Networks versus Performance:

Political Leadership Promotion in China

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Abstract:

This paper explores promotion patterns of China's provincial leadership. Building on the strong organizational need for commitment, consensus-building and reliable vertical information flows within China's corrupted M-form state structure we show that network-based promotion plays a crucial role in leadership recruitment. Our empirical evidence is based on provincial leadership data covering 1101 observations for the period from 1985 to 2005.

1 INTRODUCTION

China's economic success over the last three decades is to a large extent ascribed to good political leadership. Whether characterized as a helping-hand-state (Frye and Shleifer 1997) or corporatist state (Walder 1995; Oi 1992; Peng 2001), general assessments converge that China's leadership and governance was key to economic performance. Naturally elite politics and patterns of political leadership recruitment received widespread attention in the political, sociological and economic literature. Quantitative research on recruitment patterns and determinants of leadership careers, however, is still at an early stage.

Economic contributions have mainly applied an organizational perspective (Li and Zhou 2005; Chen et al. 2005) building on China's federalist, multidivisional state structure (M-form state) (Qian and Xu 1993; Qian et al. 1999). The argument is that M-form state structures provide organizational conditions which allow central governments to treat local jurisdictions as independent profit-centres comparable to divisional units within a multidivisional firm (Chandler 1962; Williamson 1975). This in turn, invites local yardstick competition not dissimilar from managerial profit incentives (Maskin et al 2000) and facilitates performance based leadership-selection.

Empirical evidence for the "performance hypothesis" of leadership turnover, however, remains inconclusive. Li and Zhou (2005) provide evidence emphasizing a direct connection between local economic growth and individual career chances of provincial leaders. Based on a sample of provincial governors and party secretaries, they find a positive correlation between promotion probabilities and economic performance in the period between 1979 and 1995. Similarly Chen et al. (2005) confirm higher promotion probabilities for those provincial leaders who outperform their predecessors (1979-2002). In contrast, Bo (1996) found no evidence of performance related promotion patterns for a broader sample including vice governors and deputy party secretaries covering the period from 1949 to 1994. Similarly

Landry (2003) rejected the "performance-hypothesis" based on an extensive study including sub-provincial level jurisdictions covering the period between 1990 and 2000.

None of these earlier studies, however, has controlled for alternative explanations of leadership careers. We offer a refined perspective on the inner mechanics of China's M-form state structure and emerging leadership patterns which undermines the feasibility of performance driven leadership promotion. Our main argument is that the "economic performance hypothesis" implicitly assumes the existence of a pure M-form structure where provinces, similar to organizational subdivisions, enjoy full autonomy in their strategic decision making (Williamson 1975, Williamson 1978). Federalist state structures such as China's political system, however, rather resemble corrupted M-form organizations, where subdivisions enjoy only limited autonomy. Embedded in a broader strategic national framework, they are subject to central-local coordination and routine interference. In such an organizational set-up, economic performance cannot provide an effective tool for monitoring and supervision. In contrast, the need for vertical coordination between subdivisions and centre calls for interpersonal trust and cooperation to secure internal organizational coherence, commitment and order. As a derivation we maintain, that leadership promotion in corrupted M-form structures is determined by personalized relations, which serve as ex-ante screening devices of individual trust and future cooperative behaviour.

The remainder of the paper is organized as follows. The next section reassesses China's M-form state and derives our core hypothesis on leadership recruitment. We then present our empirical data and model specification. The following section summarizes the results and provides sensitivity tests.

2 CHINA'S M-FORM STATE RECONSIDERED

China's M-form state structure is accounted for as one of the key organizational explanations for China's outstanding economic performance over the last decades (Qian,

Montinola et al. 1995; Qian et al. 1999, 2000). The idea builds on organizational studies, which point to information advantages within M-form structures. Self-contained sub-divisions allow a separation of strategic and tactical planning (Chandler 1962; Williamson 1975). Executives at the central level focus on strategic long-term planning, while self-contained sub-divisions are in charge of local operational tasks. In state structures, the M-form organization enables the central government to focus on national strategy planning and overall economic reform development (Perkins 1988), while lower level jurisdictions engage in local coordination and experiments. Costly, often slow and faulty information exchange between central and local administrative units is thereby reduced (Qian et al 1999, 2006).

While we readily acknowledge positive economic performance effects triggered by inter jurisdictional yardstick competition and reduced information costs, we conjecture that economic performance does not necessarily emerge as the decisive determinant of higher level leadership promotion. In analogy to the M-form debate in the organizational science literature, a more fine-grained account of China's M-form structure is needed to better understand promotion patterns within party and government institutions.

It is generally accepted that performance based leadership monitoring and promotion schemes in M-form structures, rest on the prerequisite, that subdivisions can actually be held accountable for their divisional performance (Williamson 1975; Jones and Hill 1988; Hill 1988). Whenever subdivisional autonomy is limited, the idea of freely competing profit centers is no longer applicable. Vertical coordination on strategic issues and maximization under side-conditions undermine the effectiveness of internal capital markets.¹ Such headquarter interference and active guidance of divisional strategies and operational decisions is particularly common when markets are uncertain and undergo rapid change (Raynor and Bower 2001).

¹ Even General Motors, one of Chandler's seminal case studies, could hardly be regarded as a pure M-form. Instead GM relied on diverse means of vertical communication and participatory means to strengthen internal order and commitment (Freeland 1996).

Similarly, provinces in China's highly dynamic transitory economy do not enjoy full strategic and operational autonomy. Reliable vertical communication and coordination with provincial leaders are key to receive quality information needed to solve, for instance, strategic issues regarding distributional conflicts over access to material resources and benefits. A strong local support base also helps to reformulate policy priorities and to implement sudden reversals and alterations of national policy lines (Li 2006b). Undoubtedly, the fiscal decentralization policy of the 1980s - introduced as a tool to induce interprovincial competition and improve interest alignment of provincial leaders - led to the encompassing restructuring of the national budget. Currently, there is a near-even split of tax revenues, with 46% of tax revenues accruing to local governments, and 54% to the central government (National Bureau of Statistics 2006). Sharing of financial autonomy and delegation of tax collection power to lower-level jurisdictions, however, did not involve a critical loss of central political control. Concerned about a potential erosion of central power (Goodman 1992; Oi 1992; Shirk 1990; Solinger 1996; Walder 1995) the central leadership retained effective control mechanisms to secure consensus building and interprovincial balance of local interests.

In spite of, or even *because of* increasing financial autonomy, provincial leaders are subject to routine monitoring and central supervision in order to detect potential preference divergence between central and provincial leaders at an early stage. Following this rational central authorities sanction excessive local autonomy and localist tendencies of provinces which seek to maintain high economic growth at the expense of neighbouring provinces (Chen 1995; Nee 1992). The implementation of protectionist measures provides a typical and well documented example of such localist tendencies (Young 2000; Poncet 2003). Central government reactions range from arbitrary interference and consultations with respective leaders to personnel consequences. Most prominent is the removal of Guangdong's governor Ye Xuanping in 1991, after repeated conflicts with the central government and open resistance against the Central Government's plan to recentralize financial authority (Vogel

1989; Shirk 1993:194).² More recent incidents document the central government's ability to also reach into operational decisions of lower level administrations. In Dashu Village (Sichuan province), for example, the Central government sacked a number of local officials when villagers rioted over plans to build a dam (AsiaNews 2004).³

Not only ad-hoc interventions by superior government units are common. Many of China's economic policy regulations grant only conditional decision-making rights to subordinate government levels. Key economic projects remain under the authority and approval rights of central government bureaus. Examples of limitations of local operational and budgetary autonomy are abundant:

While foreign direct investment (FDI)-contracts in general fall into the local responsibility, the central government maintains approval rights for FDIs exceeding a certain investment volume. County level cities may approve projects up to USD 5 million, prefecture level cities up to USD 10 million and sub-provincial level cities as well as centrally administered cities up to USD 30 million (He 2006). Similarly, the central government intervenes in investment decisions on the lower administrative levels to regulate China's growth performance. Since August 2006, local governments are required to re-examine new capital construction projects exceeding RMB 100 billion to ensure that projects strictly adhere to all standards and criteria as stipulated by respective central government decrees (World Bank 2006).

Also China's regional policy initiatives are not attributable to local initiatives. The strategy to implement special economic zones as laboratories for new and liberal reform policies was envisioned and designed by the central authorities, which remained in charge of regulation, extension policies and monitoring. Provinces were only entrusted with the

Other examples include the removal of Chen Xitong, former party secretary of Beijing and main rival of Jiang Zemin in the mid 1990s, on charges of embezzlement. More recently Chen Liangyu, CCP Secretary of Shanghai, was dismissed in September 2006 to rein in provincial governments that fail to implement national policy (Economist 2007).

³ Similarly the central government interfered, when the municipal government of Jixi City (Heilongjiang province) delayed wage payments for migrant workers over years (Li 2006a).

implementation and operational tasks (Cai and Treisman 2006). Similarly, the central government continues to intervene in the development of industrial zones. In 2004, for instance, the national Ministry of Land and Resources suspended the approval of new industrial parks and closed down more than 2 500 local economic development zones (China Daily 2004). Also the national State Environmental Protection Administration reaches down to subnational jurisdictions to monitor the implementation of national standards. In 2006 for instance, a survey of overall 1981 industrial parks led to the closure of 3100 firms which were not in line with national environmental standards (People's Daily 2007).

Limitations of operational and budgetary authority evidently undermine the effectiveness of performance based evaluations as performance is not fully attributable to provincial-level decisions. Furthermore, different from corporations, governments typically pursue diversified portfolios of distinct economic, social and security goals, which need to be balanced in line with current priorities and expected utilities. Short-term conflicts between economic, environmental and social objectives for instance simply rule out performancebased yardstick competition. Instead it is in the state's interest to pursue a balanced portfolio of multiple state objectives. Incentive schemes for provincial leaders therefore diverge from single-task cadres such as ministers due to the complexity of the leadership tasks (Huang 2001). The weight of economic performance as a factor for a provincial leader's political mobility may even vary geographically and over time. The official stipulations regarding leadership assessments remain indeed vague with respect to the distinct measures and relative weights economic achievements should have within overall promotion assessments. The Rules on Cadre Assignments (1991) merely state that officials shall promote the development of the national economy; in addition, Detailed Rules for the Cadre Management suggest efficiency increasing innovations as critical achievements. Rewards, however, include material bonus payments and do not necessarily lead to promotions.

The question remains, how to secure cooperative action to guarantee consummate instead of only perfunctory implementation of organizational goals (Williamson 1975, 1985), if performance based promotion is not feasible or even counterproductive to promote interest alignment between central and local leaders? How can central leaders be sure to secure full support, loyalty and the willingness to cooperate? Formal monitoring systems such as China's nomenklatura system and the party's *Central Discipline Inspection Commission* or the *Ministry of Supervision and General Auditing Administration* provide effective instruments for formal leadership-monitoring, but they only control and sanction abuse of office and other forms of illegal behaviour (Huang 2002). They are not effective in promoting cooperative behaviour within the general boundaries of rule compliance.

The lack of effective ex-post monitoring devices – either financial or bureaucratic naturally brings ex-ante screening of potential candidates to the forefront. Since central leaders, i.e. the politburo as China's supreme decision-making body, are particularly interested in the promotion of candidates with hard to observe "soft" qualities, such as loyalty and commitment, information asymmetries in standard recruitment procedures are critical. In such situations, network-based references and personalized exchange offer information advantages. We therefore hypothesize:

H1: Promotion chances of provincial leaders in China's corrupted M-form state structure depend on the availability of network-based screening.

Network based recruitment into diverse types of organizations has long received broad attention in the sociological literature (Booth and Babchuk 1973; Stark and Bainbridge 1980; Snow et al. 1980 and Granovetter 1974). While in this literature, the network's ability to disperse information about the organization (and thereby recruit new members) was crucial (Liedka 1991), our argument focuses on the network's ability to provide insiders of the organization (here the central government leadership) with information about individual

candidates. In this sense, the joint network of candidates and organizational leaders serves as a reference system soliciting potential allies. In this set-up, it is not a prerequisite that central leaders and promotion candidate know each other in person. The crucial point is that they are members of the same network, so that network members can serve as trusted references.

Case studies of *corrupted M-forms* or *cooperative organizations* with related diversification (Porter 1985; Hill et al 1992), where divisions are not competing freely and central units still coordinate sub-divisional activities, and monitor the sharing of resources confirm that firm managers resort to personalized recruitment, if effective ex-post monitoring devices are largely absent or prove to be ineffective. Fee and Hadlock (2003), for instance, show that management turnover of non-CEOs within M-form hierarchies in large firms is closely related to the career of their CEOs.

Similarly, China's leaders rely on a long - and possibly culturally shaped - tradition of *guanxi*-based recruitment to secure individual commitment and organizational consent (Fewsmith 1996; 2001; Dittmer 1995; Dittmer and Wu 1995; Guo 2001). This applies particularly to provincial and central leadership positions. Within China's five-level administrative hierarchy, it is the provincial leadership which serves as the central mechanism transmitting central orders down to the local grass-roots level. Moreover, provincial governors and party secretaries enjoy rich personnel authority as they are in charge of appointing mayors of small and medium-sized cities (Li and Bachman 1989). With overall 31 provincial leaders (in the position of party secretaries and provincial governors) which connects the central leadership with the local level. It is obvious, that the inherent information asymmetries along these vertical ties, can cause wide-ranging economic, social and political frictions, which might eventually affect overall political stability.

Cursory evidence supports our hypothesis that central leaders use relational promotions as an ex-ante screening mechanism. Jiang Zemin, for instance, bluntly pointed out that he

promoted his close protégée Zhang Dejiang to the position of Guangdong's provincial Party secretary to eventually prevent further localism in Guangdong (Li 2006a). Also, the reshuffling of provincial leadership positions after the nomination of a new central leadership illustrates that central leaders wish to lift local allies into provincial and central leadership positions.

3 DATA AND MODEL

To move beyond a cursory analysis providing essentially anecdotal evidence on relational leadership recruitment, we have constructed a political leadership database covering China's provincial governors and provincial party secretaries for the period from 1987 to 2005. We chose the year 1987 as a starting point, as the 13th Party Congress in 1987 marks a crucial stage of elite conflict between reformers and political conservatives with significant impact on central-provincial relations (Oksenberg 1987). As a response to political power struggles at the central level and between the central and provincial governments, the 13th Party Congress promoted both local economic autonomy as well as vertical relational ties between central and provincial leaders and thereby shaped the organizational features of China's current state structure (You 1990; Breslin 1996:105).

Biographical information was retrieved from several publicly accessible sources including the internet services *China Vitae*, the *China Leader Database* (Center for China Studies; National Chengchi University in Taiwan), and individual biographies. Wherever possible, we have validated information with at least two independent sources. Excluding leaders who left their position due to health reasons or death, the dataset includes 1101 valid leader-year observations and 212 provincial leaders. Leaders, who have held multiple positions during the observation period (i.e. lateral moves from one province to another; promotion from governor to party secretary) are treated as different persons once they have started their new position, as the most recent change has already reflected past performance and future promotion chances. Complementary data on provincial economic performance is from *China Data Online*.

Model Specification

Our model tests for the impact of personal ties as an ex-ante screening mechanism on leadership promotion. For purpose of comparison, we follow earlier model-specifications as closely as possibly (Li and Zhou 2005, Chen et al. 2005, Zhi 2006). Different from previous work, however, we apply a binary choice model accounting for promotion vs. no-promotion instead of an ordered probit model with the outcomes demotion/termination – same level – promotion.⁴

Consider a member of the standing committee of the politburo choosing between support or no-support regarding the promotion of a provincial leader, labelled "1" or "0". Suppose that the utility a politburo member derives from these two alternatives are given by:

$$U_1 = X_{ii}\beta_1 + \varepsilon_1$$
 and $U_0 = X_{ii}\beta_0 + \varepsilon_0$

where, *i* denotes each provincial leader and *j* indicates individual provinces. \mathbf{X}_{ij} is a set of variables covering dimensions of personal ties, measures of provincial economic performance, and a set of personal credentials. β is a vector of coefficients and ε constitutes the standard normal distributed residuals. The net utility from choosing promotion rather than nopromotion is given by $U_1 - U_0 = X(\beta_1 - \beta_0) + (\varepsilon_1 - \varepsilon_0)$. A politburo member is likely to support a promotion if the quantity of alternative "1" is positive and option "0" otherwise; that is

⁴ The reason is that for our sample period, it is implausible to assume that termination/demotion and promotion are outcomes of the same linear function. Li and Zhou (2005) account for the fact that there are almost no 'real' demotions in considering also retirement as a form of punishment for non-performing provincial leaders. The average number of governors and party secretaries exceeding the age of 65 decreases, however, constantly from the 13th to the 15th party congress from 2.3 to 1.3 and 0.5 respectively, which reflects an increasingly stricter implementation of the retirement scheme. Thus the enforcement of the retirement age of 65 is an outcome of institutional restrictions rather than of the systematically decreasing performance of older provincial leaders.

 $\Pr(U_1 - U_0) = \Pr(X(\beta_1 - \beta_0) < (\varepsilon_1 - \varepsilon_0))$. Dividing by the standard deviation of the difference in unobservables and assuming a standard normal distribution of the difference in unobservable components divided by its standard deviation yields our probit model:

$$\Pr(U_1 > U_0) = \Phi((X(\beta_1 - \beta_0) / \sigma_{\varepsilon_1 - \varepsilon_0}).$$

In contrast to earlier studies, time and regional characteristics are controlled. Time is important as shifts in provincial leadership are related to changes in the standing committee of the politbureau as the highest decision-making committee. Figure 1 illustrates the cyclical development of leadership turnovers and the close linkage with China's five-year plan cycles.

Insert figure 1 about here

In addition, the stratified nature of the sample calls for caution not to overlook confounding regional effects. In general, it is not unlikely that leadership types and promotion chances are locally more similar than across China. On the one hand certain skills and on-thejob experience may be regionally correlated. For instance, leadership qualities in impoverished laid-back regions differ markedly from those needed in the more advanced and globally integrated coastal areas. On the other hand, central government leaders may favour distinct localities as recruitment pools. Costal regions, for instance, seem eager to support proeconomic-growth reformers within the central government while the poorer hinterland regions allied with conservatives that opted for a primacy on central control of finances (Breslin 1996: 91). Statistical tests confirm that upward mobility of leaders varies across regional clusters. While leaders in the highly developed eastern and northern coastal areas enjoy clear advantages, governors and party secretaries in the laid back southwestern and northcentral regions have the weakest promotion chances (see figure 2). To capture such intraregional correlations we estimate robust standard errors clustered on regions. For this purpose, we divided all provinces into eight regions.⁵ We use the robust estimator of variance (Huber 1967; White 1980) to relax the assumption of independence of the observations; that is we assume that observations are independent across regions, but not necessarily within regions. Formally our robust estimator of variance is

$$\hat{V} = \hat{V}(\sum_{k=1}^{M} u_k^{(R)'} u_k^{(R)}) \hat{V}$$

where $\hat{V} = (-\partial^2 \ln L/\partial\beta^2)^{-1}$ constitutes the conventional estimator of variance and $u_k^{(R)}$ is the contribution of the *k*th region to partial effect $\partial \ln L/\partial\beta$.

Insert figure 2 about here

DEPENDENT VARIABLE

The dependent variable indicates whether a provincial leader – either a provincial governor or party secretary – is promoted in a given year. Due to the high ranking of provincial governors and party secretaries in the Chinese government and party hierarchy, promotion chances are rather limited. Our coding builds on the relevant political science literature (Lieberthal and Oksenberg 1988; Lieberthal 1995) and is broadly consistent with earlier studies (Li and Zhou 2005; Chen et al. 2005).

Promotion of party secretaries:

Changes are coded as promotions, if former party secretaries are recruited to one of the following positions: Member of the Politburo, Member of the Standing Committee of the Politburo, and Vice President of the PRC.

⁵ China's provinces are divided in eight regions as follows: North Coast (Beijing, Tianjin, Hebei and Shandong), North Central (Shanxi, Inner Mongolia, Henan, and Shaanxi), Northeast (Liaoning, Jilin, and Heilongjiang), East Coast (Shanghai, Jiangsu, and Zhejiang), Central (Anhui, Jiangxi, Hubei, and Hunan), South Coast (Fujian, Guangdong, Guangxi, and Hainan), Southwest (Chongqing, Sichuan, Guizhou, Yunnan and Tibet), and Northwest (Gansu, Qinghai, Ningxia, and Xinjiang).

Promotion of provincial governors:

As provincial governors rank one level lower in the administrative hierarchy, their promotion chances are broader than for party secretaries. Overall, promotions include shifts to the position of the provincial party secretary, central government minister, and chairman of institutions, commissions or bureaus directly operating under and reporting to the State Council. Naturally, also shifts from the position of a provincial governor to the positions of Member of the Politburo, Member of the Standing Committee of the Politburo, and Vice President of the PRC would constitute promotion cases, though none of these cases occurred within the observation period.

Our coding reflects the exact month of position change, in order to construct matching information on relational ties with the central leadership. In total, 99 (44%) of the provincial leaders have at least once experienced a turnover, whereas 32% of all provincial leaders were promoted at least once to a higher-rank position (see summary statistics in table 1).

INDEPENDENT VARIABLES

Recruitment networks

It is undoubtedly hard to capture the existence and effect of personal ties. Practically, there is no effective way of documenting complete personal networks and associations that central leaders may activate as pre-screening mechanisms to single out promising candidates for promotion. The use of well-known and officially documented friendship ties may easily lead to a severe bias, as most of these ties will remain hidden and unknown to the public.

Instead, we employ two distinct measures to capture potential network ties. First of all, we introduce a dichotomous variable indicating, whether provincial leaders are members of China's Communist Youth League (CCYL). The CCYL is known to serve as an "old-boys network", and traditionally constitutes a recruitment pool for the party and government

leadership (Li 2006b:5; Li 2005; Bo 2004). The official mission of the CCYL is to provide the 'reserve army' for the CCP. With more than 68 million members it is one of the largest political institutions in the PRC (Li 2002). The rise of the current general secretary Hu Jintao and president Wen Jiabao promoted the so-called *tuanpai* as the most influential network connecting the central administration with China's provinces. Between September 2002 and January 2007, for instance, the number of provincial governors and party secretaries that advanced their careers primarily through the CCYL surged from 5 to 20 (Li 2007).

In addition, we have constructed a more fine-grained measure, which captures network ties between provincial leaders and members of the standing committee of the politbureau. Thus, our strategy to identify potential network-connections focuses on the inner circle of China's supreme decision making body - the politbureau, which is in charge of all major strategic decisions and also enjoys personnel authority over provincial level leadership positions (Huang 2002).

According to the political science literature three dimensions of personal ties build the foundation to cultivate network ties. First of all, common regional origin can serve as a basis for networks. Secondly, as most visible and widely documented for the case of the Qinghuagroup, joint school experience and alumni networks can provide a strong tie (Bo 2004). In this case, it is not essential, that two individuals were actually enrolled in the same educational program; it is the *alumni idea* of having been trained by the same *alma mater*, which provides the foundation for information exchange among network members. Finally, shared work experience in the same administration facilitates pre-screening efforts and may thereby substantially reduce information asymmetries. Professional networks are evidently most promising to pre-screen candidates for future promotions as previous work units usually possess rich formal documentation on the candidates professional performance. Equally important, informal reports and assessments can be easily retrieved through personal contacts.

The rise of the so-called Shanghai-group, a group of former municipality leaders, who advanced to central leadership positions, is certainly the most famous example (Bo 2004).

To make this kind of information accessible for quantitative analysis, we have constructed a network-ties-index (NTI). This index reflects shared origin, school and work experience of provincial leaders with members of the standing committee of the politbureau weighed by the total number of standing committee members. For instance, we count the number of congruence in terms of provincial origin with individual members in the politbureau, and weigh the total by the number of politbureau members. The same procedure is applied for congruence in university education and work experience in the same provincial government, whereas in the latter case we only count a match, if politbureau member and provincial leader served during the same time period. In a second step, we then calculate the average of the total of those indices for origin, school and work ties as our NTI. Hence we define:

$$NTI_{it} = \frac{1}{D} \sum_{d=1}^{D} r_{itd}$$

Where r_{itd} constitutes the *d*th subindex for the *i*th provincial leader in year *t*.

Overall, 54% of all provincial leaders have a NTI larger than zero, with a mean value of 0.15 and a maximum value of 0.89. The correlation coefficient between promotion and NTI is 0.12 for the full sample, with a somewhat higher value for party secretaries of 0.19 (see Appendix 1). Both indices used to measure the existence of relational ties have a correlation coefficient of 0.13, which signals, we are actually capturing very different networks.

Economic performance

Following the literature suggesting performance-based promotion patterns we include GDP growth as a comprehensive measure of provincial economic development. We use a moving average (over the respective office period of each leader) of provincial growth to

construct a less noisy signal than annual performance measures would provide (Li and Zhou 2005).

Personal Credentials

Personal characteristics and achievements are part of the formal evaluation process of political leaders. Three broad dimensions relevant in recruitment and promotion assessments are controlled for.

Age: Two variables capture the impact of age. A continuos variable indicates the current age. Seniority re-emerged as a virtue since the beginning of China's reform policy in 1978 (Bo 2002: 65). In our sample the average age of a governor is 57.13 years and that of a party secretary 58.27. Over the last years, the mean average rose from 56.6 years in 1987 to 58.3 years in 2005. Before 1993, about 10% of the governors and party secretaries were under the age of 50; meanwhile the quota is down to 5%. There is, however, a limit to seniority advantages. With the end of lifelong cadre employment – originally initiated to rejuvenate leadership cadres and to replace old-time veterans - promotion chances do not monotonically increase. The *Decision to Build a Retiring Scheme for Senior Cadres* (1982) rules out reappointment of civil servants after the age of 65.⁶ To incorporate the effect of current retirement regulations, a dichotomous variable indicates whether the age of 65 years has been reached.

Education: Meritocracy was revitalized as a source of elite legitimacy during the reform period. Provincial leaders increasingly have higher education, some even hold doctoral degrees. Expertise in the fields of engineering, law, economics and business administration became prerequisites for political careers (Shambaugh 2001; Li and Bachman 1989). While educational requirements for civil service applicants in the first reform decade were still

⁶ However, it was not before 1993, that retirement regulations were strictly enforced. Between 1986 and 1992 there were on average three provincial leaders over age 65 while this number fell to one between 1993 and 2005.

limited to vocational training⁷, higher education became crucial since China's promulgation of a socialist market economy in 1992.⁸ Since 1995, cadre selection procedures explicitly require college education. Subsequently, the proportion of newly appointed provincial leaders holding a college degree rose from 45% to 72% after 1995. To capture education effects a dummy variable (*college*) indicates whether provincial leaders actually hold a degree in higher education.

Professional Experience: A set of four variables captures distinct features of individual professional careers. One continuous variable (tenure) indicates the number of years a provincial leader has served on the current position. Secondly, leaders, who serve for a second term on their current position enjoy reportedly reduced promotion chances (Li and Zhou 2005). Also, in China's reformed bureaucratic system, where rotation is regarded as a central mechanism against clientelist and localist tendencies (Huang 2002), long office terms are associated with a certain sense of local favouritism and lack of general, country-wide professional experience which may disqualify for higher central government positions. The average turnover in the sample period is 4.5 years -4.2 for governors and 4.7 for party secretaries (see table 1). A dummy variable (second term) controls for potentially negative reputation effects for second-term leaders. Furthermore one dichotomous variable (center) signals, whether the provincial leader has acquired any professional experience in the central government administration. Finally, a dummy variable (party secretary) indicates whether the provincial leader currently serves as a party secretary. This is mainly to reflect the reduced range of promotion chances provincial secretaries enjoy in comparison with provincial governors.

⁷ See for instance the *Decision on Educational Works with respect to Government and Party Cadres* (1982).

⁸ See *Detailed Rules for the Cadre Management* (1992) which formulates procedures for the recruitment of college graduates. In particular, college graduates are granted higher level entry positions in the civil service.

Control variables

Three control variables help to isolate the core predictors of promotion patterns from potentially confounding effects. Due to cyclical promotion patterns corresponding with the office terms of the politbureau, four dummy variables control for the respective office year (*year n*). We also control for the size (*log value of population*) and development level (*log value of per capita GDP in preceding period*) of different provinces. Both factors could affect economic performance as well as promotion chances of provincial leaders. It is not unlikely that key leadership positions in the central government are harder to secure for leaders of small (in size) and economically laid-back provinces, as leadership may not provide the sort of professional experience that is crucial for the administration and budget responsibility in national leadership positions.

4 RESULTS

For the full sample (model 1) the importance of network ties as a screening device for leadership promotions is strongly confirmed (table 3). Network ties have a significantly (1% level) positive effect on leadership promotion chances with a marginal effect of 0.07. CCYLmembership, however, remains insignificant at conventional levels. This suggests that it is rather the bilateral network politbureau members can build on for candidate screening than general group membership *per se* as proxied by CCYL-membership. Among the remaining variables assessing the role of personal credentials, we further find a significant and positive impact of work experience in central government administrations and individual tenure on the current position. The marginal effects on promotion chances, however, are clearly smaller. It is worthwhile noting, that with a growing proportion of university educated provincial leaders, higher education no longer provides a significant advantage.

Finally, our results clearly reject the performance hypothesis of leadership promotions. The impact of average GDP growth on promotion chances is even negative, though

insignificant at conventional levels. Model 2 and 3 display separate tests of economic performance and network-screening, which fully confirm model 1. Under exclusion of NTI, average GDP growth shows a negative (though still insignificant) impact on promotion chances (model 2), while network ties are confirmed to have a positive effect on leadership promotions (model 3). Overall this leads to a clear reject of the "performance-hypothesis" and supports the hypothesized role of network-based ex-ante screening mechanisms.

Insert table 3 about here

Theoretically we can not rule out that leadership promotion of provincial party secretaries and governors follows a different rational. The higher ranked position of the party secretary enjoys strong strategic influence and more leeway. Promotions of governors to the position of a party secretary or higher central government positions may therefore be regarded as a more critical move then further promotions of party secretaries. For this reason, promotions of governors may call for stronger reliance on network-based ex ante screening mechanisms than for instance further promotion of party secretaries, who in their current position have already demonstrated their commitment "on the job". In order to not overlook potentially diverging patterns we therefore treat both groups as separate subsamples, with overall 557 observations for party secretaries and 544 governor observations.

For party secretaries, all previous findings are confirmed, though the estimated marginal effect of RTI is indeed smaller than in the full sample, though RTI still has the strongest marginal effect among all factors under review (model 4). In contrast to model 1, party secretary promotions are also significantly determined by the politbureau's office cycle with a highly significant negative effect towards the end of the office term (*year 4*). Stepwise regressions (model 5 and 6) are consistent with the joint model. There is no indication that the professional career of provincial leaders depends on provincial growth performance. Average

GDP growth has negative coefficient values both in the joint model (model 4) and also under exclusion of network ties (model 5).

Insert table 4 about here

The general pattern is confirmed for the subsample of 544 observations of governor promotions (model 7). As expected, network ties seem to play a stronger role for promotions out of the governor position. Not only network ties with politbureau members but also CCYL-membership has a positive impact on promotion chances. Also, the marginal effect of network ties is more than twice as high as for party secretaries (model 4). Hence, networks are confirmed to be particularly important as screening devices for provincial governors. This finding is consistent with the observation, that political promotion cycles are most pronounced for central governor promotions. Both the second and the third year of the politbureau office term have a significantly (1% level) positive impact on governor promotions with rather large marginal effects of 0.13 and 010. We infer that politbureau members are actually using the pool of governors to recruit allies into strategic positions as party secretaries and in central government and party positions.

The remaining results are confirmed by and large, though it is worthwhile noting that promotions out of the rank of a provincial governor do not require central government experience as was the case for further promotions of party secretaries (see model 7 and 4). This finding is consistent with the general requirements of the respective positions. As further promotions of party secretaries in general involve a shift to the national government, it seems natural that candidates with prior central government experience enjoy a competitive edge. Economic performance remains consistently insignificant with a negative sign. This finding is again confirmed for the joint model (model 7) and under exclusion of network ties (model 8).

Insert table 5 about here

In sum, our results support the hypothesis that the central leadership utilizes networkbased strategies to single out trustworthy and loyal provincial leaders for promotion. In contrast, provincial economic performance does not have a significant impact on individual promotion chances, once political leaders have reached the top levels of the provincial party and government administration. This is not to invite inferences on the general lack of performance based recruitment mechanisms in the Chinese bureaucracy. Performance-driven promotion may still play a crucial role at lower level administrations or in positions, which provide the matching organizational conditions to pursue single-task evaluations of political leadership performance. Also, our findings are not qualified to refute earlier results presenting positive performance effects (Li and Zhou 2004; Chen et al 2005). Due to the focus on earlier reform years (1978 and 1994), it would actually be consistent with our understanding of organizational features of China's M-form state, that single-task evaluations (based on economic growth performance) of provincial leaders could have been more feasible at earlier stages of China's reform policy. It was only in the later 1980s, when concern about a concomitant erosion of central state power has called for increased central control and vertical communication.

5 CONCLUSION

While most transition economies underwent deep economic and political crises, economic reforms and the wide-ranging institutional restructuring in China proceeded relatively smoothly. Since 1978 government changes proceeded according to plan, no government was overthrown and no serious disintegrative tendencies threatened internal stability. None of this was to be expected at the outset of reforms. The challenge for China's government could actually not have been greater. With a population of meanwhile 1.3 billion, a country extreme

in surface and diversity, the society underwent major socioeconomic changes: the rural-urban divide increased; income inequality quickly rose to levels comparable with the US, and cross provincial income disparities persisted. Briefly, the socio-economic conditions provided fertile grounds for distributional conflicts that could have easily threatened political system stability.

In spite of these unfavourable conditions and a progressing decline of ideological values, however, organizational stability of the state was never at risk. Earlier approaches attribute China's outstanding economic performance and system stability to performance-based leadership promotions which help to align provincial and central government interests. Our analysis challenges this view. Building on organizational studies of M-form structures we suggest that performance-based promotion is actually not a feasible tool to promote interest alignment between central and local leaders. Instead, we claim that corrupted M-form structures, characterized by limitations of provincial-level authority and the need for vertical cooperation in strategic issues, call for network-based recruitment and promotion mechanisms. In this way, "loyal allies" are selected and positioned in key positions connecting the central and provincial leadership. Based on a sample of 1101 leader-year observations for the period between 1987 and 2005 we confirm that network-ties with members of the standing committee of the politbureau critically increase promotion chances. Provincial level economic performance, to the contrary, does not affect promotion chances. The role of networks as screening mechanism for leadership promotion seems to be particularly important in the case of provincial governors, who are promoted to the position of party secretaries. Overall our findings point to the fact that promotion of China's top political leadership is to a lesser extent a reward for past performance; instead it may rather reflect the central leadership's attempt to position strategic allies in core positions of the administrative and political hierarchy.

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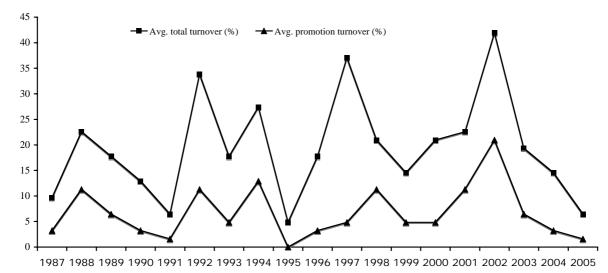


Figure 1: Political cycles of total leadership turnover and promotion turnover

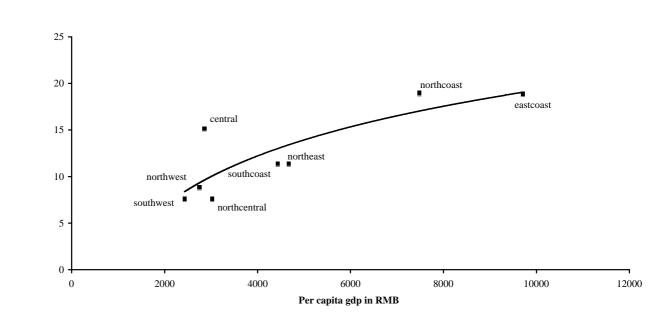


Figure 2: Regional mean per capita GDP and percentage share of promotions, 1987-2005

| Variable | Number of observations | Mean | Mean Std. Dev. | | Max |
|-------------------------|------------------------|--------|----------------|--------|--------|
| Promotion | 1101 | 0.071 | 0.257 | 0 | 1 |
| Personal Ties | | | | | |
| NetworkTies Index | 1101 | 0.154 | 0.190 | 0 | 0.886 |
| CCYL | 1101 | 0.249 | 0.433 | 0 | 1 |
| Economic performance | | | | | |
| Avg. GDP growth | 1101 | 0.138 | 0.050 | -0.063 | 0.327 |
| Personal Credentials | | | | | |
| Age65 | 1101 | 0.047 | 0.212 | 0 | 1 |
| Age | 1101 | 58.076 | 4.487 | 42 | 69 |
| College | 1101 | 0.459 | 0.499 | 0 | 1 |
| Center | 1101 | 0.185 | 0.389 | 0 | 1 |
| Tenure | 1101 | 3.465 | 2.283 | 1 | 12 |
| Second term | 1101 | 0.182 | 0.386 | 0 | 1 |
| Party secretary (Dummy) | 1101 | 0.506 | 0.500 | 0 | 1 |
| Control variables | | | | | |
| Log population | 1101 | 7.958 | 0.918 | 5.337 | 9.187 |
| Log per capita GDP | 1101 | 8.332 | 0.910 | 6.303 | 10.921 |
| Office year | | | | | |

Table 1: Summary Statistics

| Age | Promotion | Lateral move | Termination |
|-------------|-----------|--------------|-------------|
| 46-49 | 5 | 4 | 0 |
| 50-59 | 46 | 32 | 15 |
| 60 | 8 | 2 | 3 |
| 61 | 4 | 5 | 3 |
| 62 | 7 | 0 | 5 |
| 63 | 4 | 1 | 15 |
| 64 | 2 | 0 | 17 |
| 65 | 2 | 0 | 15 |
| 66 | 0 | 0 | 10 |
| 67 | 0 | 0 | 3 |
| 68 | 0 | 0 | 1 |
| 69 | 0 | 0 | 0 |
| 70 | 0 | 0 | 0 |
| Total cases | 78 | 44 | 87 |

 Table 2: Political Turnover and Age

| | Model 1 | | Model 2 | | Model 3 | |
|-------------------------|------------|----------|------------|----------|------------|----------|
| | Promotion | | Promotion | | Promotion | |
| | Chances | Marginal | Chance | Marginal | Chances | Marginal |
| | | effect | | effect | | effect |
| | Coeff | | Coeff | | Coeff | |
| | (Std. Dev) | | (Std. Dev) | | (Std. Dev) | |
| Network Ties Index | 0.769*** | 0.072 | | | 0.764*** | 0.071 |
| | (4.00) | | | | (4.88) | |
| CCYL | 0.197 | 0.020 | | | 0.206 | 0.022 |
| | (1.15) | | | | (1.22) | |
| Avg. GDP growth | -1.397 | -0.130 | -1.475 | -0.143 | | |
| | (-0.90) | | (-1.16) | | | |
| Age65 | -0.117 | -0.010 | -0.133 | -0.012 | -0.137 | -0.012 |
| | (-0.29) | | (-0.31) | | (-0.33) | |
| Age | -0.0277 | -0.003 | -0.0311** | -0.003 | -0.0276 | -0.003 |
| | (-1.51) | | (-2.09) | | (-1.52) | |
| College | -0.0261 | -0.002 | 0.0564 | 0.005 | -0.0404 | -0.004 |
| | (-0.19) | | (0.37) | | (-0.31) | |
| Center | 0.368** | 0.042 | 0.427** | 0.052 | 0.368** | 0.041 |
| | (1.99) | | (2.21) | | (2.03) | |
| Tenure | 0.112** | 0.010 | 0.114** | 0.011 | 0.109** | 0.010 |
| | (2.36) | | (2.39) | | (2.28) | |
| Second Term | -0.0845 | -0.008 | -0.0956 | -0.009 | -0.0778 | -0.007 |
| | (-0.33) | | (-0.35) | | (-0.30) | |
| Party secretary | -0.768*** | -0.076 | -0.740*** | -0.075 | -0.760*** | -0.075 |
| | (-3.78) | | (-4.01) | | (-3.75) | |
| Log value of population | 0.0923 | 0.009 | 0.0443 | 0.004 | 0.0929 | 0.009 |
| | (1.35) | | (0.67) | | (1.36) | |
| Log value of GDP | 0.191*** | 0.018 | 0.229*** | 0.022 | 0.203*** | 0.019 |
| | (6.09) | | (5.53) | | (5.48) | |
| Year 1 | 0.359 | 0.040 | 0.383 | 0.045 | 0.366 | 0.041 |
| | (1.55) | | (1.69) | | (1.59) | |
| Year 2 | 0.313 | 0.034 | 0.336** | 0.038 | 0.303 | 0.033 |
| | (1.86) | | (2.09) | | (1.76) | |
| Year 3 | 0.121 | 0.012 | 0.126 | 0.013 | 0.107 | 0.010 |
| | (0.71) | | (0.75) | | (0.60) | |
| Year 4 | -0.330 | -0.026 | -0.308 | -0.026 | -0.335 | -0.026 |
| | (-1.44) | | (-1.41) | | (-1.48) | |
| _cons | -2.538* | | -2.153** | | -2.818** | |
| | (-1.89) | | (-2.04) | | (-2.16) | |
| N | 1101 | | 1101 | | 1101 | |
| % correctly predicted | 92.92 | | 92.90 | | 92.95 | |
| Log-likelihood value | -242.18 | | -248.48 | | -243.38 | |
| Pseudo R^2 | 0.140 | | 0.127 | | 0.138 | |

 Table 3: Leadership promotion chances, 1987-2005

* p<0.1, ** p<0.05, *** p<0.01

| | Model 4 | | Model 5 | | Model 6 | |
|-------------------------|---------------------|----------|---------------------|----------|---------------------|----------|
| | Promotion | | Promotion | | Promotion | |
| | Chances | Marginal | Chance | Marginal | Chances | Marginal |
| | | effect | | effect | | effect |
| | Coeff | | Coeff | | Coeff | |
| | (Std. Dev) | | (Std. Dev) | | (Std. Dev) | |
| Network Ties Index | 0.451** | 0.073 | | | 0.442** | 0.071 |
| | (2.15) | | | | (2.49) | |
| CCYL | 0.320* | 0.058 | | | 0.320* | 0.058 |
| | (1.80) | | | | (1.80) | |
| Avg. GDP growth | -0.913 | -0.148 | -0.846 | -0.140 | | |
| 0 0 | (-0.52) | | (-0.50) | | | |
| Age65 | -0.370 | -0.047 | -0.391 | -0.050 | -0.375 | -0.047 |
| 8 | (-0.77) | | (-0.80) | | (-0.79) | |
| Age | -0.0371 | -0.006 | -0.0459* | -0.008 | -0.0378 | -0.006 |
| 0- | (-1.43) | 0.000 | (-1.90) | 0.000 | (-1.47) | 5.000 |
| College | -0.117 | -0.019 | -0.0304 | -0.005 | -0.126 | -0.020 |
| | (-0.54) | 0.017 | (-0.12) | 0.000 | (-0.59) | 5.620 |
| Center | 0.214 | 0.038 | 0.208 | 0.038 | 0.214 | 0.036 |
| Center | (0.71) | 0.050 | (0.68) | 0.050 | (0.72) | 0.050 |
| Tenure | 0.122** | 0.020 | 0.128** | 0.021 | 0.121** | 0.020 |
| Tenure | (2.24) | 0.020 | (2.19) | 0.021 | (2.16) | 0.020 |
| Second Term | 0.0387 | 0.006 | 0.00283 | 0.000 | 0.0430 | 0.004 |
| Second Term | | 0.000 | | 0.000 | (0.16) | 0.004 |
| Party secretary | (0.15) | | (0.01) | | (0.10) | |
| ruity secretary | | | | | | |
| Log value of population | 0.208** | 0.034 | 0.162 | 0.027 | 0.207** | 0.034 |
| Log and of population | (2.39) | 01021 | (1.88) | 0.027 | (2.36) | 0.001 |
| Log value of GDP | 0.185*** | 0.030 | 0.208*** | 0.034 | 0.194*** | 0.031 |
| | (4.84) | 0.020 | (4.28) | 0.021 | (5.17) | 0.051 |
| Year 1 | 0.524 | 0.103 | 0.537 | 0.108 | 0.526* | 0.105 |
| | (1.84) | 0.105 | (1.92) | 0.100 | (1.86) | 0.105 |
| Year 2 | 0.633*** | 0.130 | 0.646*** | 0.135 | 0.626*** | 0.129 |
| Teal 2 | (2.60) | 0.150 | (2.59) | 0.155 | (2.59) | 0.129 |
| Year 3 | 0.490*** | 0.095 | 0.495*** | 0.098 | 0.479*** | 0.092 |
| Tear 5 | | 0.095 | | 0.098 | | 0.092 |
| Voor 4 | (3.06) -0.0555 | 0.000 | (3.02) | 0.006 | (2.92) -0.0595 | 0.000 |
| Year 4 | | -0.009 | -0.0356 | -0.006 | | -0.009 |
| 2020 | (-0.21) -3.135** | | (-0.14) -2.382** | | (-0.23) -3.277** | |
| _cons | (-2.38) | | (-2.10) | | (-2.41) | |
| | (2.50) | | (2.10) | | (2.71) | |
| N | 544 | | 544 | | 544 | |
| % correctly predicted | 89.34 | | 88.99 | | 89.38 | |
| Log-likelihood value | -171.92 | | -176.31 | | -172.40 | |
| Pseudo R^2 | 0.090 | | 0.078 | | 0.089 | |

Table 4: Governor promotion chances, 1987-2005

* p<0.1, ** p<0.05, *** p<0.01

| | Model 7 | | Model 8 | | Model 9 | |
|-------------------------|------------|----------|------------|----------|------------|----------|
| | Promotion | | Promotion | | Promotion | |
| | Chances | Marginal | Chance | Marginal | Chances | Marginal |
| | | effect | | effect | | effect |
| | Coeff | | Coeff | | Coeff | |
| | (Std. Dev) | | (Std. Dev) | | (Std. Dev) | |
| Network Ties Index | 1.540*** | 0.037 | | | 1.557*** | 0.041 |
| | (4.24) | | | | (3.69) | |
| CCYL | -0.0354 | -0.001 | | | 0.0688 | 0.003 |
| | (-0.20) | | | | (0.52) | |
| Avg. GDP growth | -4.184 | -0.100 | -4.104 | -0.119 | | |
| 6 | (-1.22) | | (-1.69) | | | |
| Age65 | 0.0606 | 0.002 | 0.0279 | 0.001 | -0.0702 | -0.002 |
| 1.2000 | (0.44) | 01002 | (0.14) | 01001 | (-0.27) | 01002 |
| Age | -0.00419 | -0.000 | 0.0132 | 0.000 | 0.00219 | 0.000 |
| 0* | (-0.21) | 0.000 | (0.76) | 0.000 | (0.12) | 0.000 |
| College | 0.154 | 0.004 | 0.250*** | 0.008 | 0.101 | 0.002 |
| Conege | (1.21) | 0.001 | (2.89) | 0.000 | (0.84) | 0.002 |
| Center | 0.671*** | 0.027 | 0.819*** | 0.043 | 0.650*** | 0.026 |
| Center | (3.20) | 0.027 | (3.74) | 0.015 | (3.15) | 0.020 |
| Tenure | 0.150** | 0.004 | 0.121* | 0.004 | 0.134** | 0.003 |
| Tenure | (2.45) | 0.004 | (1.95) | 0.004 | (2.32) | 0.005 |
| Second Term | -0.272 | -0.005 | -0.245 | -0.006 | -0.298 | -0.006 |
| Second Term | (-0.89) | -0.005 | (-0.74) | -0.000 | (-0.92) | -0.000 |
| Party secretary | (-0.09) | | (-0.74) | | (-0.92) | |
| | | | | | | |
| Log value of population | -0.157 | -0.004 | -0.224*** | -0.007 | -0.136 | -0.004 |
| 6 | (-1.66) | | (-2.65) | | (-1.60) | |
| Log value of GDP | 0.210** | 0.005 | 0.253** | 0.007 | 0.225** | 0.007 |
| 6 | (1.98) | | (2.08) | | (2.04) | |
| Year 1 | 0.217 | 0.006 | 0.273 | 0.010 | 0.217 | 0.007 |
| | (0.58) | | (0.74) | | (0.60) | |
| Year 2 | -0.233 | -0.005 | -0.145 | -0.004 | -0.277** | -0.007 |
| | (-1.60) | | (-1.19) | | (-2.19) | |
| Year 3 | -0.673 | -0.011 | -0.692 | -0.014 | -0.705 | -0.013 |
| i cui s | (-1.70) | 0.011 | (-1.86) | 0.011 | (-1.69) | 0.012 |
| Year 4 | -0.926*** | -0.013 | -0.833*** | -0.015 | -0.926*** | -0.015 |
| i cui i | (-3.20) | 0.015 | (-3.28) | 0.015 | (-3.01) | 0.015 |
| _cons | -2.646 | | -3.218** | | -3.759** | |
| | (-1.30) | | (-2.09) | | (-2.06) | |
| | | | | | | |
| Ν | 557 | | 557 | | 557 | |
| % correctly predicted | 96.77 | | 96.78 | | 96.79 | |
| Log-likelihood value | -58.03 | | -61.24 | | -59.46 | |
| Pseudo R ² | 0.270 | | 0.231 | | 0.260 | |

 Table 5: Party Secretary promotion chances, 1987-2005

* p<0.1, ** p<0.05, *** p<0.01

Appendix 1: Correlation Matrix (Total Sample)

| | Promotion | NTI | CCYL | GDP | Age65 | Age | Coll. | Center | Tenure | 2.term | PS | Pop | PC gdp |
|--------------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|
| Promotion | 1 | | | | | | | | | | | • | |
| NTI | 0.117 | 1 | | | | | | | | | | | |
| CCYL | 0.046 | 0.125 | 1 | | | | | | | | | | |
| Avg. GDP growth | -0.038 | -0.057 | -0.061 | 1 | | | | | | | | | |
| Age65 | -0.028 | -0.037 | -0.039 | 0.071 | 1 | | | | | | | | |
| Age | -0.053 | -0.020 | -0.234 | 0.019 | 0.375 | 1 | | | | | | | |
| College | 0.037 | 0.176 | 0.166 | 0.051 | -0.050 | -0.188 | 1 | | | | | | |
| Center | 0.078 | 0.226 | -0.037 | -0.020 | -0.029 | -0.025 | -0.007 | 1 | | | | | |
| Tenure | 0.046 | -0.040 | -0.033 | 0.050 | 0.234 | 0.362 | -0.057 | -0.116 | 1 | | | | |
| Second term | 0.026 | -0.035 | -0.032 | 0.033 | 0.228 | 0.295 | -0.041 | -0.110 | 0.805 | 1 | | | |
| Party secretary | -0.152 | -0.012 | 0.044 | -0.026 | 0.066 | 0.161 | -0.071 | 0.065 | 0.092 | 0.075 | 1 | | |
| Log population | 0.002 | -0.106 | -0.129 | 0.025 | 0.040 | 0.197 | 0.062 | 0.062 | -0.054 | -0.056 | 0.008 | 1 | |
| Log per capita GDP | 0.085 | 0.260 | 0.051 | -0.134 | -0.092 | 0.048 | 0.146 | 0.224 | -0.118 | -0.093 | 0.009 | -0.015 | 1 |

| | Promotion | NTI | CCYL | GDP | Age65 | Age | Coll. | Center | Tenure | 2.term | Pop | PC gdp |
|--------------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Promotion | 1.000 | | | | | | | | | | | |
| NTI | 0.081 | 1.000 | | | | | | | | | | |
| CCYL | 0.073 | 0.115 | 1.000 | | | | | | | | | |
| Avg. GDP growth | -0.027 | 0.036 | 0.009 | 1.000 | | | | | | | | |
| Age65 | -0.032 | -0.030 | -0.077 | 0.052 | 1.000 | | | | | | | |
| Age | -0.053 | 0.005 | -0.310 | 0.021 | 0.342 | 1.000 | | | | | | |
| College | 0.016 | 0.163 | 0.142 | 0.121 | 0.043 | -0.096 | 1.000 | | | | | |
| Center | 0.039 | 0.228 | -0.179 | -0.011 | -0.025 | 0.047 | -0.010 | 1.000 | | | | |
| Tenure | 0.084 | 0.010 | -0.038 | 0.032 | 0.275 | 0.315 | 0.004 | -0.093 | 1.000 | | | |
| Second term | 0.063 | -0.011 | -0.050 | 0.018 | 0.265 | 0.252 | 0.010 | -0.088 | 0.790 | 1.000 | | |
| Log population | 0.030 | -0.166 | -0.247 | 0.029 | 0.028 | 0.194 | 0.163 | 0.019 | -0.131 | -0.107 | 1.000 | |
| Log per capita GDP | 0.062 | 0.228 | -0.018 | -0.094 | -0.090 | 0.150 | 0.034 | 0.057 | -0.135 | -0.122 | -0.011 | 1.000 |

| | Promotion | NTI | CCYL | GDP | Age65 | Age | Coll. | Center | Tenure | 2.term | Pop | PC gdp |
|--------------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Promotion | 1.000 | | | | 0 | 0 | | | | | • | |
| NTI | 0.194 | 1.000 | | | | | | | | | | |
| CCYL | 0.027 | 0.136 | 1.000 | | | | | | | | | |
| Avg. GDP growth | -0.073 | -0.155 | -0.123 | 1.000 | | | | | | | | |
| Age65 | -0.004 | -0.043 | -0.019 | 0.089 | 1.000 | | | | | | | |
| Age | 0.009 | -0.043 | -0.183 | 0.027 | 0.398 | 1.000 | | | | | | |
| College | 0.049 | 0.189 | 0.196 | -0.021 | -0.112 | -0.261 | 1.000 | | | | | |
| Center | 0.180 | 0.228 | 0.077 | -0.024 | -0.039 | -0.109 | 0.004 | 1.000 | | | | |
| Tenure | 0.034 | -0.087 | -0.036 | 0.071 | 0.202 | 0.388 | -0.100 | -0.146 | 1.000 | | | |
| Second term | 0.006 | -0.056 | -0.023 | 0.050 | 0.200 | 0.319 | -0.077 | -0.136 | 0.815 | 1.000 | | |
| Log population | -0.044 | -0.041 | -0.018 | 0.021 | 0.050 | 0.203 | -0.039 | 0.099 | 0.013 | -0.012 | 1.000 | |
| Log per capita GDP | 0.140 | 0.296 | 0.115 | -0.173 | -0.096 | -0.056 | 0.260 | 0.371 | -0.106 | -0.070 | -0.020 | 1.000 |