotion competition at the deputy-bureau/director rank and ultimately receives promotions within the four years.

Table 60 The Life Table on Promotion to the Bureau/Director Level, 1990-2013

Interval Start Time	Number Entering Interval	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Cumulative Promotion Rate at End of Interval
0	1386	110	0.08	0.92	0.92	7.94%
12	1276	206	0.16	0.84	0.77	22.80%
24	1070	226	0.21	0.79	0.61	39.11%
36	844	179	0.21	0.79	0.48	52.02%
48	665	158	0.24	0.76	0.37	63.42%
60	507	157	0.31	0.69	0.25	74.75%
72	350	106	0.30	0.70	0.18	82.40%
84	244	89	0.36	0.64	0.11	88.82%
96	155	56	0.36	0.64	0.07	92.86%
108	99	32	0.32	0.68	0.05	95.17%
120	67	23	0.34	0.66	0.03	96.83%
132	44	12	0.27	0.73	0.02	97.69%
144	32	14	0.44	0.56	0.01	98.70%
156	18	6	0.33	0.67	0.01	99.13%
168	12	2	0.17	0.83	0.01	99.28%
180	10	1	0.10	0.90	0.01	99.35%
192	9	0	0.00	1.00	0.01	99.35%
204	9	3	0.33	0.67	0.00	99.57%
216	6	2	0.33	0.67	0.00	99.71%
228	4	0	0.00	1.00	0.00	99.71%
240	4	2	0.50	0.50	0.00	99.86%
252	2	0	0.00	1.00	0.00	99.86%

264	2	0	0.00	1.00	0.00	99.86%
276	2	1	0.50	0.50	0.00	99.93%
288	1	0	0.00	1.00	0.00	99.93%
300	1	0	0.00	1.00	0.00	99.93%
312	1	0	0.00	1.00	0.00	99.93%
324	1	0	0.00	1.00	0.00	99.93%
336	1	0	0.00	1.00	0.00	99.93%
348	1	0	0.00	1.00	0.00	99.93%
360	1	1	1.00	0.00	0.00	100.00%

Source: Author's database.

Note: 1. The median survival time is 46.12 months.

2. The career interval is measured in months.

3. No observation is withdrawn from the study during the interval.

4. The number of entering the interval is equal to the number exposed to risk.

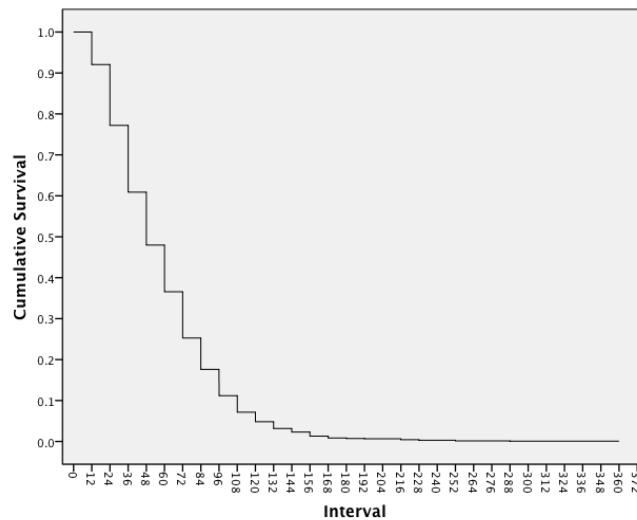


Figure 35 Survival Curve of Promotion to the Bureau/Director Level, 1990-2013

7.2.6 Promotion to the Vice-Provincial/Ministerial Level

The career-history data is available for 1,637 provincial leaders who get ahead step by step from the bureau/director rank to the vice-provincial/ministerial rank. The maximum tenure at the bureau/director rank is 318 months. As illustrated in Table 61, there are only 79 political officials moving up to the vice-provincial/ministerial rank within the first year. For instance, Wang Lequan (王乐泉), former Politburo member and party secretary of Xinjiang, stayed at the bureau/director level for only ten months. Wang served as party secretary of Liaocheng Prefecture in Shandong from April 1988 to February 1989, before being appointed vice governor of

Shandong. Another example is Wang Zhongyu (王忠禹), former vice chairman of the CPPCC. Wang was promoted to Jilin Provincial Standing Committee member after working as director of Bureau of Light Industry for eight months.

As shown in both Table 61 and Figure 36, the promotions are more likely to occur during the period between Year 2 and Year 8. At the empirical level, out of 1,637 political officials under study, 75.32% receive rapid promotions. Most strikingly, there are the most political officials advancing to the vice-provincial/ministerial rank at the end of the third year (219 cases). To supplement, it is interesting to note that the number of promotion events exhibits a slight drop from 219 at Year 3 to 172 at Year 4, followed by a slight increase to 204 at Year 5. In sharp contrast, few political officials remain at the same rank after working at the bureau/director level for 14 years. Moreover, to look at the changes in the promotion rates with the passage of duration time, the first-year proportion of promotion is 4.83%. The five-year cumulative promotion rate is 50.21% and the ten-year cumulative proportion is 90.35%.

The median survival time is 59.79 months. That is to say, one half of political officials have been promoted in the last five years. This suggests that political officials are likely to advance to the vice-provincial/ministerial level after serving one term of office at the bureau/director level.

Table 61 The Life Table on Promotion to the Vice-Provincial/Ministerial Level, 1990-2013

Interval Start Time	Number Entering Interval	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Cumulative Promotion Rate at End of Interval
0	1637	79	0.05	0.95	0.95	4.83%
12	1558	148	0.09	0.91	0.86	13.87%
24	1410	219	0.16	0.84	0.73	27.24%
36	1191	172	0.14	0.86	0.62	37.75%
48	1019	204	0.20	0.80	0.50	50.21%
60	815	190	0.23	0.77	0.38	61.82%
72	625	157	0.25	0.75	0.29	71.41%
84	468	143	0.31	0.69	0.20	80.15%

96	325	97	0.30	0.70	0.14	86.07%
108	228	70	0.31	0.69	0.10	90.35%
120	158	48	0.30	0.70	0.07	93.28%
132	110	49	0.45	0.55	0.04	96.27%
144	61	21	0.34	0.66	0.02	97.56%
156	40	16	0.40	0.60	0.01	98.53%
168	24	7	0.29	0.71	0.01	98.96%
180	17	8	0.47	0.53	0.01	99.45%
192	9	2	0.22	0.78	0.00	99.57%
204	7	0	0.00	1.00	0.00	99.57%
216	7	2	0.29	0.71	0.00	99.69%
228	5	3	0.60	0.40	0.00	99.88%
240	2	0	0.00	1.00	0.00	99.88%
252	2	0	0.00	1.00	0.00	99.88%
264	2	0	0.00	1.00	0.00	99.88%
276	2	1	0.50	0.50	0.00	99.94%
288	1	0	0.00	1.00	0.00	99.94%
300	1	0	0.00	1.00	0.00	99.94%
312	1	1	1.00	0.00	0.00	100.00%

Source: Author's database.

Note: 1. The median survival time is 59.79 months.

2. The career interval is measured in months.

3. No observation is withdrawn from the study during the interval.

4. The number of entering the interval is equal to the number exposed to risk.

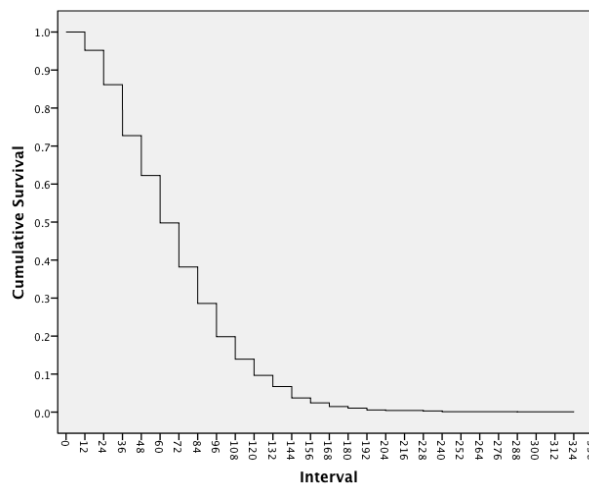


Figure 36 Survival Curve of Promotion to the Vice-Provincial/Ministerial Level, 1990-2013

7.2.7 Promotion to Provincial/Ministerial Level

Table 62 provides the life table on the upward mobility from the vice-provincial/ministerial level to the provincial/ministerial level. The occurrence of promotion events for 1,026 provincial leaders is examined. The promotion to provincial/ministerial level exhibits a different pattern. The promotion dynamics across administrative ranks will be compared later in Section 7.2.8. Returning to the promotion to the provincial/ministerial level, rarely do provincial leaders at the vice-provincial/ministerial level get ahead within the first year, approximately 0.78%. Consider Li Ziqi (李子奇) and Quan Shuren (全树仁) as examples. Li was elected deputy party secretary and vice governor of Gansu in October 1982. Five months later, he became party secretary of Gansu in March 1983. Similarly, Quan worked as Liaoning Provincial Standing Committee member and acting director of Organization Department for five months. In March 1983, he experienced a promotion to the provincial/ministerial rank as provincial governor and party secretary in Liaoning.

With respect to the cumulative promotion rate, only 15.98% of provincial leaders have assumed the leading posts at the provincial/ministerial level in the past five years and 67.15% in the past ten years. In terms of the number of promotion events, the peak value of 140 arises as late as Year 10. There is a slow increase in the number of promotion events occurring before Year 10 and a slow decline after Year 10. As shown in Figure 37, the significant increase in the cumulative proportion rate emerges between the sixth year and the eleventh year, accounting for 61.11%. In comparison, few promotion events occur after Year 19.

The median survival time is 104.40 months. 50% of the provincial leaders have won out in the political mobility and sit at the apex of the provincial power hierarchy in the past nine years. The median survival time for the promotion to the provincial/ministerial level is roughly twice of that for the promotion at the prior level.

Table 62 The Life Table on Promotion to the Provincial/Ministerial Level, 1990-2013

Interval Start	Number Entering	Number of Terminal	Proportion Terminating	Proportion Surviving	Cumulative Proportion	Cumulative Promotion
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Time	Interval	Events			Surviving at End of Interval	Rate at End of Interval
0	1026	8	0.01	0.99	0.99	0.78%
12	1018	25	0.02	0.98	0.97	3.22%
24	993	40	0.04	0.96	0.93	7.12%
36	953	32	0.03	0.97	0.90	10.23%
48	921	59	0.06	0.94	0.84	15.98%
60	862	94	0.11	0.89	0.75	25.15%
72	768	76	0.10	0.90	0.67	32.55%
84	692	95	0.14	0.86	0.58	41.81%
96	597	120	0.20	0.80	0.46	53.51%
108	477	140	0.29	0.71	0.33	67.15%
120	337	102	0.30	0.70	0.23	77.10%
132	235	64	0.27	0.73	0.17	83.33%
144	171	60	0.35	0.65	0.11	89.18%
156	111	37	0.33	0.67	0.07	92.79%
168	74	32	0.43	0.57	0.04	95.91%
180	42	15	0.36	0.64	0.03	97.37%
192	27	6	0.22	0.78	0.02	97.95%
204	21	8	0.38	0.62	0.01	98.73%
216	13	4	0.31	0.69	0.01	99.12%
228	9	4	0.44	0.56	0.00	99.51%
240	5	1	0.20	0.80	0.00	99.61%
252	4	1	0.25	0.75	0.00	99.71%
264	3	1	0.33	0.67	0.00	99.81%
276	2	0	0.00	1.00	0.00	99.81%
288	2	1	0.50	0.50	0.00	99.90%
300	1	0	0.00	1.00	0.00	99.90%
312	1	0	0.00	1.00	0.00	99.90%
324	1	0	0.00	1.00	0.00	99.90%
336	1	0	0.00	1.00	0.00	99.90%
348	1	1	1.00	0.00	0.00	100.00%

Source: Author's database.

Note: 1. The median survival time is 104.40 months.

2. The career interval is measured in months.

3. No observation is withdrawn from the study during the interval.

4. The number of entering the interval is equal to the number exposed to risk.

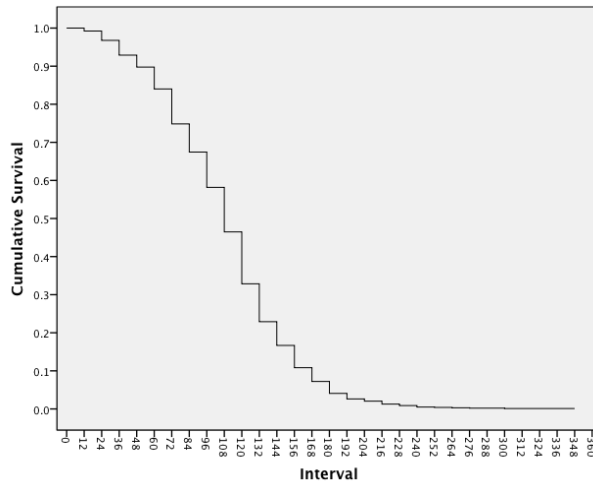


Figure 37 Survival Curve of Promotion to the Provincial/Ministerial Level, 1990-2013

7.2.8 Summary

The foregoing subsections have given a clear quantitative picture of upward mobility at each administrative rank for Chinese provincial leaders from 1990 to 2013. Table 63 in this subsection summarizes the promotion dynamics and compares such parameters as the cumulative promotion rates, the median survival time and the year with the most promotion events. As illustrated in Table 63, there are two distinct patterns in terms of duration distribution and promotion rates.

Table 63 Promotion Dynamics across Administrative Ranks for Provincial Leaders, 1990-2013

Promotion to:	Number Entering Interval	The First-Year Promotion Rate	The Five-Year Cumulative Promotion Rate	The Ten-Year Cumulative Promotion Rate	Median Survival Time	Year with the Most Promotion Events
Deputy-Division-Head Level	397	8.31%	77.83%	97.98%	33.48	Year 2
Division-Head Level	738	4.61%	75.75%	95.53%	37.06	Year 2
Deputy-Bureau/Director Level	926	7.99%	75.81%	97.30%	37.43	Year 3
Bureau/Director Level	1386	7.94%	63.42%	95.17%	46.12	Year 3
Vice-Provincial/Ministerial Level	1637	4.83%	50.21%	90.35%	59.79	Year 3
Provincial/Ministerial Level	1026	0.78%	15.98%	67.15%	104.40	Year 10

Source: Author's database.

Note: The median survival time is measured in months.

First, provincial leaders are faster runners in upward mobility competitions at the lower ranks than at the higher ranks. The finding is evidenced by the growth in the median survival time. To be specific, 50% of the political officials receive the step-by-step promotions to the deputy-bureau/director level or below within the first three years. It seems, however, more difficult for political officials to attain the promotion chances towards the bureau/director level or above. Empirically, 50% of the political officials have experienced the step-by-step promotions in the past four years while working at the deputy-bureau/director level. Furthermore, it takes five years for political officials to ultimately climb to the vice-provincial/ministerial level and nine years to the provincial/ministerial level.

Second, provincial leaders are more likely to receive rapid promotions to the deputy positions than to the succeeding full positions. The supporting evidence comes from the comparison of the cumulative promotion rates. According to Table 63, the first-year promotion rate, the five-year and the ten-year cumulative promotion rates are all smaller for the career advancement to the division-head level than to the deputy-division-head level. This finding also applies to the comparison between the promotion to the bureau/director level and the deputy-bureau/director level. So does the comparison between the provincial/ministerial level and the vice-provincial/ministerial level.

Before closing this subsection, it is significant to underline the promotion to the provincial/ministerial level. It differs enormously from the promotions to the previous levels. It is straightforward from the life table in Section 7.2.7 and the comparison in Table 63 that political leaders at the vice-provincial/ministerial level tend to wait for a far longer time before moving to the next administrative rank. Only a small number of them get promoted within five years. In other words, a large number of them serve more than one term of office at the vice-provincial/ministerial rank. There are the most promotion events occurring at Year 10. Such patterns of the promotion to the provincial/ministerial level bear useful implications for understanding the mobility competition towards the summit of the pyramid-shaped political hierarchy. For one thing, given the above statistical data regarding the

career duration time before advancing to the provincial/ministerial level, political selection at the vice-provincial/ministerial level or above is characterized by leadership stability and term integrity. For another thing, climbing to the provincial/ministerial level probably depends more upon the vacant positions available in the upper echelon than the accumulation of personal resources. On one hand, political leaders at the vice-provincial/ministerial level tend to share similar human capital and social capital. According to the empirical results in Chapter 5 and 6, they are largely college graduates and have comparable public service seniority. They have relative dense and diverse social networks after a sequence of promotions and job rotations. They develop worked-related or personal contacts with national leaders. On the other hand, the upward mobility towards the pinnacle of power becomes tougher because there exist a very small number of vacant positions that are generally open during the extraordinary period of provincial leadership reshuffling every five years. Given both, for the most part, political leaders at the vice-provincial/ministerial level have no choice but to wait and stay at the same level until the leadership positions at the higher rank are available.

7.3 Conclusion

This chapter has provided an insightful account of how provincial leaders from 1990 to 2013 rise to prominence step by step in Chinese politics. It has analyzed the general characteristics of leadership promotion in Section 7.1, such as the ages at promotion and the tenure at each rank. The administrative ranks of interest are the section-head level or above. To go a step further, Section 7.2 delineates the changes in promotion chances across career intervals. The administrative ranks of interest here extend from the deputy-division-head level to the provincial/ministerial level.

Section 7.1.1 has pointed out the growth of the average age at promotion with the bottom-up occupational upgrading. Strikingly, the average age is compared to the age of ineligibility for promotion. The discrepancy between the two seems to be more discernible at the lower ranks than at the upper levels. On one hand, the age

advantage at the lower ranks is massive. This finding implies that provincial leaders receive more rapid promotions while working at the bureau/director level or below. On the other hand, the declining age advantage suggests the possibility that provincial leaders tend to acquire longer tenure at the vice-provincial/ministerial level or above, which is confirmed in Section 7.1.2. They are likely to be confronted with the more fierce mobility competition. They tend to wait longer for the availability of vacant leadership positions. At the same time, the lengthy tenure at the upper levels enables the political leaders to achieve diverse work experience and receive job exchanges at the same rank.

Section 7.1.2 gives special attention to the average tenure at the prior administrative rank at promotion. It takes a shorter time for provincial leaders to work at the previous rank before climbing to the bureau/director level or below than to the vice-provincial/ministerial level or above. On this basis, Section 7.1.2 links the lengthy career tenure to the within-rank job reassignments per se along with the research-defined measurement of the tenure in this chapter. In addition to the step-by-step promotion analysis in the preceding subsections, Section 7.1.3 outlines the occurrence of the leapfrog promotion. Provincial leaders tend to leapfrog their way in the race for promotion in the 1980s or to the deputy-bureau/director level.

The examination of the average tenure in Section 7.1.2 offers a general account of the upward mobility process. Section 7.2 presents a detailed picture of the duration distribution and the corresponding cumulative promotion rates by employing the life table method. The empirical results show that provincial leaders are more likely to receive rapid promotions at the lower levels than at the upper levels. They move ahead faster to the deputy positions than to the succeeding full positions. Another important finding arises from the life table analysis that the promotion dynamics to the provincial/ministerial level yields a disparate pattern. Provincial leaders experience rapid promotions and strive for age advantages within the first five years while serving at the bureau/director level or below. The survival curves decrease steeply in the first five years for the upward mobility to these hierarchical levels. However, there are only a very small proportion of provincial leaders to the

provincial/ministerial level in the first five years. Instead, there is a significant increase in the promotions occurring between Year 6 and Year 11.

Based on all the empirical findings, it is reasonable to draw two conclusions at the end of this chapter. First, within the party apparatus and government hierarchies, a majority of provincial leaders are undoubtedly fast runners in the political upward mobility at each administrative rank. Second, the waiting time at the prior rank and the promotion rate differ among this provincial leadership group. With reference to these variations, an intriguing question arises: What factors affect promotion outcomes for provincial leaders? Chapter 8 will provide satisfactory answers to this question.

Chapter 8 Promotion Dynamics of Provincial Leaders: The Effects of Human Capital and Social Capital

This chapter will explore how human capital and social capital affect promotion outcomes of Chinese provincial leaders from 1990 to 2013. It will take a step further to specify how the promotion mechanisms evolve over three historical periods and across varying administrative ranks. As indicated at the very beginning of this thesis, the research purpose is to examine the role played by human capital and social capital in the political upward mobility. This chapter will perform a separate empirical study pertaining to the effect of either capital on promotion outcomes. As a starting point, this chapter will restate the relevant hypotheses formulated in Chapter 2 and test these hypotheses in the following sections.

H1a: Overall, educational levels are an important promotion criterion. Political officials with higher educational credentials are more likely to get promoted.

H1b: Overall, educational levels are significantly associated with upward mobility across three historical periods.

H1c: Educational levels are significantly associated with upward mobility across administrative ranks.

H1d: The role of educational levels in the rank-specific promotion dynamics differs over three historical periods.

H1e: Academic majors significantly affect political upward mobility across three historical periods or across administrative ranks.

H1f: Public service seniority imposes significant impact on political upward mobility across three historical periods or across administrative ranks.

H2a: Overall, social capital is an important promotion criterion and is significantly related to political upward mobility.

H2b: Overall, the significant effect of social capital persists across three historical periods.

H2c: The significant effect of social capital persists across administrative ranks.

H2d: The significant effect of social capital in the rank-specific promotion dynamics persists across three historical periods.

The preceding chapters have already painted a true picture of the provincial leadership characteristics regarding demographic attributes, human capital, social capital coupled with the process of political mobility. According to the existing findings, the above characteristics present a discernible time-varying or rank-varying pattern. For example, as pointed out in the longitudinal study in Chapter 5, the proportion of college-educated provincial leaders increases substantially over time. A broad majority of provincial leaders raise their educational levels to some college at the deputy-bureau/director level or below. They are inclined to improve the educational credentials to a master's degree or a doctorate between the deputy-bureau/director level and the vice-provincial/ministerial level. In terms of social capital, as analyzed in Chapter 6, there was a relative stability in both network size and network diversity in the 1990s. From 2000 onwards, the growth in network size and network diversity has been well observed. In addition, the average network size and network diversity grow with the career progression from the section-head level to the state-leader level. Based on the historical changes and the inter-rank variations in the leadership characteristics, it is significant to investigate the effects of historical periods and administrative ranks on the promotion returns to human capital and social capital.

In the following, this chapter begins by describing the statistical procedures to identify the effect of human capital or social capital on upward mobility. After introducing four steps of the promotion dynamics analysis in Section 8.1.1, Section 8.1.2 will outline the identification of the reference groups in the promotion analyses related to human capital. Section 8.1.3 will redirect attention to the data structure and the statistical techniques adopted which have been formulated in details in Chapter 3. Section 8.2 and Section 8.3 proceed to test the hypotheses and present the specific promotion models by evaluating the effects of human capital and social capital, respectively. Section 8.4 will conclude with confidence that both human capital and social capital play crucial roles in the career advancement for the

1990-2013 provincial leaders. Besides, the impacts of historical periods and administrative ranks are clearly observable in the promotion dynamics.

8.1 Overview of the Promotion Dynamics Analysis

This section is based on the detailed introduction of research methods and statistical techniques in Chapter 3. It will draw a general picture of how the promotion models are developed in Section 8.1.1. On this basis, Section 8.1.2 will explain how the relationship between promotion and human capital is operationalized. For example, to examine the career rewards for academic majors, how are the event-history observations screened from the overall leadership sample? How do the reference groups of educational levels change accordingly? Section 8.1.3 will overview the samples for the promotion dynamics analysis and the process of data analysis that has been already introduced in Chapter 3.

8.1.1 Four-Step Statistical Procedures

This chapter will independently assess the career returns to human capital and social capital. For this purpose, it will be organized into two major parts, namely the correlation of either human capital or social capital to the leadership promotion outcomes. In each part, the empirical analysis proceeds in four steps. First, the overall promotion model is developed through pooling all the event-history observations together. This overall model exclusively focuses on the occurrence of upward mobility and the possible promotion predictors. It takes no account of where and when the promotion event ultimately occurs. It attempts to ask whether human capital or social capital is significantly associated with promotion outcomes as a whole. Or rather, the following specific issues are addressed in the first step. Are political officials with higher educational levels more likely to get ahead? Do political officials benefit more in career advancement from studying natural science and engineering than humanities and social sciences? How important is the accumulation of social capital for political officials who strive to climb high in the power hierarchy?

On the basis of the overall model in the first step, the second step is to examine the period effect and the changes in the opportunity structure, asking how the overall model changes across three historical periods. In the provincial leadership dataset, all the event-history observations are separated into three subsets regarding the year of staying in the political mobility competition under study. To be specific, this chapter is interested in the continuities and changes in the promotion dynamics for Chinese provincial leaders prior to the Jiang period, in the Jiang period and the Hu period. To operationalize, this chapter identifies the pre-Jiang era as the period before 1990, the Jiang era as the period of 1990-2002, and the Hu era as 2003-2013. Three conspicuous turning points in the P.R.C. history arise from the national leadership transitions in 1989, 2002 and 2012. Specifically, Jiang rose to power as General Secretary of the CCP Central Committee in June 1989 and chairman of the CMC in November 1989, which marks the emergence of the third leadership generation in Chinese politics. In November 2002, Jiang handed over to his successor, Hu Jintao, the post of General Secretary. In November 2012, Xi Jinping took over Hu's paramount power and was elected General Secretary of the CCP Central Committee.

Based on the above-mentioned watersheds of the CCP's power succession, it should be emphasized here that, in the strict sense, the Hu era is expected to extend from 2003 until 2012. The period of 2012-2013 is the transition period from the Hu era to the Xi era. Accurately, the Year 2013 is the starting point of the Xi period, namely the rise of the fifth leadership generation. However, it is classified into the Hu's era in this thesis. This is because the observations of 2013 produce only 2.32% of the total event-history entries (777 cases). To simplify, this thesis places the study of the promotion dynamics under Hu over the period of 2003-2013, which invites further discussions in the concluding chapter. At the empirical level, out of 33,223 observations with known demographic information and career histories, 28.13% are well suited to the promotion dynamics analysis before the Jiang period, 41.52% in the Jiang era and 30.35% in the Hu era.

The interest in the first two steps is limited to whether or not the political officials get promoted. In considering where the promotion event occurs, the latter two steps look more closely at the career trajectories across administrative ranks. They give special attention to the inter-rank variations in the promotion dynamics. They pose intriguing questions of whether and to what extent human capital and social capital affect upward mobility over varying stages of political careers.

Therefore, the third step is to independently examine the promotion dynamics at each rank, ranging from the deputy-division-head level to the vice-state-leader level. The rank-specific promotion dynamics are interested in the pathways of occupational advancement for the 1990-2013 provincial leaders at every crucial juncture in their political careers. Noteworthy here is that the promotion dynamics at the state-leader level drops out from this study for at least two reasons. On one hand, in the highly stratified hierarchical structure, a very small number of political leaders are eligible to enter the mobility competition towards the state-leader level. In the 1990-2013 provincial leadership dataset, only 579 event-history observations are selected to analyze the career advancement to the state-leader level. In another sense, out of 1,260 provincial leaders, only 6.67% constitute the dwindling pool of eligible leaders for these top leadership positions (84 cases). On the other hand, an extremely limited number of political leaders are eventually posted at the apex of the power structure. Promotions to the state-leader level could be regarded as rare events. The proportion of promotion events occurring is small. As for the 1990-2013 provincial leaders, only 16 win out in the political mobility as the most influential ruling elite in China. To summarize, the small sample and the rare event occurrences are likely to decrease the statistical power and increase the estimation errors in developing the promotion model at the state-leader level. Chapter 3 has indicated that the logistic regression analysis will be employed to analyze the promotion dynamics at each rank. Nonetheless, at the state-leader level, the number of observations in question is so small that the biased logit coefficients and large

standard errors are produced¹¹⁵. This is why the promotion dynamics at the state-leader level is omitted from the separate logistic model in the third step. Before moving to the fourth step, it is worth mentioning that the leadership group at the state-leader level is highly homogeneous. All of these powerful leaders are male leaders with the CCP membership. They are all Han Chinese serving outside their home provinces. They are all college graduates and establish close work connections at the top of the power center in China.

The fourth and final step is to independently develop the promotion models at each rank over three historical periods. First and foremost, this part devotes little attention to the promotion dynamics at the highest two ranks (i.e., the vice-state-leader level and the state-leader level) for the similar reasons as noted in the third step. That is to say, concerning the reasonable sample size and the model accuracy, the logistic models for these two ranks fail to provide sufficient statistical power for the highly robust predictions of promotion outcomes. Instead, the concern in this part is with the promotion dynamics from the deputy-division-head level to the provincial/ministerial level before and during the Jiang period. In addition, this part throws light on the promotion determination models at the vice-provincial/ministerial level and provincial/ministerial level under Hu.

¹¹⁵ The sample size in the logistic regression analysis is of statistical complexity. There are flourishing debates and rules of thumb on this issue. For example, some statisticians are concerned with the sample size per se. They indicate that the relationship between the outcome variable and the predictors may be spurious because it is possibly attributable to the random variation. Others focus on the ratio of the observations or the events to the predictor variables. For instance, Knapp and Campbell-Heider (1989: 640) point out that “having a sample size that is too small relative to the number of variables can decrease power and lead to ‘over-fitting’”. Vittinghoff & McCulloch (2007: 710) show that “increasing bias and variability, unreliable confidence interval coverage, and problems with model convergence as events per predictor variable (EPV) declined below 10 and especially below five, leading to the reasonable conclusion that results should be cautiously interpreted with less than 10 EPV”. Returning to the promotion model at the state-leader level, EPV is only 1.45 for the human capital analysis where there are 11 predictor variables and 1.78 for the social capital analysis with 9 predictor variables. In the logistic model for the state-leader level, most of the logit coefficients are either extremely large or equal to zero.

Why are the administrative ranks below the vice-provincial/ministerial level eliminated in analyzing the promotion dynamics during the Hu period? The answers to this question are twofold. First, the provincial leadership dataset in this thesis is exclusively derived from the biographic data of provincial leaders from 1990 to 2013. Furthermore, the Hu era is defined as the period between 2003 and 2013. Regarding the distribution of provincial leaders over historical periods, there is no provincial leader who worked at the deputy-division-head level or the division-head level during the Hu era and successfully assumed the provincial leadership posts between 1990 and 2013. This empirical finding is in accord with the institutionalized political mobility process that has been gradually structured and reinforced in the Hu era. As pointed out in Chapter 4, this institutionalization is characterized by the step-by-step promotion and the integrity of the five-year term. Within such institutional arrangements, political officials rarely obtain three or four promotions within ten years, namely from the outset of the Hu period in 2003 to the endpoint of the observation period in 2013¹¹⁶. Second, in terms of the promotion models under Hu, there are 9 event-history observations available for the empirical analysis at the deputy-bureau/director level and 347 observations at the bureau/director level. As to the former, obviously, the sample size is too small. Thus the study of the promotion dynamics at the deputy-bureau/director level is precluded. As to the latter, with a small sample, the promotion models pertaining to human capital fail to generate accurate estimations. This is because the reference groups of the educational level comprise scarce observations¹¹⁷. In other words, there are only two observations with the educational level of high school or below and one observation with some college. Therefore, the final step is to compare the promotion dynamics at the vice-provincial/ministerial level and the provincial/ministerial level across all three historical periods. In terms of the promotion dynamics below these two levels, only those before and during the Jiang era are presented and compared.

¹¹⁶ Three or four promotions refer to the political mobility process from the deputy-division-head level or the division-head level to the vice-provincial/ministerial level.

¹¹⁷ Section 8.1.2 will explain the identification of the reference categories in analyzing the correlation between promotion and human capital.

8.1.2 Clarifications on the Promotion Analyses Related to Human Capital

After a detailed look at the four steps of the promotion analyses, this subsection will turn to clarify the promotion models pertaining to human capital¹¹⁸. As mentioned in Chapter 3, the variables of educational levels and academic majors are selected to evaluate the effect of educational credentials on upward mobility. Both of these predictors are categorical variables. Specifically, the educational levels consist of high school or below, some college, a bachelor's degree, a master's degree and a doctorate. The academic majors are divided into no academic major, science and engineering and humanities and social sciences. In this thesis, to gauge the payoffs to educational levels, the educational level of high school or below becomes the reference category in this study. The promotion models compare the effect of higher education against that of high school or below.

However, the promotion analysis related to academic majors is not as straightforward as the study of promotion and educational levels. To examine the contribution of academic majors, the central issues that need to be addressed are as follows: (1) Is there a relationship between upward mobility and the educational training in natural science and engineering or humanities and social sciences? (2) If there is a relationship, how strong is it? (3) Are political officials majoring in science and engineering more likely to get ahead than those trained in humanities and social sciences? In terms of all these research questions, only the observations coded as science and engineering along with humanities and social sciences are screened in order to assess the effect of academic disciplines. In other words, the observations without academic disciplines are omitted. In the provincial leadership dataset, those with the educational credential of high school or below are considered to have no specialty¹¹⁹. In this regard, to look at the effect of academic majors, the promotion

¹¹⁸ The issue of defining reference groups arises in the promotion analyses pertaining to human capital rather than those related to social capital. The primary reason for this is that all three variables of social capital (i.e., network size, network diversity and upper reachability) are continuous variables.

¹¹⁹ In the Chinese educational system, the compulsory basic education includes primary school and junior middle school. After the completion of junior middle

determination models will remove the observations receiving the educational level of high school or below and having no specialty. The reference category of academic majors is defined as natural science and engineering. The promotion models compare the impact of humanities and social sciences against that of natural science and engineering.

To summarize, the results of promotion and human capital are presented in two separate models. The first model merely shows the effect of educational levels. As introduced previously, all the observations are pooled together and the reference group is high school or below. The second model looks at the effects of both educational levels and academic majors. Based on the above clarifications, only the observations with the educational level of some college or above ideally fit the second model. Therefore, the reference group of educational levels turns out to be some college, rather than high school or below.

8.1.3 Data Analysis

The promotion dynamics analysis in this chapter draws on 33,557 event-history observations in the Chinese provincial leadership dataset. In line with the method of

school, students can prefer to pursue either general senior middle school or the vocational and technical education. For the educational training in primary school, junior middle school and general senior middle school, the courses provided include Chinese, Mathematics, Chemistry, Physics, English and the like. With a very small number of selective courses, students in the same grade are required to take all the compulsory courses without exception. They are not required to be trained by specialties at these basic educational levels. On the contrary, the vocational and technical education provides employment-oriented training and specialties. As to the higher education (i.e., some college, a bachelor's degree, a master's degree and a doctorate), students can select particular fields of study, such as computer science, sociology and medical science. Returning to the provincial leadership dataset, only a small number of provincial leaders receive vocational education and most information of academic disciplines for such education is missing. The vocational education is classified into the category of high school or below. Regarding the coding of academic disciplines, when a political official receive the educational level of high school or below, he or she is expected to have no academic major.

selecting observations in Chapter 3, Table 64 shows the numbers of event-history observations selected for developing the promotion models.

Table 64 Samples for Promotion Dynamics Analysis, 1990-2013

	Pre-Jiang Era	Jiang Era	Hu Era	Total
Overall	9345	13794	10084	33223
Deputy-Division-Head Level	1396	168	0	1564
Division-Head Level	2396	630	0	3026
Deputy-Bureau/Director Level	2420	1514	9	3943
Bureau/Director Level	2793	2714	347	5854
Vice-Provincial/Ministerial Level	1891	3973	1887	7751
Provincial/Ministerial Level	1225	5154	5847	12226
Vice-State-Leader-Level	282	1747	2357	4386
State-Leader Level	19	191	369	579

Source: Author's database.

Note: 1. The samples in the first row are intended for developing the overall model. The samples in the rightmost column are collected for the inter-rank promotion dynamics analyses. The remaining samples are adopted for exploring the promotion dynamics across three historical periods.

2. Table 64 shows the sample sizes primarily for the promotion analyses pertaining to educational levels and social capital. The selected samples for the analysis of academic majors are not specified in this table. Instead, they are given in the following specific promotion models related to academic majors.

In the event-history analysis as introduced in Chapter 3, the observations are organized in the person-year structure. It is worth mentioning that the selection of observations across administrative ranks here somewhat differs from that for the life-table analysis of political mobility in Chapter 7. As stated in Chapter 7, the political mobility analysis is based on the step-by-step promotion mechanism. The leapfrog promotions and the public service entry are omitted in the life-table analysis but included in the promotion dynamic analyses in this chapter. This is because it remains to be seen in Chapter 8 whether human capital or social capital contributes to the status attainment in the power hierarchy. More importantly, the empirical analyses in Chapter 8 compare the possession of human capital or social capital for political officials remaining at the same rank and those getting promoted. Therefore, of particular interest is the career duration from the first year at the specific rank until the year when the next promotion occurs. In addition, the entry level in public service is also under consideration. The promotion dynamics analyses

give little attention to whether the political leaders advance their political careers step by step, in a leapfrog fashion or as a starting level in public service, which has been already explained in Chapter 7.

For the purpose of data analysis, the analytic technique of generalized estimating equations is employed in order to develop the overall promotion models related to human capital and social capital, respectively. This technique is also applied to the overall promotion analyses over three historical periods. Besides, this chapter exploits the conventional logistic regression analysis to investigate the promotion dynamics across administrative ranks. In each promotion dynamics, the predictors in the first model are limited to the demographic variables. With regard to the impact of human capital, the second model is concerned with the relationship between promotion, demographic attributes and educational levels. The effect of academic major is added to the third model relative to the second model. In terms of the impact of social capital, the first model is alike as compared to that in the promotion analyses related to human capital. The second model focuses on the effect of demographic attributes and three parameters of social capital. The following sections will delineate the promotion dynamics for Chinese provincial leaders by considering the effects of human capital and social capital. Section 8.2 and 8.3 merely show the empirical findings derived from the promotion models. The concluding remarks of this chapter will summarize the major empirical findings, interpret the results and give possible explanations.

8.2 Promotion Models and Human Capital

Four fundamental issues concern the political career returns to human capital and their historical evolutions in this section. First, is there a significant relationship between political upward mobility and human capital? Second, to what extent does this promotion determination dynamics evolve across historical periods? Third, to what extent does the impact of human capital on the promotion rates vary across administrative ranks? Fourth and finally, to what extent do the rank-specific

promotion determination dynamics change over time? To address these issues, this section examines the changes in the relationship between upward mobility and human capital both in all years and during different historical periods. Besides, it takes insight into the inter-rank variations in the promotion determination models.

8.2.1 The Overall Promotion Model and Human Capital

To estimate the overall promotion model, this section focuses on how human capital affects the promotion rates in all years. Hypothesis H1a, H1e, H1f describe the significantly positive correlation between human capital and promotion as a whole. In terms of the payoffs to educational credentials, as shown in Table 65, Model 2 compares the effects of higher education on upward mobility against that of high school or below. As compared to the educational level of high school or below, the attainment of some college, a bachelor's degree and a master's degree significantly improves the promotion rates in the political mobility competition. In particular, political officials who receive a bachelor's degree are most likely to get ahead. Empirically, the promotion rate increases by 21.4% for political officials with a bachelor's degree relative to those with high school or below. However, having a doctorate makes little difference in climbing up the political ladder.

Model 3 is concerned with upward mobility for political officials with some college or above. As compared to those with the educational level of some college, the occupational rewards for a bachelor's degree or a master's degree are negligible. Strikingly, having a doctorate imposes a significantly negative effect on the occurrence of promotion events, which will be further discussed later. In other words, the promotion rate for political officials with a doctorate decreases by 15.8% as compared to those receiving the educational level of some college. This finding is somewhat at odds with the argument that higher educational credentials confer greater advantage in career advancement.

In addition to the effects of educational levels, the promotion outcomes are by no means attributable to academic majors. As illustrated in Table 65, there is no empirical evidence on the variations in the promotion dynamics between political officials trained in science and engineering and those studying humanities and social sciences. In this sense, the above finding contradicts Hypothesis H1e.

According to the above empirical findings, the role of educational levels should be cautiously interpreted in the overall promotion model. It substantively depends on the way in which the reference category is selected. The results in Model 2 show the positive impact of higher education except for a doctorate. In another sense, political officials with high school or below are positioned disadvantageously in upward mobility as compared to those with some college, a bachelor's degree and a master's degree. However, the career returns to higher educational levels disappear in Model 3 where the educational level of some college is identified as the reference group. All these findings merely provide partial support to Hypothesis H1a that higher educational levels lead to higher promotion probabilities. The following empirical evidence to some degree attenuates the favorable effects of education in Hypothesis H1a: (1) there is no significant difference in the promotion rate between political officials with a doctorate and those with high school or below; (2) Having a doctorate exerts a significantly negative impact on the promotion rate as compared to some college; (3) There is no significant variation in the promotion rate among political officials obtaining some college, a bachelor's degree and a master's degree.

Overall, with respect of the overall promotion model, it could be concluded that receiving some college seems to be a baseline meritocratic criterion in leadership selection. It is imperative for political officials to improve educational credentials to some college before receiving further promotions. Nevertheless, after obtaining some college, education no longer functions as a strong determinant in political upward mobility regarding both educational levels and specialties.

Table 65 GEE Estimates of the Overall Promotion Model and Human Capital, 1990-2013

Covariates	Model 1	Model 2	Model 3
Intercept	1.011***	0.962***	1.288***
Gender	-0.119**	-0.122**	-0.108**
Ethnicity	0.069+	0.066	0.052
Native Leaders	0.054*	0.059*	0.051*
CCP Members	-0.028	-0.073	-0.076
Age	-0.048***	-0.050***	-0.053***
Public Service Seniority	-0.034***	-0.032***	-0.034***
Education			
Some College	--	0.162**	--
B.A.	--	0.214***	0.054
M.A.	--	0.152**	0.006
Ph.D.	--	-0.008	-0.158**
Humanities and Social Sciences	--	--	0.012
Number of Events	5292	5292	4610
Number of Cases	33223	33223	29473
Log-Likelihood	26739.436	26719.196	23360.220

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership. In Model 2, "high school or below" is the reference category for education. In Model 3, "some college" is the reference category for education and "science and engineering" is the reference category for academic majors.

*** p<0.001; ** p<0.01; * p<0.05; + p<0.055.

Human capital in this thesis is evaluated along the dimensions of educational credentials and career experience in public service. Table 65 shows the significant influence of public service seniority in the political upward mobility process. Consistent with Hypothesis H1f, political officials with a longer tenure in public service are less likely to move ahead. That is to say, for every one-year increase in the public service seniority, there is approximately 3.4% decrease in the promotion chances.

To look at the effects of demographic attributes, as a whole, as compared to male leaders, female leaders are less likely to move up a bureaucratic ladder. In terms of provincial origins, working experience in native provinces increases the promotion rates relative to serving as outsiders in other provinces. Similar to public service seniority, age significantly and negatively affects the promotion outcomes. Both of these variables are regarded as a proxy of time, which has been mentioned in

Chapter 3. In addition, the ethnic status and the CCP membership impose no significant effect on upward mobility.

8.2.2 The Overall Promotion Model, Human Capital and the Historical Contexts

Based on the overall promotion model in Section 8.2.1, Section 8.2.2 will examine its historical changes by dividing the event-history observations into three longitudinal subsets. The empirical results are illustrated in Table 66 and used for identifying whether Hypothesis H1b, H1e and H1f are supported regarding the significantly overall effect of human capital on upward mobility over time. Concerning the effect of educational degrees, there is only one significant association between promotion and educational levels, which emerges prior to the Jiang period. That is, as compared to high school or below, the attainment of a bachelor's degree accounts for a 22.1% increase in the promotion rate before 1990. However, there exist no marked variations in the promotion opportunities by comparing the attainment of high school or below with some college, a master's degree and a doctorate. In the pre-Jiang period, the rewards for education (i.e., both educational levels and specialties) are negligible in the promotion model where the educational level of some college is conceived as the reference category. During both the Jiang period and the Hu period, education ceases to be a powerful predictor of the promotion chances, whatever reference group of educational levels is selected (i.e. high school or below and some college).

The above empirical findings provide weak support to Hypothesis H1b. The crucial role of a bachelor's degree in upward mobility is discernible in the overall model before 1990. However, the assumption regarding the significant effect of educational levels under Jiang and Hu is refuted by the above-mentioned promotion dynamics analyses.

Table 66 GEE Estimates of the Overall Promotion Model and Human Capital, by Periods, 1990-2013

Covariates	Pre-Jiang Period (Before 1990)			Jiang Period (1990-2002)			Hu Period (2003-2013)		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Intercept	0.075	0.023	0.269	1.530***	1.512***	1.568***	1.933***	1.413**	1.564***
Gender	-0.209**	-0.200*	-0.230*	-0.116	-0.114	-0.098	0.107	0.093	0.092
Ethnicity	0.120*	0.114*	0.142*	0.067	0.065	0.038	-0.085	-0.091	-0.088
Native Leaders	0.015	0.042	0.029	0.027	0.026	0.025	0.164**	0.156**	0.147**
CCP Members	-0.164	-0.161	-0.183	-0.278***	-0.273***	-0.277**	-0.025	-0.066	-0.071
Age	-0.016***	-0.020***	-0.022***	-0.055***	-0.055***	-0.055***	-0.077***	-0.076***	-0.075***
Public Service Seniority	-0.043***	-0.038***	-0.045***	-0.029***	-0.029***	-0.030***	-0.009*	-0.008*	-0.009*
Education									
Some College	--	0.102	--	--	0.060	--	--	0.242	--
B.A.	--	0.221***	0.110	--	-0.005	-0.064	--	0.478	0.248
M.A.	--	0.185	0.058	--	-0.001	-0.061	--	0.549	0.308
Ph.D.	--	0.188	0.020	--	0.094	0.034	--	0.411	0.173
Humanities and Social Sciences	--	--	0.068	--	--	0.009	--	--	0.052
Number of Events	2419	2419	1827	2100	2100	2014	773	773	769
Number of Cases	9345	9345	6649	13794	13794	12895	10084	10084	9929
Log-Likelihood	10365.358	10357.199	7576.836	11017.792	11020.924	10523.653	5173.173	5173.770	5140.705

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership. In Model 2, 5 and 8, "high school or below" is the reference category for education. In Model 3, 6 and 9, "some college" is the reference category for education and "science and engineering" is the reference category for academic majors.

*** p<0.001; ** p<0.01; * p<0.05; + p<0.055.

This subsection looks at the influence of specialty on promotion under different historical contexts. As reported in Table 66, no differences in the promotion opportunities are found between political officials trained in natural science and engineering and those majoring in humanities and social sciences. This finding denies Hypothesis H1e.

Along with the effect of educational attainment, the statistical analysis in this subsection provides additional empirical evidence in support of Hypothesis H1f. Public service seniority is significantly and negatively associated with the promotion chances across three historical periods. Noteworthy is that the strength of the relationship between public service tenure and promotion rates decline over time. That is, for every one-year increase in the public service tenure, there is a 4.3% decrease in the promotion rate before the Jiang period, 2.9% under Jiang and 0.9% under Hu.

In terms of the demographic attributes, four interesting findings are shown in Table 66. First, before 1990, male leaders are positioned more advantageously to compete for promotion opportunities than female leaders. At the empirical level, as compared to male leaders, the promotion rate for female leaders decreases by around 20%. Second, again, for the leadership selection in the pre-Jiang era, the origin of ethnic minorities places the political officials at a disadvantage in the course of career progressions. Third, during the Hu period, the promotion rate significantly depends on whether political officials serve as native leaders or outsiders. Those serving in their home provinces have an approximately 16.4% increase in the promotion rate as compared to the outsiders. Lastly, for all three historical periods, age is consistently regarded as a negative predictor of upward mobility. In the GEE analysis, the strength of the correlation between age and promotion rates is the strongest under Hu and the weakest before the Jiang period.

8.2.3 The Rank-specific Promotion Models and Human Capital

Section 8.2.3 extends the overall promotion model by analyzing the effect of human capital at each administrative rank. Hypothesis H1c, H1e and H1f show the relationships between human capital and promotion across administrative ranks. The rank-specific logistic models are shown in Table 67. The effects of educational levels can be summarized into three important points. First, as compared to high school or below, the attainment of higher education exerts significant impacts on upward mobility. More importantly, these effects persist across varying administrative ranks. Political officials tend to be rewarded for having higher educational credentials in the career advancement towards most administrative ranks except for the provincial/ministerial level. To be specific, receiving the education of some college and a master's degree is significantly and positively associated with the odds of being promoted to the deputy-division-head level. For the promotion towards the division-head level, only does the attainment of a master's degree conspicuously improves the likelihood of upward mobility. Empirically, political officials who earn a master's degree are 1.85 times more likely to get promoted. For the promotion to both the deputy-bureau/director level and the bureau/director level, the promotion rewards are striking for all the advanced educational degrees, including some college, a bachelor's degree, a master's degree and a doctorate. Besides, in the process of advancing to the vice-provincial/ministerial level, political leaders with a doctorate is 1.67 times more likely to move ahead than those with high school or below. However, relative to high school or below, receiving the educational level of some college, a bachelor's degree or a master's degree leads to no significant variations in the promotion chances. For the occupational ascendency towards the vice-state-leader level, earning the educational degree of some college makes little difference. In sharp contrast, receiving the educational levels higher than some college induces a marked increase in the promotion rates.

Second, along with the above favorable effects of education on promotion, the contrasting effect of educational levels occurs to the upward mobility towards the

provincial/ministerial level. In other words, the promotion chances are constrained by the attainment of a bachelor's degree and a master's degree relative to high school or below. The odds ratio of 0.615 indicates that political officials with a bachelor's degree are 0.62 times less likely to obtain the high-status positions at the provincial/ministerial level than those with high school or below. In addition, those earning a master's degree are 0.63 times less likely to get promotions.

The above observations are based on the logistic regression analyses with high school or below as the reference group. The final point centers on the payoffs to educational levels relative to some college. The significant impacts of educational levels merely occur to the promotion towards the deputy-bureau/director level, the bureau/director level and the vice-provincial/ministerial level. That is, political officials substantially benefit from the attainment of a master's degree and a doctorate in the mobility competitions. Nevertheless, at these three ranks, there is no variation in the promotion rate between the political officials having some college and those with a bachelor's degree.

To conclude, in the logistic models with high school or below as the reference category, educational levels play a continuing and salient role in upward mobility across administrative ranks. By looking into the odds ratios of all the significant predictions for the promotion to the same rank, the career returns to higher educational levels are largely greater than those to lower educational levels. The only exception is that the career returns to a bachelor's degree are smaller than those to the educational level of some college. With some college as the reference group, having a master's degree or a doctorate is strongly related to upward mobility from the deputy-bureau/director level to the vice-provincial/ministerial level. However, the role of some college is not distinct from that of a bachelor's degree in affecting the promotion outcomes. Overall, all the above findings provide strong support to Hypothesis H1c that the significant relationship between promotion and educational levels holds across ranks.

In contrast to the effect of educational levels, as reported in Table 67, the promotion rate by no means relies on academic majors. Consistent with the overall promotion model, the rank-specific models exhibit no significant differences in promotion chances between political officials majoring in science and engineering and those studying humanities and social sciences. There is a lack of empirical evidence supportive of Hypothesis H1e.

As another dimension of human capital, public service seniority is significantly and negatively related to upward mobility from the deputy-division-head level to the vice-provincial/ministerial level. For the promotions towards these ranks, the longer tenure political officials have in the party apparatus or the government organizations, the less likely they are to get ahead. In this regard, Hypothesis H1f receives limited support from the rank-specific promotion dynamics analyses in this subsection.

Along with the above specification regarding the role of human capital, Table 67 demonstrates the relationship between demographic characteristics and promotion. First, the positive relationship between age and upward mobility is statistically significant from the deputy-division-head level to the provincial/ministerial level. Second, as compared to male leaders, female leaders are more likely to climb to the deputy-division-head level. Notwithstanding, they are less likely to occupy the high-status positions at the bureau/director level and the provincial/ministerial level. Third, the promotion rate seems to be smaller for native leaders than those serving outside home provinces at the vice-provincial/ministerial level and the provincial/ministerial level. Finally, in terms of the promotion towards the vice-state-leader level, political leaders from ethnic minorities or those without the CCP membership are favored in the mobility competition. On the contrary, the CCP membership accrues a career advantage for advancing to the leading posts at the division-head level, the bureau/director level and the provincial/ministerial level.

Table 67 Logistic Models on Human Capital and Upward Mobility across Administrative Ranks, 1990-2013

Covariates	Deputy-Division-Head Level			Division-Head Level			Deputy-Bureau/Director Level		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Constant	0.021***	0.022***	0.024***	0.005***	0.005***	0.006***	0.004***	0.002***	0.003***
Age	1.134***	1.121***	1.133***	1.101***	1.097***	1.094***	1.144***	1.141***	1.144***
Gender	1.778*	1.861**	2.265**	0.997	0.980	0.930	1.127	1.144	1.177
Ethnicity	0.979	0.989	1.085	0.948	0.934	0.987	0.895	0.880	0.993
Native Leaders	0.898	0.940	1.051	1.163	1.161	1.149	0.836*	0.865	0.894
CCP Members	0.921	0.893	0.777	2.573**	2.592**	2.749**	0.979	1.117	1.241
Public Service Seniority	0.939***	0.951***	0.953**	0.968***	0.973**	0.967**	0.954***	0.965***	0.971***
Education									
Some College	--	1.744**	--	--	1.253	--	--	1.503**	--
B.A.	--	1.279	0.745	--	1.080	0.878	--	1.402**	0.915
M.A.	--	2.440**	1.434	--	1.850**	1.461	--	2.491***	1.683**
Ph.D.	--	--	--	--	1.981	1.486	--	5.628***	3.962***
Humanities and Social Sciences	--	--	1.135	--	--	1.119	--	--	0.857
Number of Cases	1564	1564	1038	3026	3026	2260	3943	3943	3160
Overall Percentage	65.3	65.7	61.5	78.2	78.1	76.5	76.7	76.8	74.5

(Table 67 continued)

Covariates	Bureau/Director Level			Vice-Provincial/Ministerial Level			Provincial/Ministerial Level		
	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16	Model 17	Model 18
Constant	0.000****	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.001***	0.001***
Age	1.136***	1.136***	1.136***	1.181***	1.185***	1.184***	1.053***	1.054***	1.050***
Gender	0.743*	0.683**	0.663**	1.098	1.100	1.056	0.667*	0.671*	0.688
Ethnicity	0.917	0.881	0.948	0.883	0.849	0.853	1.130	1.165	1.129

Native Leaders	0.930	0.942	0.949	0.833**	0.831**	0.855*	0.660***	0.642***	0.619***
CCP Members	3.054***	3.760***	3.839***	0.824	0.926	0.956	4.756***	4.797***	4.660***
Public Service Seniority	0.991*	0.997	0.999	0.985***	0.985***	0.987**	1.010	1.008	1.008
Education									
Some College	--	1.581**	--	--	0.756	--	--	0.753	--
B.A.	--	1.576**	1.004	--	0.969	1.248	--	0.615*	0.773
M.A.	--	2.741***	1.743***	--	1.051	1.406**	--	0.626*	0.831
Ph.D.	--	4.125***	2.648***	--	1.669**	2.226***	--	0.635	0.820
Humanities and Social Sciences	--	--	0.999	--	--	0.884	--	--	0.863
Number of Cases	5854	5854	5095	7751	7751	7223	12226	12226	11530
Overall Percentage	82.6	82.4	81.4	84.2	84.3	84.1	96.3	96.3	96.4

(Table 67 continued)

Covariates	Vice-State-Leader Level		
	Model 19	Model 20	Model 21
Constant	0.801	0.143	0.340
Age	0.983	0.990	0.994
Gender	1.719	1.727	1.808
Ethnicity	0.572	0.499*	0.404**
Native Leaders	0.778	0.819	0.713
CCP Members	0.121***	0.124***	0.129***
Public Service Seniority	0.992	1.000	0.995
Education			
Some College	--	2.251	--
B.A.	--	3.326+	1.439
M.A.	--	4.012*	1.760

Ph.D.	--	4.722*	2.022
Humanities and Social Sciences	--	--	1.036
Number of Cases	4386	4386	3871
Overall Percentage	98.2	98.2	98.0

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership. In Model 2, 5, 8, 11, 14, 17 and 20, "high school or below" is the reference category for education. In Model 3, 6, 9, 12, 15, 18 and 21, "some college" is the reference category for education and "science and engineering" is the reference category for academic majors.

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; + $p < 0.055$.

8.2.4 The Rank-specific Promotion Models, Human Capital and the Historical Contexts

This subsection gains further insights into the historical comparisons of the rank-specific promotion dynamics. In particular, the promotion dynamics before and during the Jiang period could be compared on six logistic models on leadership promotion across administrative ranks. On this basis, it attempts to examine whether the promotion dynamics change over time and test Hypothesis H1d on the evolving role of human capital in the rank-specific promotion dynamics.

Promotion dynamics before 1990. Table 68 reveals the inter-variations in the effect of human capital prior to the Jiang period. In terms of educational levels, as compared to high school or below, the effect of some college gains significance in the positive direction on the upward mobility towards the deputy-division-head level and the bureau/director level. The empirical finding in Table 68 indicates that political officials with some college are 1.70 times more likely to advance to the deputy-division-head level and 1.60 times more likely to obtain the bureau/director rank. For the promotion to the other ranks, having the educational level of some college makes no significant difference in promotion. In addition, there are no striking variations in the promotion dynamics between political officials with high school or below and those with a bachelor's degree, a master's degree or a doctorate. Furthermore, neither the specialty of natural science and engineering nor humanities and social sciences is the important prerequisite for leadership selection across administrative ranks, which is consistent with the above findings on the effect of academic majors. In consequence, before 1990, the investment in higher education does not necessarily lead to political power, high status and prestigious jobs in Chinese politics.

Table 68 provides further empirical evidence on the effect of public service seniority on promotion before 1990. Likewise, the promotion rate tends to be reduced with the duration of career experience in public service from the deputy-division-head

level to the vice-provincial/ministerial level. This significant correlation disappears for the promotion towards the provincial/ministerial level. This finding, to a considerable degree, conforms to the inter-rank variations in the extent to which public service seniority affects upward mobility in Section 8.2.3.

In terms of the demographic attributes, age imposes a consistently significant and positive impact on promotion across administrative ranks before the Jiang period. As compared to male leaders, female leaders are more likely to obtain the positions at the deputy-division-head level and at the vice-provincial/ministerial level. The significantly negative effect of gender on upward mobility is limited to political officials with some college or above. It is important to note that female leaders are 0.53 times less likely to serve at the bureau/director level than male leaders. In terms of the political credentials, the CCP membership is rewarded in career advancement to the division-head level and the bureau/director level.

Table 68 Logistic Models on Human Capital and Upward Mobility across Administrative Ranks Prior to the Jiang Period, Before 1990

Covariates	Deputy-Division-Head Level			Division-Head Level			Deputy-Bureau/Director Level		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Constant	0.022***	0.023***	0.022***	0.002***	0.003***	0.002***	0.002***	0.002***	0.002***
Age	1.132***	1.124***	1.143***	1.109***	1.113***	1.114***	1.145***	1.143***	1.145***
Gender	1.739*	1.797*	2.178*	1.224	1.187	1.116	1.180	1.204	1.284
Ethnicity	0.983	0.994	1.088	0.869	0.858	0.927	0.841	0.841	0.969
Native Leaders	0.950	0.983	1.107	1.296*	1.245	1.233	0.797*	0.812	0.824
CCP Members	0.859	0.821	0.647	3.477**	3.329**	4.245**	1.913	1.871	2.593*
Public Service Seniority	0.935***	0.942***	0.938***	0.963***	0.960***	0.950***	0.938***	0.942***	0.946***
Education									
Some College	--	1.695*	--	--	1.094	--	--	1.221	--
B.A.	--	1.196	0.700	--	0.826	0.766	--	1.131	0.871
M.A.	--	2.804	1.653	--	1.682	1.467	--	1.515	1.228
Ph.D.	--	--	--	--	0.000	0.000	--	--	--
Humanities and Social Sciences	--	--	1.180	--	--	1.128	--	--	0.781
Number of Cases	1396	1396	882	2396	2396	1666	2420	2420	1724
Overall Percentage	66.4	66.8	63.5	81.4	81.4	80.4	79.3	79.2	75.9

(Table 68 continued)

Covariates	Bureau/Director Level			Vice-Provincial/Ministerial Level			Provincial/Ministerial Level		
	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16	Model 17	Model 18
Constant	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000	0.000	0.000
Age	1.139***	1.137***	1.130***	1.161***	1.162***	1.169***	1.170***	1.168***	1.149***
Gender	0.592	0.574	0.527*	1.875*	1.884*	1.406	0.000	0.000	0.000
Ethnicity	0.790	0.787	0.899	0.831	0.845	0.932	0.811	0.812	1.316

Native Leaders	0.888	0.892	0.890	0.743	0.735	0.816	1.031	1.054	1.142
CCP Members	6.967**	6.733*	5.792*	1.250	1.259	1.260	--	--	--
Public Service Seniority	0.982**	0.985*	0.985	0.974***	0.970***	0.962***	1.011	1.013	1.015
Education									
Some College	--	1.599*	--	--	0.796	--	--	0.866	--
B.A.	--	1.276	0.788	--	0.770	0.972	--	1.123	1.200
M.A.	--	1.377	0.865	--	0.562	0.647	--	0.762	0.731
Ph.D.	--	0.000	0.000	--	--	--	--	0.000	0.000
Humanities and Social Sciences	--	--	0.947	--	--	1.135	--	--	0.862
Number of Cases	2793	2793	2130	1891	1891	1483	1225	1225	887
Overall Percentage	86.8	86.8	85.7	87.1	87.3	87.2	94.9	94.9	95.4

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership. In Model 2, 5, 8, 11, 14, 17 and 20, "high school or below" is the reference category for education. In Model 3, 6, 9, 12, 15, 18 and 21, "some college" is the reference category for education and "science and engineering" is the reference category for academic majors.

*** p<0.001; ** p<0.01; * p<0.05; + p<0.055.

Promotion dynamics under Jiang. Table 69 is concerned with the promotion dynamics across administrative ranks under Jiang. The way in which educational levels affect the promotion opportunities exhibits a striking pattern. That is to say, on one hand, the significant correlation merely exists in the attainment of such graduate education as a master's and a doctoral degree. On the other hand, political officials benefit from the graduate education in the career advancement towards the particular ranks from the deputy-bureau/director level to the vice-provincial/ministerial level. To be specific, as compared to high school or below, the promotion rate at the deputy-bureau/director level increases by over two times as a result of receiving a master's degree and over six times for earning a doctorate. For the promotion to the bureau/director level, only obtaining a doctoral degree yields a discernible influence relative to high school or below. At the empirical level, the political officials with a doctorate are 2.01 times more likely to advance to the bureau/director level. As compared to the educational level of some college, there is no significant relationship between a bachelor's degree and promotion across administrative ranks. However, the attainment of a master's degree or a doctorate considerably improves the promotion chances from the deputy-bureau/director level to the vice-provincial/ministerial level.

Along with the educational degrees obtained, undoubtedly, academic disciplines bear no significant relationship to upward mobility across all administrative ranks for political officials during the Jiang era. This data analysis result is in line with all the findings pertaining to the impact of specialties on promotion as analyzed before.

Regarding the career history in public service, despite the significant and negative effect of public service seniority on promotion before 1990, a conflicting finding emerges in the promotion dynamics under Jiang. Interestingly, the length of time working in public service exerts no observable effect on the promotion chances over varying administrative ranks from 1990 to 2002.

In terms of the demographic characteristics, four important points are worth mentioning here. First, age imposes a continuing and positive impact on upward

mobility across different administrative ranks under Jiang. The older political officials become, the more likely they are to receive further promotions across ranks. Second, as compared to male leaders, female leaders are placed disadvantageously in competing for the leadership positions at the division-head level and the bureau/director level. Third, during the Jiang period, native leaders are less likely to occupy the authority positions at such upper ranks as the vice-provincial/ministerial and the provincial/ministerial level than those serving out of home provinces. Finally, the CCP membership appears to be a salient predictor of upward mobility towards the division-head level, the bureau/director level and the provincial/ministerial level between 1990 and 2002. In another sense, as compared to non-CCP members, CCP members are more likely to be selected into the full positions instead of the deputy positions at the above-mentioned ranks.

Table 69 Logistic Models on Human Capital and Upward Mobility across Administrative Ranks during the Jiang Period, 1990-2002

Covariates	Deputy-Division-Head Level			Division-Head Level			Deputy-Bureau/Director Level		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Constant	0.000***	0.000**	0.001**	0.004***	0.004***	0.004***	0.002***	0.001***	0.001***
Age	1.280***	1.263***	1.237**	1.123***	1.122***	1.117***	1.162***	1.167***	1.164***
Gender	2.216	2.294	2.259	0.510*	0.505*	0.502*	0.874	0.917	0.925
Ethnicity	1.334	1.273	1.289	1.191	1.196	1.117	1.099	1.072	1.132
Native Leaders	0.555	0.599	0.660	0.958	0.998	0.980	0.902	0.935	0.954
CCP Members	2.052	1.811	1.755	2.586*	2.582*	2.491*	0.671	0.771	0.786
Public Service Seniority	1.021	1.049	1.032	0.988	0.992	0.985	0.991	1.011	1.010
Education									
Some College	--	0.909	--	--	0.943	--	--	1.637	--
B.A.	--	0.907	1.012	--	1.178	1.270	--	1.730	1.039
M.A.	--	1.132	1.206	--	1.032	1.079	--	3.258***	1.958**
Ph.D.	--	--	--	--	1.338	1.373	--	7.384***	4.398***
Humanities and Social Sciences	--	--	1.088	--	--	1.120	--	--	0.921
Number of Cases	168	168	156	630	630	594	1514	1514	1427
Overall Percentage	63.1	65.5	64.7	68.9	68.4	67.7	73.4	73.6	73.2

(Table 69 continued)

Covariates	Bureau/Director Level			Vice-Provincial/Ministerial Level			Provincial/Ministerial Level		
	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16	Model 17	Model 18
Constant	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
Age	1.143***	1.152***	1.155***	1.185***	1.197***	1.189***	1.105***	1.104***	1.100***
Gender	0.655*	0.652**	0.642**	0.839	0.871	0.867	0.626	0.612	0.551
Ethnicity	0.971	0.932	0.959	1.005	0.980	0.948	1.213	1.212	1.093

Native Leaders	0.953	0.943	0.933	0.787*	0.794*	0.791*	0.612**	0.599**	0.601**
CCP Members	3.937***	4.405***	4.546***	1.263	1.373	1.399	18.848**	18.399**	18.620**
Public Service Seniority	0.990	0.996	0.996	0.990	0.993	0.996	1.012	1.009	1.012
Education									
Some College	--	0.823	--	--	0.680	--	--	1.378	--
B.A.	--	0.944	1.163	--	0.958	1.333	--	1.063	0.713
M.A.	--	1.381	1.687**	--	1.176	1.721**	--	1.015	0.757
Ph.D.	--	2.091*	2.581***	--	1.690	2.444***	--	0.671	0.470
Humanities and Social Sciences	--	--	1.048	--	--	0.849	--	--	0.731
Number of Cases	2714	2714	2620	3973	3973	3857	5154	5154	4867
Overall Percentage	79.8	79.9	79.9	85.2	85.3	85.3	96.4	96.4	96.5

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership. In Model 2, 5, 8, 11, 14, 17 and 20, "high school or below" is the reference category for education. In Model 3, 6, 9, 12, 15, 18 and 21, "some college" is the reference category for education and "science and engineering" is the reference category for academic majors. *** p<0.001; ** p<0.01; * p<0.05; + p<0.055.

Promotion dynamics under Hu. As mentioned in Section 8.1.1, the promotion dynamics analysis during the Hu period is different from the above analyses before and during the Jiang period. In other words, the former is confined to the promotions towards the vice-provincial/ministerial level and provincial/ministerial level while the latter focuses on the promotion models across six ranks from the deputy-division-head level to the provincial/ministerial level. Table 70 presents the logistic models under Hu. It is important to note that neither educational levels nor academic majors are significantly associated with the odds of being promoted. In addition, when controlling for the demographic variables only, the significant relationship between public service seniority and promotion is found at the vice-provincial/ministerial level. However, after holding both the demographic variables and education constant, the above significant relationship is lost at this rank. This may be explained by the potential correlation between public service seniority and education, which is not going to be discussed in this thesis but deserves further research attention in the future.

With respect to the demographic attributes, the significant effect of age is observed in the career advancement towards the vice-provincial/ministerial level. Empirically, when age grows by one year, the odds ratio of promotion is 1.21 times as large. Regarding the influence of provincial origins, native leaders are 0.56 times less likely to move ahead towards the provincial/ministerial level than outsiders. Besides, as a proxy of political capital, the CCP membership exhibits contrasting effects on promotion. That is to say, as compared to non-CCP members, political officials with CCP membership are less likely to occupy the leading post at the vice-provincial/ministerial level while more likely to serve at the provincial/ministerial level.

Table 70 Logistic Models on Human Capital and Upward Mobility across Administrative Ranks during the Hu Period, 2003-2013

Covariates	Vice-Provincial/Ministerial Level			Provincial/Ministerial Level		
	Model 13	Model 14	Model 15	Model 16	Model 17	Model 18
Constant	0.000***	0.000***	0.000***	0.004***	0.002***	0.002***
Age	1.207***	1.213***	1.211***	1.020	1.028	1.028
Gender	1.199	1.200	1.248	0.909	0.914	0.912
Ethnicity	0.746	0.731	0.715	1.100	1.110	1.122
Native Leaders	0.930	0.949	0.959	0.565***	0.564***	0.557***
CCP Members	0.414***	0.481**	0.526**	2.767**	2.761**	2.636*
Public Service Seniority	0.984*	0.985	0.987	1.010	1.010	1.011
Education						
Some College	--	0.575	--	--	0.937	--
B.A.	--	0.322	0.535	--	0.914	0.973
M.A.	--	0.283	0.490	--	1.182	1.260
Ph.D.	--	0.449	0.767	--	1.115	1.187
Humanities and Social Sciences	--	--	0.786	--	--	1.003
Number of Cases	1887	1887	1883	5847	5847	5776
Overall Percentage	79.8	79.7	80.0	96.4	96.4	96.4

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership. In Model 2, 5, 8, 11, 14, 17 and 20, "high school or below" is the reference category for education. In Model 3, 6, 9, 12, 15, 18 and 21, "some college" is the reference category for education and "science and engineering" is the reference category for academic majors.

*** p<0.001; ** p<0.01; * p<0.05; + p<0.055.

To summarize, the above robust findings permit the conclusions as to the historical changes in how the attainment of educational levels contributes to promotion. This lends substantial support to Hypothesis H1d. First, the investment in the educational degree of some college is necessary and fundamental before the Jiang period. This is evidenced by the significantly positive impact of some college on upward mobility towards to the deputy-division-head level and the bureau/director level as compared to high school or below. However, aside from this significant relationship, there exists no discernible variation in the promotion chances for political officials receiving a bachelor's degree, a master's degree and a doctorate relative to those without college education. In addition, all these advanced educational degrees fail to reach significance for the promotions across administrative ranks as compared to some college. Before the Jiang period, the improvement of educational levels does not necessarily result in the better promotion opportunities in the mobility competition.

Second, graduate education plays a decisive role in leadership selection during the Jiang period. One of the most important findings is that the attainment of a master's degree or a doctorate significantly improves the likelihood of being selected into the leadership positions from the deputy-bureau/director level to the vice-provincial/ministerial level as compared to some college. Moreover, political officials with a master's or a doctoral degree have a higher promotion probability to the deputy-bureau/director level than those with high school or below. For advancing to the bureau/director level, a doctorate significantly yields a better career return than high school or below.

Finally, concerning the promotion dynamics towards the vice-provincial/ministerial level and the provincial/ministerial level over time, the dependence of upward mobility on educational levels is negligible before the Jiang period and in the Hu era. During the Jiang period, there exists the only significant relationship between educational levels and promotion. That is, for the promotion towards the vice-provincial/ministerial level, political officials with a master's or a doctoral degree are

more likely to get ahead than those with some college. Nonetheless, the improvement of educational levels still makes little difference in the promotion chances at the provincial/ministerial level under Jiang.

8.2.5 Summary

The preceding subsections have examined the promotion-human capital linkages in the Chinese context. As to the impact of educational levels, Section 8.2.1 has developed the overall promotion model by pooling all the event-history observations together. This model ignores the particular administrative ranks where promotion events occur. Based on the overall model, the career rewards for higher education against high school or below have been well observable except for having a doctorate. As compared to some college, interestingly, there is an apparent reduction in the promotion rate due to receiving a doctorate.

In Section 8.2.2, classifying all the event-history observations into three historical periods allows a closer look at the historical evolution of the overall promotion models. The results show the positive effect of educational levels on upward mobility prior to the Jiang period only. What should be emphasized is that this effect is restricted to the attainment of a bachelor's degree relative to high school or below. From a longitudinal perspective, the significant influence of education fails to hold during the Jiang period and the Hu period.

Section 8.2.3 specifies the rank-specific promotion models. The way in which educational levels contribute to promotion differs in accordance with the selection of the reference category. As compared to high school or below, the leadership upward mobility depends heavily on the improvement of educational levels across all administrative ranks. However, as compared to some college, the significant correlation arises at the middle ranks from the deputy-bureau/director level to the vice-provincial/ministerial levels.

Section 8.2.4 puts the rank-specific promotion models in a historical perspective. Apparently, the role of educational levels in leadership upward mobility evolves over time. On one hand, the above promotion dynamics analyses arrive at distinctive conclusions as to whether educational levels affect promotion outcomes. For example, before 1990, having the educational level of some college leads to a significant increase in the promotion rate as compared to high school or below. By comparison, graduation education (i.e., a master's degree and a doctorate) imposes a positive impact on upward mobility under Jiang relative to some college. During the Hu period, education no longer functions as a reliable predictor of promotions to the particular administrative ranks under study. On the other hand, the above historical comparisons of promotion models present somewhat different empirical findings regarding at which administrative rank the educational effect reaches statistical significance. For example, before 1990, the pivotal role of educational levels is found for the promotion at such a lower rank as the deputy-division-head level and such a middle rank as the bureau/director level. During the Jiang period, the attainment of higher educational degrees appears to be an important asset for upward mobility towards the middle ranks from the deputy-bureau/director level to the vice-provincial/ministerial level.

In addition to educational levels, the foregoing promotion analyses pertaining to human capital shed important light on the impacts of academic majors and public service seniority. In all the promotion analyses in Section 8.2, political officials studying science and engineering are consistently not distinguished from those trained in humanities and social sciences. With respect to public service seniority, in most instances, it is negatively correlated to upward mobility. Exceptionally, the lack of the significant effect is observed for the promotions to the provincial/ministerial level and the vice-state-leader level in the rank-specific promotion analyses coupled with the promotion to the provincial/ministerial level before 1990 and all the promotion models across ranks under both Jiang and Hu.

8.3 Promotion Models and Social Capital

In parallel to the human capital-oriented promotion models in Section 8.2, the research interest in Section 8.3 will be directed towards the association between social capital and upward mobility. The analytic strategies in this section are similar to the four-step analyses in Section 8.2. What is distinct from the promotion dynamics analyses in relation to human capital is that the predictors of interest (i.e., three measures of social capital) are continuous variables. Thus, the issue of selecting the reference category no longer arises in the social capital-oriented promotion models. In addition, the effects of a very small number of demographic variables change after the measures of human capital or social capital enter the promotion models. Section 8.2 has already provided the interesting findings concerning the effects of leadership demographic attributes. Therefore, Section 8.3 restricts the empirical analyses to the role of social capital only.

8.3.1 The Overall Promotion Model and Social Capital

Hypothesis H2a depicts the association of social capital with promotion outcomes. Table 71 shows the overall promotion model by analyzing the role of social capital in the process of leadership selection as a whole. In brief, all three parameters of social capital are significantly correlated to upward mobility. To be specific, the predictors of network size and upper reachability exhibit a significantly positive impact on upward mobility whereas the variable of network diversity is significantly and negatively associated with career advancement. At the empirical level, for every one-point increase in the network size, the promotion rate increases by 2.5%. When the upper reachability is raised by one unit (one level), there is a 19.3% increase in the promotion probability. By comparison, the promotion rate declines by 4.3% for every additional point on network diversity (one category of career pattern). The statistical summary in Table 71 lends strong support to Hypothesis H2a.

The following subsections will perform dynamic analyses with respect to the relationship between social capital and promotion. After presenting all the pertinent empirical findings, the concluding chapter will attempt to interpret the promotion models related to both human capital and social capital and give possible explanations behind these results.

Table 71 GEE Estimates of the Overall Promotion Model and Social Capital, 1990-2013

Covariates	Model 1	Model 2
Intercept	1.011***	0.555***
Gender	-0.119**	-0.123*
Ethnicity	0.069+	0.070
Native Leaders	0.054*	0.096**
CCP Members	-0.028	-0.097
Age	-0.048***	-0.077***
Public Service Seniority	-0.034***	-0.036***
Social Capital		
Network Size	--	0.025***
Network Diversity	--	-0.043***
Upper Reachability	--	0.193***
Number of Events	5292	5292
Number of Cases	33223	33223
Log-Likelihood	26739.436	26540.244

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership.

*** p<0.001; ** p<0.01; * p<0.05; + p<0.055.

8.3.2 The Overall Promotion Model, Social Capital and the Historical Contexts

Hypothesis H2b is related to the historical evolution of the overall effect of social capital on political upward mobility. Table 72 develops a historical account of the role of social capital in the overall promotion model. Social capital yields somewhat different patterns for the promotion dynamics across three historical periods, which could be summarized into three points. First, with regard to network size, the significantly positive relationships are observed during the Jiang period and the Hu period. The predictor of network size imposes a more pronounced effect on upward

mobility under Hu than that under Jiang. In other words, when network size is expanded by one point, the promotion probability increases by 2.7% under Jiang and 6.0% under Hu.

Second, it is only during the Jiang period that network diversity reaches statistical significance in the promotion analysis. This significant relationship tends to be negative, indicating that the promotion possibilities are hindered by the expansion of network diversity. Political officials working in a wide range of career patterns are less likely to get promoted during the Jiang era. The specific empirical finding in Table 72 shows that the corresponding promotion rate declines by 4.7% for every one-point increase in network diversity.

Finally, considering the continuing significant effects across three historical periods, the variable of upper reachability seems to be a robust predictor. By quantifying the magnitude of historical differences, it is straightforward that the effect of upper reachability increases over time. Specifically, every one-point increase in upper reachability results in an 8.1% increase in the odds of promotion before the Jiang period, 32.1% under Jiang and 62.5% under Hu.

One apparent conclusion could be derived from the above historical comparisons regarding the effect of social capital on political career advancement. That is to say, the marked influence of social capital persists in the promotion dynamics across three historical periods, which strongly supports Hypothesis H2b. However, it is critical to note that three measures of social capital are weighed differently from a historical point of view.

Table 72 GEE Estimates of the Overall Promotion Model and Social Capital, by Periods, 1990-2013

Covariates	Pre-Jiang Period (Before 1990)		Jiang Period (1990-2002)		Hu Period (2003-2013)	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	0.075	-0.035	1.530***	0.515**	1.933***	-2.876***
Gender	-0.209**	-0.234**	-0.116	-0.067	0.107	0.164
Ethnicity	0.120*	0.133*	0.067	0.047	-0.085	-0.102
Native Leaders	0.015	0.022	0.027	0.110*	0.164**	0.364***
CCP Members	-0.164	-0.231	-0.278***	-0.425***	-0.025	-0.149
Age	-0.016***	-0.030***	-0.055***	-0.098***	-0.077***	-0.122***
Public Service Seniority	-0.043***	-0.044***	-0.029***	-0.033***	-0.009*	-0.013**
Social Capital						
Network Size	--	0.012	--	0.027***	--	0.060***
Network Diversity	--	-0.008	--	-0.047**	--	-0.028
Upper Reachability	--	0.081***	--	0.321***	--	0.625***
Number of Events	2419	2419	2100	2100	773	773
Number of Cases	9345	9345	13794	13794	10084	10084
Log-Likelihood	10365.358	10352.126	11017.792	10855.441	5173.173	5006.785

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership.

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; + $p < 0.055$.

8.3.3 The Rank-specific Promotion Models and Social Capital

Section 8.3.3 delineates the effects of social capital on promotion across administrative ranks and tests Hypothesis H2c as to how the career rewards for social capital change in the rank-specific promotion dynamics. The major empirical findings from Table 73 allow the conclusion regarding the importance of social capital in the determination of upward mobility across administrative ranks. The only exception is that social capital imposes no significant effect on the promotion to the vice-provincial/ministerial level, which weakens Hypothesis H2c. In the following paragraphs, this subsection looks into the specific statistical results.

In terms of network size, political officials, for the most part, benefit conspicuously from expanding their social networks in advancing political careers across administrative ranks. The only exception is that network size imposes no significant effect on the promotion to the vice-provincial/ministerial level. With regard to network diversity, only does the career advancement towards the deputy-bureau/director level depend on how many patterns of career experience political officials have. Empirically, when network diversity increases by one point, political officials are 82.2% as likely to get ahead. As to upper reachability, as mentioned in Chapter 6, the highest rank accessible is the state-leader level for political officials staying at the vice-provincial/ministerial level or above. Thus, in the rank-specific promotion analyses, the study of the relationship between upper reachability and promotion is limited to the promotions towards the bureau/director level or below. For all the promotions from the deputy-division-head level to the bureau/director level, the effect of upper reachability, without exception, reaches statistical significance in the positive direction. Political officials are positioned advantageously in the race for promotion if they are able to access to the high-status political leaders as secretaries. The higher-status leaders the political officials can develop work interactions with, the more likely they are to move ahead. Based on the above important results, Hypothesis H2c is moderately supported.

Another finding worth noting here is that the effects of social capital seem to be stronger on the promotion to the deputy positions than to the full positions one level higher. At the empirical level, for every one-point increase in network size, the promotion rate increases by 14.1% towards the deputy-division-head level whereas 11.0% towards the division-head level. The corresponding figures are 13.6% towards the deputy-bureau/director level and 6.7% towards the bureau/director level. Regarding upper reachability, if the highest possible administrative rank accessible increases by one hierarchical level, political officials are 5.93 times more likely to advance to the deputy-division-head level whereas 1.25 times to the division-head level. They are 14.56 times more likely to assume the leadership positions at the deputy-bureau/director level while 1.96 times at the bureau/director level.

Table 73 Logistic Models on Social Capital and Upward Mobility across Administrative Ranks, 1990-2013

Covariates	Deputy-Division-Head Level		Division-Head Level		Deputy-Bureau/Director Level		Bureau/Director Level	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Constant	0.021***	0.000***	0.005***	0.001***	0.004***	0.000***	0.000****	0.000***
Age	1.134***	1.064**	1.101***	1.088***	1.144***	1.128***	1.136***	1.124***
Gender	1.778*	2.654**	0.997	0.995	1.127	2.575***	0.743*	0.762*
Ethnicity	0.979	0.637*	0.948	0.837	0.895	0.448***	0.917	0.889
Native Leaders	0.898	1.120	1.163	1.142	0.836*	1.463**	0.930	0.947
CCP Members	0.921	0.483	2.573**	1.999*	0.979	0.574	3.054***	2.654***
Public Service Seniority	0.939***	0.926***	0.968***	0.955***	0.954***	0.937***	0.991*	0.981***
Social Capital								
Network Size	--	1.141**	--	1.110***	--	1.136***	--	1.067***
Network Diversity	--	0.957	--	1.023	--	0.822**	--	1.048
Upper Reachability	--	5.930***	--	1.245***	--	14.562***	--	1.956***
Number of Cases	1564	1564	3026	3026	3943	3943	5854	5854
Overall Percentage	65.3	92.7	78.2	78.3	76.7	93.1	82.6	82.6

(Table 73 continued)

Covariates	Vice-Provincial/Ministerial Level		Provincial/Ministerial Level		Vice-State-Leader Level	
	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Constant	0.000***	0.000***	0.000***	0.000	0.801	0.288
Age	1.181***	1.075***	1.053***	1.046***	0.983	0.977
Gender	1.098	0.771	0.667*	0.804	1.719	2.362*
Ethnicity	0.883	0.809	1.130	0.958	0.572	0.473*
Native Leaders	0.833**	1.559**	0.660***	0.691**	0.778	0.899
CCP Members	0.824	0.204***	4.756***	2.671**	0.121***	0.080***
Public Service Seniority	0.985***	0.978*	1.010	0.989+	0.992	0.976*

Social Capital						
Network Size	--	1.051	--	1.171***	--	1.128***
Network Diversity	--	1.035	--	0.956	--	1.019
Upper Reachability	--	--	--	--	--	--
Number of Cases	7751	7751	12226	12226	4386	4386
Overall Percentage	84.2	97.0	96.3	96.3	98.2	98.2

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership.

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; + $p < 0.055$.

8.3.4 The Rank-specific Promotion Models, Social Capital and the Historical Contexts

Section 8.3.4 is interested in comparing the occupational returns to social capital in the rank-specific promotion dynamics across three historical periods. Consistent with the historical comparisons of the promotion dynamics in Section 8.2.4, the administrative ranks of interest extend from the deputy-division-head level to the provincial/ministerial level in this subsection. The findings in this section are shown for testing Hypothesis H2d on comparing the role of social capital in the rank-specific promotion dynamics from a longitudinal perspective.

Promotion dynamics before 1990. Table 74 summarizes the promotion dynamics before the Jiang period. One conclusion is drawn from the empirical findings in Table 74. That is, upward mobility is significantly related to at least one of three parameters of social capital across most administrative ranks. However, the dependency of promotion on social capital is negligible towards the vice-provincial/ministerial level.

As shown in Table 74, empirically, a one-point increase in network size strikingly improves the promotion rate by approximately 14% for the promotions to the deputy-division-head level and to the division-head level. The corresponding figure is 20% for the occupational ascendency to the deputy-bureau/director level and 9.7% to the provincial/ministerial level. Nevertheless, the significant linkage of promotion to social capital is reduced to the non-significant level for upward mobility towards the bureau/director level and the vice-provincial/ministerial level.

In terms of network diversity, it functions as a powerful predictor of upward mobility towards the deputy-bureau/director level before 1990. For every one-point increase in network size, political officials are 82.4% as likely to get ahead. Regarding the promotions to the other ranks, network diversity is unrelated to the odds of upward mobility. Despite statistical non-significance, according to the logistic coefficients,

network diversity yields a positive effect on the promotions to the full positions and a negative effect to the deputy positions.

Alongside network size and network diversity, before the Jiang period, upper reachability is significantly and negatively related to upward mobility from the deputy-division-head level to the bureau/director level. However, noteworthy is the distinction in the strength of the relationship between promotion and upper reachability between ranks. To be specific, the social contacts with the higher-status political leaders are more likely to foster the political upward mobility towards the deputy positions than to the full positions at the adjacent higher levels. For example, for every one-point increase in the highest rank accessible, political officials are 5.62 times more likely to obtain the posts at the deputy-division-head level whereas merely 1.25 times more likely to move ahead towards the division-head level.

Table 74 Logistic Models on Social Capital and Upward Mobility across Administrative Ranks Prior to the Jiang Period, Before 1990

Covariates	Deputy-Division-Head Level		Division-Head Level		Deputy-Bureau/Director Level		Bureau/Director Level	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Constant	0.022***	0.000***	0.002***	0.000***	0.002***	0.000***	0.000***	0.000***
Age	1.132***	1.067**	1.109***	1.095***	1.145***	1.146***	1.139***	1.128***
Gender	1.739*	2.650**	1.224	1.218	1.180	3.157*	0.592	0.590
Ethnicity	0.983	0.598*	0.869	0.700*	0.841	0.263***	0.790	0.796
Native Leaders	0.950	1.168	1.296*	1.202	0.797*	0.999	0.888	0.912
CCP Members	0.859	0.448	3.477**	2.640*	1.913	0.704	6.967**	6.439*
Public Service Seniority	0.935***	0.920***	0.963***	0.943***	0.938***	0.899***	0.982**	0.977**
Social Capital								
Network Size	--	1.144**	--	1.142***	--	1.200***	--	1.029
Network Diversity	--	0.976	--	1.072	--	0.824*	--	1.058
Upper Reachability	--	5.618***	--	1.254**	--	20.068***	--	2.386***
Number of Cases	1396	1396	2396	2396	2420	2420	2793	2793
Overall Percentage	66.4	92.3	81.4	81.3	79.3	93.6	86.8	87.0

(Table 74 continued)

Covariates	Vice-Provincial/Ministerial Level		Provincial/Ministerial Level	
	Model 9	Model 10	Model 11	Model 12
Constant	0.000***	0.000***	0.000	0.000
Age	1.161***	1.044	1.170***	1.120**
Gender	1.875*	0.504	0.000	0.000
Ethnicity	0.831	0.495	0.811	0.801
Native Leaders	0.743	0.466*	1.031	0.858
CCP Members	1.250	0.321	--	--
Public Service Seniority	0.974***	0.999	1.011	0.989

Social Capital				
Network Size	--	1.013	--	1.097*
Network Diversity	--	0.909	--	1.091
Upper Reachability	--	--	--	--
Number of Cases	1891	1891	1225	1225
Overall Percentage	87.1	96.3	94.9	94.7

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership.

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; + $p < 0.055$.

Promotion dynamics under Jiang. Table 75 is concerned with how social capital affects upward mobility during the Jiang period. As to the occupational attainment at the division-head level and the vice-provincial/ministerial level, none of three parameters of social capital displays significant linkages. In sharp contrast, social capital plays a crucial role in the promotions across the other administrative ranks. In the following, the major findings regarding the discernible effects of social capital are summarized in three respects.

First, network size makes a marginal contribution to career advancement at the middle and higher ranks, namely the promotions towards the deputy-bureau/director level, the bureau/director level and the provincial/ministerial level. If network size is raised by one point, the increase in the promotion rate at the above-mentioned ranks fluctuates between 10.8% and 18.1%.

Second, the way in which network diversity affects upward mobility under Jiang is similar to that prior to the Jiang period. Consistently, it is at the deputy-bureau/director level that political officials with diverse social networks are less likely to obtain leadership positions. Consider the non-significant effect of network diversity on the promotions to the other administrative ranks. The effect of network diversity seems to be positive on the upward mobility to the full positions at the lower and middle ranks while negative on the career advancement to the deputy positions. However, diverse social networks impose a positive, but not statistically significant impact on the promotion to the vice-provincial/ministerial level whereas exert a negative effect on the upward mobility to the provincial/ministerial level.

Finally, similar to the promotion dynamics prior to the Jiang era, upper reachability yields a continuing and strong effect during the Jiang period on the career advancement to the deputy-division-head level, the deputy-bureau/director level and the bureau/director level. Typically, for every one-point increase in upper reachability, political officials are 9.61 times more likely to be recruited to the deputy-division-head level and 11.03 times to the deputy-bureau/director level. In this regard, the career achievement at the lower and middle ranks during the Jiang

period is considerably determined by the accessibility of the highest possible administrative ranks.

Table 75 Logistic Models on Social Capital and Upward Mobility across Administrative Ranks during the Jiang Period, 1990-2002

Covariates	Deputy-Division-Head Level		Division-Head Level		Deputy-Bureau/Director Level		Bureau/Director Level	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Constant	0.000***	0.000***	0.004***	0.003***	0.002***	0.000***	0.000***	0.000***
Age	1.280***	1.085	1.123***	1.111***	1.162***	1.131***	1.143***	1.130***
Gender	2.216	2.745	0.510*	0.502*	0.874	1.950*	0.655*	0.693*
Ethnicity	1.334	2.077	1.191	1.210	1.099	0.830	0.971	0.906
Native Leaders	0.555	0.865	0.958	0.994	0.902	2.115***	0.953	0.917
CCP Members	2.052	1.114	2.586*	2.216	0.671	0.394+	3.937***	2.868***
Public Service Seniority	1.021	0.999	0.988	0.987	0.991	0.997	0.990	0.983*
Social Capital								
Network Size	--	1.406	--	1.046	--	1.108*	--	1.129***
Network Diversity	--	0.959	--	1.015	--	0.832*	--	1.014
Upper Reachability	--	9.613***	--	1.082	--	11.030***	--	1.519**
Number of Cases	168	168	630	630	1514	1514	2714	2714
Overall Percentage	63.1	95.2	68.9	67.6	73.4	91.9	79.8	80.2

(Table 75 continued)

Covariates	Vice-Provincial/Ministerial Level		Provincial/Ministerial Level	
	Model 9	Model 10	Model 11	Model 12
Constant	0.000***	0.000***	0.000***	0.000
Age	1.185***	1.042+	1.105***	1.092***
Gender	0.839	0.942	0.626	0.824
Ethnicity	1.005	0.897	1.213	0.946
Native Leaders	0.787*	2.076**	0.612**	0.586**
CCP Members	1.263	0.200*	18.848**	11.193*
Public Service Seniority	0.990	0.971*	1.012	0.992

Social Capital				
Network Size	--	1.032	--	1.181***
Network Diversity	--	1.122	--	0.944
Upper Reachability	--	--	--	--
Number of Cases	3973	3973	5154	5154
Overall Percentage	85.2	97.0	96.4	96.4

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership.

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; + $p < 0.055$.

Promotion dynamics under Hu. The study of the promotion dynamics under Hu focuses on such higher administrative ranks as the bureau/director level or above. The social capital measures of interest are primarily network size and network diversity in the promotion analyses during the Hu period.

As reflected in Table 76, network size turns out to be the only reliable predictor of promotion, rather than network diversity. Specifically, if network size is expanded by one point, there is a 17.1% increase in the promotion rate to the provincial/ministerial level. Along with network size, the correlation between upward mobility and network diversity fails to reach statistical significance at the administrative ranks in question.

In summary, the above historical comparisons demonstrate the continuities and changes in the career returns to social capital. They reveal the historical persistence in the occupational rewards for social capital on one hand and the absence of the effect of social capital on the promotions to specific administrative ranks on the other. Given both, Hypothesis H2d ultimately receives moderate empirical confirmation. Specifically, considering the continuities, for the most part, social capital is consistently responsible for political upward mobility over time. First, both network size and upper reachability are considered as salient determinants in the promotion models before and during the Jiang era. Their pronounced effects have been found repeatedly on the career advancement to most administrative ranks. Second, diverse social networks place political officials at a marked disadvantage in the race for promotion to the deputy-bureau/director level before and during the Jiang period. Finally, none of the social capital measures is significantly correlated to the promotion towards the vice-provincial/ministerial level over all three historical periods.

In addition, the minor differences in the career rewards for social capital are observed. For example, the role of social capital is ignored in the upward mobility to the division-head level during the Jiang period. The promotion to the bureau/director level can be attributed to network size during the Jiang period

rather than before 1990. Besides, upper reachability is significantly and positively related to the occupational ascendancy to the division-head level before the Jiang era rather than during the Jiang period.

Table 76 Logistic Models on Social Capital and Upward Mobility across Administrative Ranks during the Hu Period, 2003-2013

Covariates	Vice-Provincial/Ministerial Level		Provincial/Ministerial Level	
	Model 3	Model 4	Model 5	Model 6
Constant	0.000***	0.000***	0.004***	0.000
Age	1.207***	1.330***	1.020	1.021
Gender	1.199	0.361*	0.909	1.062
Ethnicity	0.746	1.779	1.100	0.992
Native Leaders	0.930	7.632***	0.565***	0.634**
CCP Members	0.414***	0.203	2.767**	1.354
Public Service Seniority	0.984*	0.906**	1.010	0.995
Social Capital				
Network Size	--	1.047	--	1.171***
Network Diversity	--	0.959	--	0.993
Upper Reachability	--	--	--	--
Number of Cases	1887	1887	5847	5847
Overall Percentage	79.8	98.0	96.4	96.4

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership.

*** p<0.001; ** p<0.01; * p<0.05; + p<0.055.

8.3.5 Summary

Section 8.3 has already formulated the impacts of social capital in the promotion determination models. With the minor exceptions, the empirical results provide strong supporting evidence to the social capital-related hypotheses. In terms of the overall promotion model in Section 8.3.1, both network size and upper reachability are transformed into the career advantage and remarkably increase the promotion rates. However, diverse social networks yield a reverse effect on political upward mobility. Among these three social capital measures, the reliance of promotion on the highest reachable administrative rank is the most pronounced.

Section 8.3.2 has examined the historical trend of the overall promotion dynamics. There is little doubt that the importance of social capital persists across three historical periods. Before the Jiang period, the significantly positive correlation between promotion and upper reachability becomes apparent. During the Jiang period, upward mobility conspicuously depends on all the social capital measures. For the promotion dynamics under Hu, the predictors of network size and upper reachability contribute to the career success in the mobility competition.

In Section 8.3.3, the strong linkage between upward mobility and social capital has been consistently recognized across most administrative ranks. Concerning the role of specific social capital measures, network size yields a continuing and positive effect on the elite status attainment across ranks except for the vice-provincial/ministerial level. This means that political officials benefit from frequent job mobility across occupations, organizations or localities. In terms of network diversity, the significant correlation is confined to the career advancement to the deputy-bureau/director level. Those working in a broad variety of career patterns are less likely to obtain the leadership positions at this rank. The study of upper reachability draws a conclusion that the accessibility of social ties with higher status and prestige generates better career returns in the political upward mobility from the deputy-division-head level to the bureau/director level.

Section 8.3.4 has turned to a comparative analysis of the promotion dynamics across historical periods. The similar patterns are observed regarding how social capital affects upward mobility across administrative ranks over time.

8.4 Conclusion

This chapter has developed the promotion models by analyzing how human capital or social capital affects political upward mobility. The analyses pertaining to human capital and social capital are performed separately. The analytic strategies for examining the relationship between promotion and either capital strictly conform to the four-step data analyses. GEE is employed in the former two steps and logistic regressions in the latter two steps. The major empirical findings in this chapter are summarized in Table 77 and 78. The following paragraphs will overview the overall promotion model and the rank-specific promotion dynamics and provide further clarifications to interpret the results. Furthermore, although there is no enough space to explore how human capital and social capital are interplayed in the leadership promotion dynamics in this thesis, this section will be closed by providing very tentative findings by considering both human capital and social capital in the same promotion model in Table 79 and Table 80.

Table 77 Summary of the Effects of Human Capital on the Promotion Models for Chinese Provincial Leaders, 1990-2013

	Some College 1	B.A. 2	3	M.A. 4	5	6	Ph.D. 7	8	Public Service Seniority 9
GEE									
Overall	0.162**	0.214***		0.152**			-0.158**		-0.034***
Pre-Jiang Period		0.221***							-0.043***
Jiang Period									-0.029***
Hu Period									-0.009*
Logistic Regression									
Deputy-Division-Head	1.744**			2.440**					0.939***
Division-Head				1.850**					0.968***
Deputy-Bureau/Director	1.503**	1.402**		2.491***	1.683**	5.628***	3.962***		0.954***
Bureau/Director	1.581**	1.576**		2.741***	1.743***	4.125***	2.648***		0.991*
Vice-Provincial/Ministerial					1.406**	1.669**	2.226***		0.985***
Provincial/Ministerial		0.615*		0.626*					
Vice-State-Leader		3.326+		4.012*		4.722*			
Pre-Jiang Period									
Deputy-Division-Head	1.695*								0.935***
Division-Head									0.963***
Deputy-Bureau/Director									0.938***
Bureau/Director	1.599*								0.982**
Vice-Provincial/Ministerial									0.974***
Provincial/Ministerial									

Jiang Period				
Deputy-Division-Head				
Division-Head				
Deputy-Bureau/Director	3.258***	1.958**	7.384***	4.398***
Bureau/Director		1.687**	2.091*	2.581***
Vice-Provincial/Ministerial		1.721**		2.444***
Provincial/Ministerial				
Hu Period				
Vice-Provincial/Ministerial				0.984*
Provincial/Ministerial				

Source: Author's database.

Note: In Column 1, 2, 4, 6, the effect of educational levels is compared against the reference category of high school or below. In Column 3, 5, 7, the effect of educational levels is compared against the reference category of some college.

Table 78 Summary of the Effects of Social Capital on the Promotion Models for Chinese Provincial Leaders, 1990-2013

	Network Size 10	Network Diversity 11	Upper Reachability 13
GEE			
Overall	0.025***	-0.043***	0.193***
Pre-Jiang Period			0.081***
Jiang Period	0.027***	-0.047**	0.321***
Hu Period	0.060***		0.625***
Logistic Regression			
Deputy-Division-Head	1.141**		5.930***
Division-Head	1.110***		1.245***

Deputy-Bureau/Director	1.136***	0.822**	14.562***
Bureau/Director	1.067***		1.956***
Vice-Provincial/Ministerial			
Provincial/Ministerial	1.171***		
Vice-State-Leader	1.128***		
Pre-Jiang Period			
Deputy-Division-Head	1.144**		5.618***
Division-Head	1.142***		1.254**
Deputy-Bureau/Director	1.200***	0.824*	20.068***
Bureau/Director			2.386***
Vice-Provincial/Ministerial			
Provincial/Ministerial	1.097*		
Jiang Period			
Deputy-Division-Head			9.613***
Division-Head			
Deputy-Bureau/Director	1.108*	0.832*	11.030***
Bureau/Director	1.129***		1.519**
Vice-Provincial/Ministerial			
Provincial/Ministerial	1.181***		
Hu Period			
Vice-Provincial/Ministerial			
Provincial/Ministerial	1.171***		

Source: Author's database.

In the overall promotion model, both human capital and social capital indeed exert significant impacts on political upward mobility. With regard to educational levels, the results in Table 77 lead to a tentative conclusion that pursuing higher education seems to be a good investment for political career advancement. For example, as compared to high school or below, the better career returns are observed to such higher education as some college, a bachelor's degree and a master's degree. This statistical result is consistent with the findings regarding education as a positively contributing factor in career advancement in the current academic literature on Chinese elite mobility (Lin, 2012; Shih, Adolph & Liu, 2012; Zang, 2001). Meanwhile, it denies the findings that receiving higher education makes little difference in career advancement (Huang, 2009; Zhang, 2014). However, the current results show that the key to political career success does not lie in pursuing the educational degree as high as possible. This is evidenced by the negligible growth in career returns to a bachelor's or a master's degree relative to some college on one hand and a doctorate as a hindrance to career progression on the other. In terms of another measure of education, what specialty political officials study in higher education fails to yield a significant effect on political upward mobility. This finding is inconsistent with the observations from Lin (2012) and Zang (2001) that political leaders trained in science and engineering or those receiving college education in engineering and management from a key university are positioned advantageously in the race for promotion. To summarize the career rewards for education, what matters in occupational ascendancy for provincial leaders is the educational degree obtained rather than the academic majors studied.

Another parameter of human capital is public service seniority. In the overall promotion model, upward mobility negatively depends on for how long political officials serve in public service. That is to say, the longer the duration time in public service, the smaller the promotion probability.

In terms of social capital, network size and upper reachability are significantly and positively associated with upward mobility whereas network diversity yields a negative effect. Political officials with large social networks or reaching higher-status

work contacts are positioned advantageously in the opportunity structure in Chinese politics. However, diverse social networks appear to be a barrier for provincial leaders in their course of advancing to the top. To put it differently, political officials benefit from extending work contacts by job mobility across localities, organizations or occupations or developing social ties with the upper echelons at the apex of the power hierarchy. Nonetheless, their political upward mobility is impeded by job mobility across a wide range of career patterns.

In consequence, the overall picture presented by the above results shows that both human capital and social capital take on a central role in career advancement. However, since both the historical period effect and the rank effect are unexamined in this model, the above findings are tentative and deserve further investigation and comparison.

In the rank-specific promotion models, human capital exerts a continuing and significant impact on leadership selection across administrative ranks. Alongside, the promotion returns to social capital are observable across ranks with the only exception for the promotion to the vice-provincial/ministerial level. Turning to the educational levels, political officials receiving higher education have striking career advantages over those with high school or below for promotions to most ranks. As the only exception, in the opposite direction, political officials with a bachelor's or a master's degree are less likely to get ahead towards the provincial/ministerial ranks than those with high school or below. This empirical observation awaits further statistical testing and exploration. As compared to the educational level of some college, one of the competitive advantages in political upward mobility lies in earning a master's degree or a doctorate. The significant correlations occur to the promotions towards the middle and higher ranks ranging from the deputy-bureau/director level to the vice-provincial/ministerial level. In summary, the decisive role of higher education receives strong empirical confirmation in the rank-specific promotion models.

The above results provide satisfactory answers to the question of how the promotion to every administrative rank relies on educational attainment. From a different perspective, the findings below attempt to reveal the administrative ranks where the critical role of each educational level is observed. It is important to emphasize that the rewards for receiving a master's degree persist across administrative ranks. With respect to the importance of higher education, the rewards for the educational degree of some college emerge from the promotions to the lower and middle ranks and those for a bachelor's degree or a doctorate are found in the upward mobility towards the middle and higher ranks.

Along with the examination of educational levels, the role of academic majors in the rank-specific promotion dynamics is the same as that in the overall promotion model. The preference of natural science and engineering or humanities and social sciences makes no difference in political upward mobility towards any rank. Furthermore, the negative effect of public service seniority reaches statistical significance on the occupational ascendancy to the ranks from the deputy-division-head level to the vice-provincial/ministerial level.

In parallel to the human capital-related promotion analyses, the linkage between promotion and social capital is discernible across most administrative ranks. Network size makes a positive contribution to upward mobility across ranks except for the vice-provincial/ministerial level. Upper reachability turns out to be a reliable predictor for the promotions to the bureau/director level or below. In sharp contrast, the influence of network diversity is limited to the career advancement towards the deputy-bureau/director level. To summarize, the way in which each social capital measure affects upward mobility in the rank-specific promotion dynamics analyses is similar to that in the overall promotion model.

To conclude, according to the findings from the rank-specific promotion dynamics, both human capital and social capital possessed play a salient role in upward mobility across administrative ranks. On this basis, this chapter takes a step further

to examine how the promotion dynamics evolve over time, particularly by comparing the promotion models before and during the Jiang period.

On one hand, the historical persistence in the promotion dynamics is demonstrated by analyzing the contribution of academic majors and social capital to the promotion across ranks. The similar patterns have been captured in the rank-specific promotion models both before and during the Jiang period. First, academic majors have no significant correlation to upward mobility across ranks. Second, the effect of social capital is negligible on the promotion to the vice-provincial/ministerial level. Third, diverse social networks lead to a small reduction in the promotion rate towards the deputy-bureau/director level. Finally, large social networks and social contacts with higher-status superiors improve the odds of being selected to the elite positions at most ranks. There exist small variations in the specific ranks where network size and upper reachability yield statistically positive effects on the promotion models before and under Jiang.

On the other hand, historical changes are well observed as to the impacts of public service seniority and educational levels on the promotion dynamics before and during the Jiang period. To be specific, the negative influence of public service tenure is found in the promotion dynamics before Jiang while disappears during the Jiang period. In terms of educational levels, before the Jiang period, the favorable effect of receiving some college is confined to the career advancement towards the deputy-division-head level and the bureau/director level. Only the educational degree of some college can be converted into the competitive advantage in the political upward mobility before Jiang. The changes in the promotion opportunities by no means depend on the attainment of a bachelor's degree, a master's degree or even a doctorate. In sharp contrast, the educational level of some college no longer functions as a reliable predictor of leadership selection under Jiang. Nor does the attainment of a bachelor's degree. Instead, a master's degree or a doctorate is strongly favored in the upward mobility towards the middle and higher ranks from the deputy-bureau/director level to the vice-provincial/ministerial level during the Jiang period.

To summarize the historical continuities and changes in the promotion dynamics, the above findings arrive at a tentative conclusion. That is, to a considerable extent, the way in which human capital affects promotion differs enormously across historical periods. Nevertheless, the effects of social capital exhibit similar patterns in the promotion dynamics before and under Jiang.

After presenting the summary of the promotion dynamics, three critical issues need to be clarified. The first issue is concerned with the political upward mobility in nature for the rank-specific promotion dynamics. All the event-history observations are derived from the leadership demographic characteristics, educational credentials and career trajectories of Chinese provincial leaders. The provincial leadership dataset consists of a complete sample of party secretaries, provincial governors, deputy party secretaries and vice governors from 1990 to 2013. The political upward mobility in this thesis is recorded on the basis of how individual provincial leaders climb the political ladder from the bottom to the top. It analyses the extent to which upward mobility depends on human capital or social capital across administrative ranks. The research subjects of interest in the rank-specific promotion models are limited to provincial leaders from 1990 to 2013. The events of interest are the occurrences of promotion at a given rank for provincial leaders only. Attempts to generalize the existing results to all the cadres must be very cautious for two reasons. One is the relative small sample as compared to a far broader cadre population at each rank. The other is that the sampling is not random and there is no doubt that the political officials under study eventually rise to the vice-provincial/ministerial level or above because of the research interest in this specific provincial leadership group. As a result, the promotion analyses in this thesis pay close attention to how to become provincial leaders after a series of promotions instead of how to obtain the administrative rank for the general cadre population at each rank.

Second, this chapter has undertaken the promotion analyses by evaluating the independent effects of human capital and social capital in Section 8.2 and 8.3,

respectively. Given the space limitations of this thesis, it leaves open the possibility of the interaction between human capital and social capital, which is of critical importance and warrants further exploration in the future. Thus, the promotion models are far from ideal because the observed effect of human capital in the above analyses possibly becomes negligible by controlling for the effect of social capital.

Finally, what should be explicated is the overall promotion model. As stated previously, the overall promotion model shows little interest in the administrative rank where the promotion occurs. Consider the effect of public service seniority in Section 8.2.2 as an example. The overall promotion model shows that public service seniority is significantly and negatively related to upward mobility across three historical periods. In terms of the effect size, for every one-year increase in public service tenure, the promotion rate decreases by 4.3% before Jiang, 2.9% under Jiang and 0.9% under Hu. It is tempting to conclude that the extent to which the promotion rate is affected by public service seniority declines over time. However, this is not necessarily the case. In other words, the above differences are not necessarily attributed to the historical period effect. Instead, it may result from the rank effect. In the present example, the observations are not evenly distributed across administrative ranks during each historical period. A large number of the event-history observations for the overall promotion model before Jiang are related to the upward mobility towards the lower and middle ranks. As to the overall model under Jiang and Hu, the observations largely aim at the promotions to the higher rank. As indicated in Chapter 7, the median survival time is three or four years for the promotions to the lower and middle ranks. It ranges from six to nine years to the higher rank. It takes a shorter time for most provincial leaders to win early promotions at the lower and middle ranks. A one-year increase in the duration time at the prior rank is more likely to place them at a disadvantage in the promotions to the lower and middle ranks than to the higher rank. Therefore, the above-mentioned variations in the effects of public service seniority on promotion suggest either the historical period effect, or the rank effect, or both. This is also why the study of the rank-specific models across historical periods becomes important.

The above promotion analyses are interested in analyzing the extent to which political upward mobility depends upon human capital or social capital, respectively. It has been emphasized in Chapter 1 and will be restated in the final chapter that the research question of how human capital and social capital interrelate in the same promotion dynamics will remain unanswered in this thesis because of the word limits. However, the following pages of this section will tentatively present the overall promotion model and the rank-specific promotion model by simultaneously incorporating demographic attributes, human capital and social capital.

Table 79 GEE Estimates of the Overall Promotion Model, Human Capital and Social Capital, 1990-2013

Covariates	Model 1	Model 2	Model 3
Intercept	1.011***	0.524***	0.804***
Gender	-0.119**	-0.123*	-0.094
Ethnicity	0.069+	0.076	0.042
Native Leaders	0.054*	0.099**	0.089**
CCP Members	-0.028	-0.193**	-0.207**
Age	-0.048***	-0.080***	-0.085***
Public Service Seniority	-0.034***	-0.035***	-0.038***
Education			
Some College	--	0.119	--
B.A.	--	0.183**	0.070
M.A.	--	0.018	-0.090
Ph.D.	--	-0.216**	-0.332***
Humanities and Social Sciences	--	--	0.015
Network Size	--	0.030***	0.033***
Network Diversity	--	-0.042***	-0.038**
Upper Reachability	--	0.204***	0.211***
Number of Events	5292	5292	4610
Number of Cases	33223	33223	29473
Log-Likelihood	26739.436	26500.364	23158.672

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership. In Model 2, "high school or below" is the reference category for education. In Model 3, "some college" is the reference category for education and "science and engineering" is the reference category for academic majors.

*** p<0.001; ** p<0.01; * p<0.05; + p<0.055.

Table 80 Logistic Models on Human Capital, Social Capital and Upward Mobility across Administrative Ranks, 1990-2013

Covariates	Deputy-Division-Head Level			Division-Head Level			Deputy-Bureau/Director Level		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Constant	0.021***	0.000***	0.000***	0.005***	0.001***	0.003***	0.004***	0.000***	0.000***
Age	1.134***	1.070**	1.111***	1.101***	1.081***	1.075***	1.144***	1.140***	1.121***
Gender	1.778*	2.820**	3.042**	0.997	0.985	0.936	1.127	2.419**	2.352**
Ethnicity	0.979	0.632*	0.734	0.948	0.830	0.890	0.895	0.437***	0.444***
Native Leaders	0.898	1.089	1.280	1.163	1.153	1.127	0.836*	1.395*	1.439*
CCP Members	0.921	0.444*	0.420*	2.573**	2.016*	2.139*	0.979	0.606	0.713
Public Service Seniority	0.939***	0.927***	0.931**	0.968***	0.961***	0.955***	0.954***	0.933***	0.939***
Education									
Some College	--	1.354	--	--	1.197	--	--	1.432	--
B.A.	--	0.836	0.633	--	1.135	0.984	--	0.662*	0.468***
M.A.	--	2.716+	1.977	--	1.826**	1.549	--	1.062	0.791
Ph.D.	--	--	--	--	2.246	1.798	--	1.341	1.042
Humanities and Social Sciences	--	--	1.183	--	--	1.092	--	--	0.738
Network Size	--	1.140**	1.171**	--	1.116***	1.130***	--	1.119**	1.126**
Network Diversity	--	0.947	0.818*	--	1.012	1.008	--	0.822**	0.827**
Upper Reachability	--	5.941***	4.626***	--	1.227**	1.158*	--	15.046***	13.932***
Number of Cases	1564	1564	1038	3026	3026	2260	3943	3943	3160
Overall Percentage	65.3	92.7	91.4	78.2	78.1	76.5	76.7	93.3	92.4

(Table 80 continued)

Covariates	Bureau/Director Level			Vice-Provincial/Ministerial Level			Provincial/Ministerial Level		
	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16	Model 17	Model 18
Constant	0.000****	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000	0.000

Age	1.136***	1.123***	1.119***	1.181***	1.086***	1.076***	1.053***	1.039***	1.031**
Gender	0.743*	0.699**	0.685**	1.098	0.759	0.691	0.667*	0.814	0.823
Ethnicity	0.917	0.853	0.901	0.883	0.743	0.778	1.130	0.971	0.952
Native Leaders	0.930	0.960	0.966	0.833**	1.619**	1.948***	0.660***	0.670***	0.679**
CCP Members	3.054***	3.238***	3.314***	0.824	0.309*	0.303*	4.756***	2.524**	2.423*
Public Service Seniority	0.991*	0.988*	0.988*	0.985***	0.979*	0.977*	1.010	0.989*	0.991
Education									
Some College	--	1.614**	--	--	0.526	--	--	0.815	--
B.A.	--	1.810***	1.134	--	0.797	1.372	--	0.765	0.869
M.A.	--	2.784***	1.761***	--	1.172	2.326**	--	0.551**	0.674*
Ph.D.	--	4.392***	2.792***	--	3.530**	7.454***	--	0.564*	0.674
Humanities and Social Sciences	--	--	0.919	--	--	0.624*	--	--	0.744*
Network Size	--	1.077***	1.095***	--	1.034	1.050	--	1.177***	1.182***
Network Diversity	--	1.037	1.045	--	1.032	1.048	--	0.964	0.984
Upper Reachability	--	1.875***	1.768***	--	50.438***	63.255***	--	--	--
Number of Cases	5854	5854	5095	7751	7751	7223	12226	12226	11530
Overall Percentage	82.6	82.5	81.5	84.2	97.0	97.0	96.3	96.3	96.4

(Table 80 continued)

Covariates	Vice-State-Leader Level		
	Model 19	Model 20	Model 21
Constant	0.801	0.044+	0.170
Age	0.983	0.986	0.980
Gender	1.719	2.344*	2.372*
Ethnicity	0.572	0.401**	0.302**
Native Leaders	0.778	0.964	0.875

CCP Members	0.121***	0.081***	0.079***
Public Service Seniority	0.992	0.985	0.986
Education			
Some College	--	2.398	--
B.A.	--	3.677*	1.368
M.A.	--	4.119*	1.773
Ph.D.	--	5.545*	2.292
Humanities and Social Sciences	--	--	0.663
Network Size	--	1.134***	1.143***
Network Diversity	--	0.999	1.035
Upper Reachability	--	--	--
Number of Cases	4386	4386	3871
Overall Percentage	98.2	98.2	98.0

Source: Author's database.

Note: "Male" is the reference category for gender, "ethnic minorities" for ethnicity, "outsiders" for native leaders and "non-CCP members" for CCP membership. In Model 2, 5, 8, 11, 14, 17 and 20, "high school or below" is the reference category for education. In Model 3, 6, 9, 12, 15, 18 and 21, "some college" is the reference category for education and "science and engineering" is the reference category for academic majors. *** p<0.001; ** p<0.01; * p<0.05; + p<0.055.

As compared to the overall promotion model related to human capital in Section 8.2.1 and social capital in Section 8.3.1, the findings derived from Table 79 show that social capital, public service seniority and academic majors yield similar promotional returns when demographic attributes, human capital and social capital enter the overall promotion model at the same time. However, when controlling for social capital, the effects of educational level change modestly. To be specific, with high school or below as a reference category, the significant and positive effect of receiving some college and a master's degree no longer exists whereas the influence of obtaining a doctorate becomes pronounced.

Table 80 illustrates the rank-specific promotion dynamics by considering the role of demographic attributes, human capital and social capital. According to Table 80, the career returns to human capital are persistently observed in political upward mobility across varying administrative ranks when social capital is incorporated to the promotion model and vice versa. This finding is consistent with the independent promotion analyses in Section 8.2.3 and 8.3.3. Furthermore, social capital and public service seniority contribute to political upward mobility across administrative ranks in a similar fashion. As compared to the rank-specific promotion dynamics in Section 8.2.3, two important points pertaining to how educational levels and academic majors affect political career success are worth noting here. On one hand, when demographic variables and social capital are controlled for, the way in which the attainment of educational qualifications leads to career rewards conspicuously changes for the promotions towards the deputy-division-head level, the deputy-bureau/director level and the provincial/ministerial level. On the other hand, the variable of academic majors exerts no significant effect in the rank-specific promotion models without social capital. By contrast, political officials majoring in science and engineering are more likely to get promoted towards the vice-provincial/ministerial level and the provincial/ministerial level than those trained in humanities and social sciences.

To summarize, Table 79 and Table 80 has captured both similarities and differences in how human capital and social capital are responsible for political career outcomes

after combining both capitals in the same promotion models. It is tempting to postulate the interaction of human capital and social capital in the promotion dynamics. This is one of the primary research directions that require further testing and sophisticated statistical analyses in the future, which will be summarized in Chapter 9.

Chapter 9 Conclusions

The central concern of this thesis is to explore the promotion dynamics and the role of human capital and social capital in political upward mobility for Chinese provincial leaders from 1990 to 2013. Chapter 2 has reviewed a substantial body of literature pertaining to how human capital and social capital contribute to status attainment and career mobility. On this basis, research gaps arise. There is a paucity of empirical studies that examine the effect of either capital on upward mobility for political elites, the changes in their occupational returns over different career stages, or the interrelationship between human capital and social capital. Given the space limitations, this thesis has closed the first two research gaps and left the third issue unresolved.

To satisfy such research purposes, this thesis has constructed a comprehensive Chinese provincial leadership dataset as explained in Chapter 3 with the detailed information on demographic attributes, educational backgrounds, political mobility processes and the timing of promotion event occurrences. The event-history analysis provides a methodological guide for generating rich quantitative data and developing promotion models. On one hand, the leadership dataset records the life histories of 1,260 provincial leaders from 1990 to 2013, including 33,557 observational records. This dataset is generally designed for the promotion analyses in Chapter 7 and 8. It contains the important information as to their career trajectories from the bottom to the top. It adequately shows the process of educational attainment, specific career experience and political upward mobility from the section-head level to the state-leader level in terms of both the event occurrences and their corresponding timing. On the other hand, to analyze the provincial leadership transformation from a longitudinal perspective, a leadership subset is derived from the above dataset. It differs from the overall dataset in two respects. In the first place, provincial leaders of interest in this thesis include party secretaries, governors, deputy party secretaries and vice governors. The possibility exists that individual provincial leaders obtain concurrent jobs or experience job

changes among the above-mentioned provincial leadership positions. In this sense, provincial leaders appear more than once in this subset. The number of provincial leaders accordingly increases to 1,891. In the second place, this subset merely focuses on the career experience as provincial party secretaries, governors, deputy party secretaries or vice governors. As a result, only 9,814 event-history entries are selected for describing the historical continuities and changes in the provincial leadership composition. This subset describes the specific occupational trajectories as provincial leaders and the educational experience during this period.

Based on the Chinese provincial leadership dataset, this thesis has presented an evolutionary picture of political elite transformation, namely the demographic characteristics in Chapter 4, human capital in Chapter 5 and social capital in Chapter 6. Chapter 7 has formulated the process of political upward mobility, showing the average age and the duration time at the prior rank at promotion along with the life tables of the promotion at each administrative rank. Chapter 8 has provided insights into the promotion dynamics by analyzing the independent effects of human capital and social capital on the upward mobility for the 1990-2013 provincial leaders. It has examined how the career rewards for either capital have changed across administrative ranks and how the promotion dynamics have evolved over time.

After overviewing the preceding chapters, the concluding chapter will revisit the research questions raised at the very beginning of this thesis and show how the robust findings in each chapter answer these questions. The important data analysis results shed light on the fundamental facts on Chinese provincial leadership. In this final chapter, they can be summarized into three principal points in Section 9.1: (1) The provincial leadership transformation is characterized by the alliance of technocrats and career bureaucrats; (2) provincial leaders are fast runners in the step-by-step upward mobility within the political hierarchy; and (3) the importance of human capital and social capital persists along the bottom-up occupational upgrading from the deputy-division-head level to the vice-state-leader level. This thesis will later conclude by discussing the contributions and limitations and suggesting the significant issues in the future research in Section 9.2.

9.1 Summary of Research Findings

This section summarizes the major findings in the previous chapters. It is primarily divided into three parts, namely the provincial leadership transformation from 1990 to 2013, the process of political upward mobility and the changes in the occupational returns to human capital and social capital. Each part begins by putting forth an important research question. The answers to all the three research questions can be integrated for the research purposes in this thesis, conducting a dynamic analysis of the elite formation of Chinese provincial leaders and their political upward mobility.

Research Question One

How has the provincial leadership composition evolved from 1990 to 2013 in terms of the demographic attributes along with the accumulation of human capital and social capital?

This research question has been addressed in Chapter 4, 5 and 6. For example, after studying the demographic characteristics of provincial leaders, Chapter 4 has observed the stable age structure of this leadership group under the impact of the gradually institutionalized elite recruitment and political mobility. The leadership selection at the provincial level is still far away from achieving gender equality or proportional representation of ethnic minorities and non-CCP members. There has been a pronounced reduction in native party leaders in provincial politics over time. Chapter 5 has shown the increasing educational level and the prevalence of the on-the-job educational advancement for provincial leaders from 1990 to 2013. In terms of academic disciplines, there has been a steady increase in provincial leaders trained in humanities and social sciences since 1990. Chapter 6 has presented the historical changes in the accumulated social capital and demonstrated a growing trend of the average network size and network diversity.

Based on all these empirical analyses in the foregoing chapters, the answer provided in this part will give an in-depth summary and take a closer look at the evolving patterns of leadership formation. In brief, the provincial leadership transformation exhibits two distinctive patterns. The first salient pattern is the coexistence of career bureaucrats and technocrats coupled with the emerging technocratic leadership in the 1990s. The second one is the rise of career bureaucrats from 2000 onwards.

In terms of the first pattern of leadership transformation, the proportions of career bureaucrats and technocrats in Chinese provincial politics has been presented in Chapter 5 by analyzing academic disciplines and career paths of provincial leaders. Although there were more career bureaucrats than technocrats in the first three years of the 1990s, the existing findings show the conspicuous emergence of the technocratic leadership during the period of 1993-1999. This technocratic leadership group in the 1990s shares similar educational and occupational experience. They were largely born during the period between 1940 and 1946 (64.50%) and completed the full-time courses for a bachelor's degree (89.72%). Most of them were admitted into universities before the outbreak of the CR, particularly from 1958 to 1965 (70.88%). They were largely trained in applied science in the full-time college education (87.63%). Their educational attainment is in accord with the extraordinary educational expansion and educational reforms in the 1950s and the early 1960s. As shown in Chapter 5, this period witnessed the educational restructuring starting from the early 1950s and the consequential mushrooming of the science- and technology-oriented universities. The nationwide enrollment in the specialty of science and engineering dramatically increased.

In the life transition from school to work, as college graduates, for the most part, the technocrats in the 1990s entered the labor force between 1962 and 1970 (78.30%). However, only 4.47% of them directly served in the party apparatus or the government bureaucracy after college graduation. In sharp contrast, an overwhelming majority of them were allocated to the SOEs as skilled workers or trained engineers. The average duration time in the SOEs is 16.15 years. Such career experience in the SOEs—for example, manufacturing, petrochemical industry and

coal mining--was consistent with their educational backgrounds. More importantly, the job allocation of college graduates was potentially rooted in the state redistributive institutions where the government administrations exercised rigid control over job assignments and resource mobilization. It assigned a highly trained labor force to the professional career lines for the national strategies of state building and industrialization from the 1950s through the mid 1960s.

The impact of the CR on the life chances of the technocrats in the 1990s, to a larger degree, lies in their career transitions from the SOEs to public service in the aftermath of the CR, rather than the interruption of educational advancement or political career stagnation during the course of the CR. After the CR, the CCP strove to restore the sociopolitical order. One of the daunting challenges facing the newly rehabilitated central leaders was to bring the fresh blood into the leadership organs after the downfall of “the Gang of Four” (siren bang, 四人帮). As a result, a widespread leadership selection and personnel reshuffling took place in the party and government systems at all levels. For political stability, industrialization and economic development, the CCP placed emphasis on both party loyalty and professional competency in screening viable candidates for management positions. However, considerable difficulties arose from this selection criteria of “red and expert”. Specifically, hundreds of old veteran cadres were purged and removed from the authority posts in the turbulent years of the CR. This resulted in thousands of job openings and a high demand for party loyalists in the political hierarchies. In addition, the shutdown of schools and colleges during the CR gave rise to a desperate shortage of well-educated professional experts.

In this context, engineers and managers working in the SOEs for decades became one of the major sources for political elite recruitment. On one hand, they were largely politically reliable because they passed the political screening before college entry. On the other hand, they received college education and remained attached to the professional career lines for years. Thus, they came to power and constituted the leadership group of engineers-turned-politicians or technocrats in Chinese politics.

For the technocrats in the 1990s, their lengthy tenure in the SOEs leads to the corresponding short seniority in public service, as mentioned in Chapter 5. Their average age upon the public service entry is 37.87 years. Given the relatively simple career trajectories in the SOEs and the public service, they possessed limited social capital from formal work connections. Chapter 6 has observed smaller network size and less diverse social ties for technocrats in the 1990s.

The emergent technocratic leadership in the 1990s was followed by a steady decline in the technocrats thereafter. The percentage of technocrats decreased from the peak value of 32.79% in 1996 to 7.85% in 2012 and 9.13% in 2013. By comparison, Chapter 5 has shown that the proportion of bureaucrats reached 31.37% in 2000, slowly climbed to 45.13% in 2010 and decreased to 37.32% in 2013. Along with the ups and downs of technocrats, the core feature of the leadership transformation since 2000 is the rise of career bureaucrats.

The career bureaucrats from 2000 and 2013 mostly came from the birth cohorts from 1950 to 1957 (57.35%). The life journey of this leadership group is strongly shaped by ten years of turmoil and madness in the CR era. Succinctly put, the CR directly affected the life chances of the bureaucrats since 2000 in the way of discontinuing their educational advancement and triggering their life transitions from school to work, and subsequently from work back to school. Most of them left school for work during the CR when schools and universities all over China were closed. They failed to attend universities or complete the full-time higher education as the technocrats in the 1990s did. Instead, they entered the workforce through working in the factories or on the farms, serving at the grassroots level, or engaging in the “send-down” campaigns over the course of the CR. Shortly after the CR, they continued education and took part in the college entrance examinations after working for several years. This ultimately resulted in a marked increase in the career bureaucrats enrolled in the full-time undergraduate courses in 1978. Meanwhile, the educational interruptions and temporary occupational experience during the CR led to a high proportion of the bureaucrats attending colleges beyond the normal age

for college admission. In terms of the specialty in the highest formal educational degree, career bureaucrats were likely to study literature/linguistics (23.60%), economics/finance (18.18%) and legal studies/political science (14.37%).

As to the career trajectories, 32.01% of the career bureaucrats from 2000 to 2013 preferred to serve in public service as a starting point of their careers or work as cadres once obtaining their highest formal educational degrees. This is strikingly different from the technocrats in the 1990s who were largely allocated to SOEs after completing formal schooling. The average age upon the public service entry for the bureaucrats since 2000 is 28.70 years, as compared to 37.87 years for the technocrats in the 1990. The relative early political career start possibly entailed a lengthy duration in public organizations as party workers or government administrators. Furthermore, as analyzed in Chapter 6, social networks of career bureaucrats since 2000 have increased and expanded modestly from the job transfers and career advancement step by step within the political hierarchies.

Research Question Two

How have provincial leaders from 1990 to 2013 advanced their careers step by step within the political hierarchies in terms of the average age and the average tenure at the previous rank at promotion?

Chapter 7 has provided a quantitative assessment of political upward mobility for provincial leaders from 1990 to 2013. The major empirical findings consist of the average age at promotion and the average duration time at the prior rank on one hand, and the life-table analysis of leadership upward mobility on the other. All these analyses have presented the supporting evidence and reached consistent conclusions about the process of political elite mobility.

First, provincial leaders are fast runners in political mobility competitions and they climb the political ladder faster at the lower administrative ranks than at the higher ranks. Chapter 7 has shown that the average age for provincial leaders grows with

the career progression from the section-head level to the state-leader level. It has further interpreted the results of the average age by comparing with the age of ineligibility for promotion. It is well observed that the age advantage seems to be more pronounced at the lower ranks than at the higher ranks. This observation is also supported by the empirical evidence of the average tenure and the median survival time across administrative ranks. Specifically, the duration time at the prior rank is longer at the upper levels than at the lower levels. Besides, the median survival time increases with the occupational upgrading from the deputy-division-head level to the provincial/ministerial level. This means that 50% of the provincial leaders successfully get promoted to the lower ranks more rapidly than to the upper ranks.

Second, in the course of political upward mobility, provincial leaders tend to wait longer before moving ahead to the full positions than to the deputy positions. The supporting evidence is derived from the average duration time at the prior rank and the cumulative promotion rates in the life table analysis. To be specific, Chapter 7 has reported a longer tenure at the deputy positions than at the full positions for the promotions below the vice-state-leader level. Furthermore, the life table analysis has estimated the time to promotion events at every rank. The promotion rate tends to be higher at the deputy positions than at the succeeding full positions in terms of the first-year promotion rate, the five-year and the ten-year cumulative promotion rates.

Another important finding in the life table analysis deserves mentioning here, namely the distinctive promotion pattern towards the provincial/ministerial level. As to the career advancement towards the ranks below the provincial/ministerial level, the cumulative promotion rates and the years with the most promotion events differ very slightly. Specifically, their five-year cumulative promotion rates are all more than 50% and their ten-year cumulative promotion rates are all more than 90%. It is at Year 2 that the most provincial leaders advance to the deputy-division-head level and the division-head level and at Year 3 to the deputy-bureau/director level, bureau/director level and the vice-provincial/ministerial level. However, the life table related to the promotion towards the provincial/ministerial level shows a

different picture. A large number of political leaders are inclined to stay at the vice-provincial/ministerial level for a far longer period before the next promotion. This is evidenced by two basic facts. One is that the first-year promotion rate is only 0.78% and the five-year cumulative promotion rate is only 15.98% for advancing to the provincial/ministerial level. The other is that there are the most provincial leaders successfully rising to the provincial/ministerial level as late as Year 10.

Research Question Three

To what extent and in what way have human capital and social capital affected political upward mobility and are they rewarded differently in the promotion dynamics across administrative ranks?

The promotion models in Chapter 8 have provided satisfactory answers to the above research question. The human capital analysis has focused on the roles of educational levels, academic majors and public service seniority in political upward mobility. The social capital analysis has given special attention to the impacts of network size, network diversity and upper reachability on leadership promotion outcomes. To begin with, this section restates the ongoing scholarly investigations pertaining to the role of education in the course of promotion and poses two important research issues in the current literature review. It draws insights from the promotion analyses in this thesis to answer these issues and enhance the understanding of how educational levels affect career upward mobility. Besides, this section further summarizes major findings drawn from Chapter 8 that strongly support that both human capital and social capital exert significant effects on upward mobility and yield discernible career rewards for provincial leaders from 1990 to 2013. Furthermore, there are modest differences in the way in which human capital is rewarded in the promotion dynamics across administrative ranks. Despite the variations in the effect size, for the most part, social capital affects upward mobility across administrative ranks in a similar way.

The literature review in Chapter 2 has highlighted the controversy surrounding the occupational returns to education. It has raised two critical issues concerning the way in which education affects promotion. One is whether education functions primarily as a screening or filtering device in leadership selection or whether the significant effect of education on promotion persists over different career stages (Bills, 2003: 445-448; Hurley and Sonnenfeld, 1998: 174-175; Kerckhoff, Raudenbush and Glennie, 2001: 2; Sheridan, Slocum, Jr., and Buda, 1997: 374). The other is concerned with the possibility that different educational levels produce different promotion probabilities. It asks whether higher educational levels necessarily lead to better career rewards than lower educational levels. To put it differently, the second issue is also interested in whether there exists a baseline educational qualification in Chinese leadership selection. If this were true, the underlying reasoning is twofold. On one hand, the political officials with the baseline educational degree are more likely to move ahead than those without this degree. On the other hand, once the educational degree reaches this baseline, the further pursuit of higher educational degrees makes little difference in the promotion outcomes.

In answering the first issue, the findings from the rank-specific promotion models in Chapter 8 have contradicted the assumption that education merely functions as a gatekeeper with an attenuating effect on career development after organizational entry. Rather, education is significantly linked to the promotion across administrative ranks from the deputy-division-head level to the vice-state-leader level. At each rank, the observable variations in the promotion rates are found between political officials with higher education and those with high school or below. To be specific, as a whole, higher education yields a favorable effect on leadership upward mobility at most administrative ranks. The sole exception is the promotion towards the provincial/ministerial level where higher education functions as a hindrance to career development. That is to say, as compared to high school or below, the attainment of a bachelor's degree or a master's degree decreases the promotion chance towards the provincial/ministerial level. To a large degree, this

finding is consistent with Bo's observation (2002) on the negative correlation of college education and upward mobility for provincial leaders from 1949 to 1998¹²⁰.

Bo (2002: 115-117) provides the possible explanations for the above observation from the opportunity-cost theory and the preferences between generalists and specialists for the provincial leadership. As Bo points out (2002: 117), "as they had devoted their time and energy in their specialties, these provincial leaders might have lost opportunities to familiarize themselves with the local conditions of their provinces and with the operations of the bureaucratic systems". In addition, provincial leaders without higher education tend to have an early career start, perform a wide variety of jobs, get acquainted with the functioning of political parties and government administrations, and eventually turn into generalists with general knowledge and diverse work experience. On the contrary, college graduates are largely specialized in knowledge and skills in terms of their academic training. Given the multifaceted leadership roles like party secretaries and governors as well as the multitasking jobs of governing vast administrative units like provinces, generalists are more favored than specialists in provincial politics (Bo, 2002: 115-117). Thus, it is possible that provincial leaders with high school or below only are better matched to working as party secretaries or provincial governors and positioned advantageously in political upward mobility as compared to those with higher education. Although the above explanations are convincing, it still remains to be seen why the negative effect of education exists in the promotion towards the provincial/ministerial level while the reverse is true for advancing to the other ranks.

¹²⁰ This thesis defines upward mobility as the movement from a lower administrative rank to a higher rank. However, along with the rank upgrading, the upward mobility in Bo's study (2002) also includes the movement from a lower position to a higher position, such as job changes from the position of provincial governor to party secretary, from vice governor to standing members, and from standing members to deputy secretary. Bo (2002) evaluates the influence of education by simply dividing educational levels into college education and high school or below. In this thesis, education consists of five different educational levels, namely high school or below, some college, a bachelor's degree, a master's degree and a doctorate. Despite the distinctions of measuring education and upward mobility, it is informative and meaningful to compare the finding of Bo's study and the data analysis results in this thesis.

To summarize the above highlights, after overviewing the role of education in the rank-specific promotion dynamics, it is reasonable to conclude that the notable effects of education on leadership promotion persist with the occupational upgrading from the lower ranks to the higher ones.

After demonstrating the enduring impacts of education on promotions across administrative ranks, as noted previously, the second issue is related to whether an increase in educational levels is positively correlated to an increase in promotion rates. The answers to this issue should be understood cautiously in two respects. On one hand, the findings in Chapter 8 suggest that, with the same reference group (i.e., either high school or below, or some college), the investment of higher educational degrees does not necessarily result in higher promotion rates. For example, as to the promotion towards the deputy-division-head level, the attainment of some college or a master's degree is better rewarded in political upward mobility than high school or below. However, earning a bachelor's degree or a doctorate confers no career advantage over receiving the educational level of high school or below.

On the other hand, it is only for the promotion towards the vice-state-leader level that higher educational levels induce higher promotion chances. As shown in Chapter 8, relative to high school or below, provincial leaders are 3.33 times more likely to get ahead for having a bachelor's degree, 4.01 times for a master's degree and 4.72 times for a doctorate. In this regard, as compared to high school or below, despite no significant promotional return to some college, the effect size still increases in an ascending order of a bachelor's degree, a master's degree and a doctorate. Besides, the analyses of promotions towards the middle ranks lend partial support to this observation. For example, as to the promotions towards the deputy-bureau/director level and the bureau/director level, with high school or below as the reference group, receiving some college yields a higher promotion probability than earning a bachelor's degree. However, what should be stressed is that the attainment of a master's degree leads to a higher promotion probability than having some college or a bachelor's degree. Obtaining a doctorate, in turn, results in a

higher promotion chance than having a master's degree. For career advancement towards the vice-provincial/ministerial level, despite no variation in the promotion outcome between having some college and receiving a bachelor's degree, as compared to some college, earning a doctorate, to a larger extent, affects upward mobility in the positive direction than having a master's degree.

To conclude, the above summary about the role of educational levels in the promotion dynamics of Chinese provincial leaders has revisited the research issues posed in the current literature review. It has given empirical confirmation to the career returns to different educational degrees. Along with educational levels, Chapter 8 has pointed out the negligible distinction in the promotion opportunity between political officials trained in science and engineering and those majoring in humanities and social sciences. As the third criterion of human capital, public service seniority in the rank-specific promotion models seems to be a significantly negative predictor of upward mobility towards both the lower and middle ranks.

Alongside the importance of human capital, the promotion analyses in Chapter 8 have emphasized the contribution of social capital, which could be summarized into three essential points. First, social capital functions as a robust predictor of upward mobility in both the overall promotion model and the rank-specific promotion dynamics. Stated concretely, network size is positively associated with promotions across most administrative ranks excluding the vice-provincial/ministerial level. Besides, upper reachability is a powerful determinant of career advancement towards the lower and middle ranks. The accessibility of work contacts at the higher ranks effectively facilitates career advancement.

Second, for advancing to the lower and middle ranks, social capital, in the form of network size or upper reachability, exerts more favorable effects on deputy positions than the succeeding full positions. For example, for every one-point increase in both network size and the highest rank accessible, the likelihood of being promoted towards the deputy-division-head level increases more rapidly than towards the division-head level. Likewise, political officials benefit more from every additional

point on network size or upper reachability in the upward mobility towards the deputy-bureau/director level than towards the bureau/director level.

Finally, the significant impact of network diversity is limited to the promotion towards the deputy-bureau/director level. Surprisingly, diverse social networks tend to hinder the career progression towards this rank, showing that job changes across varying career lines reduce the promotion rate. The finding as to the determinants of the upward mobility towards the deputy-bureau/director level is revealing. This implies that the effective way to improve the promotion rate towards this rank is to expand social networks by changing localities and jobs, to develop work connections with the high-status superiors or to restrict network diversity by changing jobs within a limited number of career lines.

9.2 Concluding Remarks and Future Research

The summary of the political elite study and the promotion analyses in this thesis leads to two far-reaching conclusions: (1) the individual life chances are significantly affected by the accumulation of personal resources, such as human capital and social capital; and (2) the individual life chances are vulnerable to the macro-sociopolitical transformation, particularly the state policy shifts. In terms of the former, the supporting evidence largely comes from the promotion analyses in Chapter 8. Human capital exclusively focuses on education and public service seniority. Social capital in this thesis refers to network characteristics, including network size, network diversity and upper reachability. In terms of the latter, the previous chapters have interpreted the data analysis results by considering the introduction of the specific institutional arrangements or the initiation of the major historical events. For example, the historical evolutions of the provincial leadership composition stem from the institutionalization of leadership selection and promotion since the 1990s, such as the regulations on age limits, educational requirements and cadre exchanges. The changes in the educational opportunities virtually depend upon the outbreak of the CR or the centralized educational

restructuring and expansions for state-building, industrial and economic development. The individual decisions on educational advancement are partly affected by the growing emphasis on higher education in political mobility competitions.

After presenting the major findings, the following paragraphs turn to the contributions and limitations of this thesis as well as the future research directions. The contributions of this thesis are apparent. First, this thesis has traced the leadership generational changes since the reform era, which helps to analyze socioeconomic and macropolitical transformation in a broader framework of the party-state of China (Li, 2000: 37). It has delineated the demographic trends in provincial leadership that permits historical comparisons after the founding of the P.R.C. As noted in Chapter 1, this thesis has revealed who climbs to the top of hierarchy and how they are selected behind the scenes. More importantly, it has filled the research gaps regarding the lack of empirical studies on how human capital and social capital affect promotion for political leaders and how these promotion dynamics change over different career stages. It has extended the understanding of political upward mobility by taking rigorous insight into the promotion dynamics processes and analyzing how promotion dynamics differ by administrative ranks and by historical periods. In the existing literature on Chinese elite mobility, the standard solution for the rank-specific promotion analyses is to collect the career data for varying groups of political officials at the national, provincial, municipal or county-level and focus on a single career interval for each political official while occupying the related position at the specific administrative rank under study (Landry, Lu & Duan, 2015). This thesis, to the best of knowledge, has produced the first promotion analysis from a dynamic perspective where the promotion models at different administrative ranks draw from the full upward trajectories for individual provincial leaders. It has examined how provincial leaders get ahead from a relatively low hierarchical level upon their entry into the political hierarchy. Such promotion analyses have revealed the changes in leadership selection criteria in Chinese politics. From another perspective, they have practical implications for political officials in China regarding how to design their career plans and how to invest their limited

resources (e.g., time, energy and money) in educational credentials and social networks.

Second, it has sharpened the understanding of the operationalization of human capital and social capital in the promotion analyses in the Chinese context. The human capital analysis in this thesis contributes to the understanding of educational histories for provincial leaders by presenting the processes of educational advancement on both full-time and part-time bases. More importantly, this is the first empirical study to evaluate social capital for Chinese provincial leaders from a networking perspective. As noted at the very beginning of this thesis, the measurement of social capital here has broken away from the traditional assessment embedded in factional politics and interpersonal relationships that emphasize family connections and social contacts with superior leaders by sharing the same birthplace, college or work unit. Instead, social capital arising from formal work contacts in this thesis takes the form of network resources accessible and is measured by three network characteristics of network size, network diversity and upper reachability. In this way, social capital is closely related to career trajectories in a broader framework as opposed to family or social ties to top leaders. Thus, this thesis has presented a useful angle to examine social capital and its role in political elite mobility in China.

Third, one of the substantial contributions of this thesis is to develop the most updated and comprehensive Chinese provincial leadership dataset with a vast abundance of person-year observations for Chinese elite studies. This dataset incorporates the leadership biographic information, educational histories and career trajectories for party secretaries, provincial governors, deputy party secretaries and vice governors from 1990 to 2013. Based on the statistical technique of event history analysis, this dataset comprises both the events of interest from a life course perspective and the corresponding timing of the event occurrences. For example, it has recorded the educational levels and academic majors for provincial leaders along with the year in which the educational degrees were awarded. Or it has traced the paths to the top in the political hierarchy for individual provincial leaders and the

year in which the promotion occurred towards a given administrative rank. Thus, this dataset allows a closer look at the provincial leadership transformation, the political upward mobility processes and the promotion dynamics. Building upon this dataset, the data analysis results can be interpreted from a historical point of view. In addition to the leadership dataset, this thesis has advanced the methodological approaches in the empirical studies of political mobility by adopting generalized estimating equations (GEE) and event history analysis (Bian, Shu & Logan, 2001; Huang, 2009; Li & Walder, 2001; Lin, 2013; Zhang, 2014; Zhao & Zhou, 2004; Zhou, 2001, 2004)¹²¹.

Finally, this thesis has not only performed a dynamic analysis of political upward mobility across administrative ranks, but also undertaken a comparative study of the rank-specific promotion dynamics over time. It has contributed to the understanding of how human capital and social capital affect promotion within a broader framework of historical changes and persistence. For example, the role of educational levels in the political career advancement before the Jiang period is distinct from that during the Jiang period. Meanwhile, social capital yields a similar effect on the promotion dynamics before and under Jiang.

Despite the above contributions, this thesis has several limitations. For example, the data analysis results drawn from this thesis should be cautiously generalized to a broader population. They are based on the biographic data of provincial leaders from 1990 to 2013. The promotion analyses aim at analyzing how this specific leadership group moves from the lower hierarchical levels to the higher levels. Therefore, the promotion model towards a given administrative rank reveals how provincial leaders got ahead towards this rank when they stayed at the lower level and were eligible for this promotion. The existing findings derived from the promotion models specifically for provincial leaders may be applied to central leaders who share the similar political movement below the vice-state-leader level

¹²¹ As explained in Chapter 3 and Chapter 8, GEE is exploited to develop the overall promotion model and the event history analysis is adopted for the rank-specific promotion models and the historical comparisons of these models.

and also obtain the leading posts at the vice-provincial/ministerial level and the provincial/ministerial level. Nevertheless, these findings do not in any case show how cadres at the lower level advance to this administrative rank in the mobility competition. As to the general cadres, it remains to be seen whether they could climb to the upper levels as high as the vice-provincial/ministerial level or the provincial/ministerial level. A number of them possibly stay at the lower ranks when they retire from the public service. Attempts to generalize the current promotion models of a restricted sample to a larger population must be very cautious. In addition, in developing the promotion models related to either human capital or social capital, the problem of multicollinearity arises when the independent variables are correlated. This thesis has not diagnosed this possible problem. Further research will be required to improve the model fit and the validity of statistical inferences.

This thesis points the way towards new research directions for future empirical studies of political elite mobility. Above all, after analyzing the promotion dynamics in Chinese elite politics, a fundamental question arises from the current findings—Are the promotion dynamics related to human capital and social capital universal or specific to Chinese political systems? This suggests the value of more research into the comparative study of promotion patterns and dynamics between the one-party-state of China and the other countries or societies.

As stressed at the beginning of this final chapter, there still remains a profound gap in knowledge in the current literature. More research attention should be directed towards how human capital and social capital interrelate in the promotion dynamics in the future. In addition, a mixed promotion model will be proposed to study the possible effects of human capital, social capital and economic performance. This will provide more plausible causal inferences and make contacts with the causal models in the current literature on Chinese elite mobility (Choi, 2012; Jia, Kudamatsu & Seim, 2015; Lin, 2012; Shih, Adolph & Liu, 2012; Zhang, 2014).

Besides, future research will draw on more refined measurements of predictor variables. For example, the effect of education can be assessed through identifying

the way in which the educational degrees are awarded. In this regard, future research will distinguish the full-time education from the on-the-job education, the education received in party schools from that in non-party schools, the education received in the elite universities from that in the ordinary universities. In terms of the career rewards for human capital, future research will go a step further to evaluate the effect of the distinctive career experience, such as working in the CCYL, the organization departments, propaganda departments, SOEs and universities. In terms of social capital, future research will further examine whether there are different career returns to different kinds of social ties and social networks (Zhang, 2014). Along with three network-related measures in this thesis, the effects of social capital on promotion will be compared on such indicators of princeling status, and social ties arising from the past joint experience in birthplaces, educational institutions and workplaces (Choi, 2012; Feng, 2010; Li & Pye, 1992; Lin, 2012; Shih, Adolph & Liu, 2012; Tanner & Feder, 1993; Zeng, 2013; Zhang, 2014).

Regarding whether the promotion models in this thesis are universal, more reliable assessments and insightful comparisons are to be called for from future researchers. For example, one of the primary research concerns in the future is to incorporate more political leaders in the current leadership dataset, such as vice ministers, ministers, vice chairman of PPC and Provincial CPPCC as well as the central leaders at the vice-state leader or above. Alongside the comparison of the promotion models in the political sphere, the promotion dynamics for political leaders could be further compared against those in the SOEs. Considering how to place the promotion analyses in a broader context of Chinese politics, further insights will be gained into the legitimacy in the Chinese party-state, the party-state and the individual life chances, the historical evolutions of the leadership selection criteria, the rise of the meritocratic bureaucracy and the large-scale institutional transformation throughout the political history of the P.R.C. To answer all these interesting research questions, future studies will rely on the multiple sources of evidence in both quantitative and qualitative studies.

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