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Social Ties and the Selection of China's Political Elite[†]

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We study how sharing a hometown or college connection with an incumbent member of China's Politburo affects a candidate's likelihood of selection as a new member. In specifications that include fixed effects to absorb quality differences across cities and colleges, we find that hometown and college connections are each associated with 5–9 percentage point reductions in selection probability. This "connections penalty" is equally strong for retiring Politburo members, arguing against quota-based explanations, and it is much stronger for junior Politburo members, consistent with a role for intra-factional competition. Our findings differ from earlier work because of our emphasis on within-group variation, and our focus on shared hometown and college, rather than shared workplace, connections. (*JEL* D72, O17, P26, Z13)

We study the selection of officials into the Central Politburo (hereafter Politburo), the most powerful body in the Chinese government. Beyond the direct importance of understanding what determines the top leadership of the world's most populous nation (and second largest economy), our work may provide insights into the complexities involved in bureaucratic promotion in political and nonpolitical organizations more generally.

The Politburo's members are selected every five years from the members of the Central Committee of Chinese Communist Party (hereafter the Central Committee), whose membership in turn is drawn from the top ranks of provincial officers, top military leaders, and central government ministers. While the Central Committee is nominally responsible for electing the Politburo (much as individual citizens are nominally responsible for electing Chinese officials at lower levels), as we discuss in the next section, in practice the Politburo itself is thought to have a decisive role in

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selecting new members (see, for example, Nathan and Gilley 2003 and Shih 2016). In our paper, we examine whether Central Committee members who share a hometown or college connection with an incumbent Politburo member are more likely to be elected to the next Politburo, using data from the postwar period.

There is, ex ante, reason to expect that such shared backgrounds may provide a leg up in the Politburo selection process. For example, in writing about selection of the seventeenth Politburo, Susan Shirk observes that it was commonly perceived that Politburo selection "revolve[s] around the distribution of seats among personalistic factions—the networks of loyalty between senior political figures and the officials who have worked with them, are from the same region or studied at the same university and who have risen through the ranks with their patrons."[1] Such connections may also lead to higher selection rates because social ties facilitate the transmission of soft information on candidate quality (see, for example, Fisman, Paravisini, and Vig 2017).

We focus on several forms of connections, alluded to in the preceding quote, that have established precedence in earlier work: hometown (i.e., prefecture) ties, college ties, and past employment relationships.[2]

We begin with our preferred specification, which includes fixed effects for shared hometown, college, and workplace. We argue that the inclusion of these fixed effects is useful for distinguishing between the role of shared backgrounds from unobserved quality differences in candidates with shared attributes. For example, by far the most commonly represented college among Politburo members is Tsinghua University, which is also China's most prestigious school. Simply controlling for higher educational attainment does not account for the difference between Tsinghua versus lower-tier institutions.[3]

In these specifications, which account for quality differences across groups, we find that both hometown and college ties are associated with a *lower* probability of Politburo selection, a result that stands in contrast to recent work on high-level promotion in China. For hometown ties, in our favored specification, which includes hometown fixed effects and a range of individual controls, a Politburo connection reduces the likelihood that a Central Committee member is elected by 5.1 percentage points, a 50 percent decline relative to the baseline selection rate for hometowns that have within-hometown variation in Politburo connections. For college ties, the comparable figure is a 9 percentage point reduction in election probability. Accounting for workplace fixed effects, we observe no detectable relationship between workplace ties and Politburo selection (as we explain in more detail below, shared workplace may be more afflicted with upward bias, even in a fixed effects specification).

[1] Susan Shirk, "China's Next Leaders: A Guide to What's at Stake," *New York Times,* November 15, 2012 (http://cn.nytimes.com/article/china/2012/11/15/c15shirk/en).

[2] Recent studies that examine the benefits of these types of connections in China include Cai (2014); Heidenheimer and Johnston (2011); Shih, Adolph, and Liu (2012); Jia, Kudamatsu, and Seim (2015); Wang (2016); and Shih and Lee (2017), who explore their role in promotions in the Chinese bureaucracy, and Fisman et al. (2018), who study their role in election to the Chinese Academies of Science and Engineering.

[3] To draw a comparison to the US setting, many law schools are represented among the judges on the various circuit and state supreme courts, yet only Harvard and Yale Law Schools are represented on the US Supreme Court. One would not wish to conclude that appointments to the country's top court are the result of connections: indeed, incumbent justices have no role in selecting new members.

We then examine the heterogeneity in this "connections penalty" to explore more deeply the patterns in the data, as well as to narrow down the set of plausible explanations for this result. We begin by looking at heterogeneity based on the seniority of Politburo members. We show that the connections penalty results primarily from shared hometown and college connections to more junior Politburo members, which we suggest can most straightforwardly be reconciled with intra-group competition (see, e.g., Francois, Trebbi, and Xiao 2016), in which leaders aim to maintain their dominant position within a group network (in our setting, the hometown or college network) by blocking potential challengers from within their own group. We next present heterogeneity analyses focused on assessing whether the connections penalty might result from quotas or, relatedly, competition among groups from different backgrounds for dominance in the Politburo. We do not measure a significant difference in the connections penalty for individuals from groups with one versus multiple ties to the Politburo, and also find that the connections penalty is almost identical for shared backgrounds with Politburo members who retire after the new Politburo is formed (i.e., they participate in the selection process, but do not remain in office in the following term). If quotas or competition between groups were a dominant force, we would expect coalitions to block hometowns or colleges with prominent representation from gaining further members, and we would anticipate finding no effect (or indeed the opposite sign) for connections to retiring members. Thus, these patterns together suggest that such explanations are less likely. In our last set of heterogeneity analyses, we examine how the connections penalty varies across time, by allowing it to vary with the identity of the country's top leader. We find that, while we estimate a negative relationship between shared background and selection throughout our sample period, the connections penalty is far greater in under Mao's rule, relative to the periods of that came after. Naturally, there are many changes that have taken place in Chinese polity during the postwar period. It is nonetheless notable that, as we discuss in Section IIIA, Mao Zedong was particularly emphatic in his "anti-factionalist" rhetoric, which could account for an aversion to promotions that, based on observables, might be perceived as favoring hometown or college "factions."

Finally, because our results stand in such contrast to earlier findings, we explore in greater detail the differences that might account for our finding of a cost rather than benefit of shared background. We focus on three prominent recent studies (Shih, Adolph, and Liu 2012; Jia, Kudamatsu, and Seim 2015; and Francois, Trebbi, and Xiao 2016) that each finds a benefit of connections to Politburo-level officials, based on shared work experience and/or shared hometown or college connections. After summarizing the various samples, estimation strategies, and variable definitions employed in each paper in comparison with our own, we show that for specifications that are comparable to those of earlier papers, we also estimate a benefit of shared background in our data. The key differences between these results and those we report in our main specifications are the use of group fixed effects, and our emphasis on shared hometown and college backgrounds.

Overall, our results indicate that, at least for the highest and most visible levels of the Chinese polity, shared backgrounds may reduce the chances of promotion. These findings stand in contrast to the positive role of connections documented in earlier work (in addition to the quantitative research cited above, see Cai 2014 for a

book-length treatment of this topic). Our work thus suggests a somewhat different view of the internal organization and promotion of China's leadership. In particular, the "connections penalty" suggests the presence of forces within the government to balance representation in the Politburo, which may in part account for its longevity and perceived legitimacy.

Our analysis and findings also indicate the challenges in estimating the effect of shared background on promotion, as well as the range of potential interpretations, which are far more complex than simply higher-level officials helping their friends climb the bureaucracy.

We contribute to the literature that aims to understand the selection of officials in China specifically, and promotion in bureaucracies (political and otherwise) more generally. Our work also links to a larger body of research on the determinants and consequences of promotional structures throughout the Chinese hierarchy. Jia, Kudamatsu, and Seim (2015), for example, reports a complementary effect of connections and performance in determining provincial leaders' promotions,[4] while Persson and Zhuravskaya (2016) explores the role of promotions and thus career concerns in governing the policy choices of provincial leaders (Kung 2014, in an analysis of grain distribution during the Great Famine, shows in particular how such promotional concerns can misfire). Our work also contributes to our understanding of the role of connections in China more broadly, linking to the vast literature on *guanxi* ties (for recent empirical examples, see Fisman et al. 2018 on the role of connections in election to the Chinese Academies of Science and Engineering, and Kung and Ma 2016 on the value of connections for small business growth).

Finally, we see our paper as contributing to the much larger literature on promotion in bureaucracies more generally. This is a topic for which there is a rich body of theoretical and, more recently, empirical research in personnel economics. Much of the earlier work in this area focused on promotion within for-profits (see, e.g., Lazear and Shaw 2007 for an early survey), whereas more recently research on promotion in state bureaucracies has flourished (Finan, Olken, and Pande 2017).

I. Background and Data

A. *The Organization of the Chinese Polity*

The Central Committee of the Communist Party of China (Central Committee) is a political body that comprises the top leaders of the Communist Party. Its members are selected at the convening of the National Congress of the Communist Party of China, under the guidance of the Politburo.[5] While the number of Central Committee members fluctuates from term to term (and has grown over time), it has had approximately 200 members in each term since the early 1970s.

The Central Committee's membership includes national leaders, chief officers at institutions that are under the direct control of the Central Committee (e.g., the

[4] We do not observe any effect of performance, whether directly or conditional on connections, in our own data, but provincial leaders represent only about one-fifth of our sample.

[5] Starting with the Central Committee's eleventh term, which began in 1977, the National Congress has been held every five years. Prior to that, the Congress was held at less regular intervals.

Organization Department and the Propaganda Department), heads of ministries under the control of the State Council (China's chief administrative body), provincial governors and party secretaries, chief military officers, and leaders from eight "People's Organizations" (e.g., the All-China Federation of Trade Unions and the Communist Youth League) who also hold the rank of minister. The Central Committee meets at least annually, to discuss and refine formal government policies.

A set of alternate members are also selected for the Central Committee. While these alternates generally attend the same meetings (and hence may voice opinions) they lack voting rights. Alternates (who number roughly 170) also serve as replacements for full members of the Central Committee who die or are otherwise removed from office during the term. Importantly from our perspective, alternate members, themselves generally high-ranking provincial or city officials, are promoted to full membership at relatively high rates, making them a natural pool of candidates to examine for promotion to the Central Committee. (As noted below, in contrast to the Politburo, the full set of individuals who are eligible for Central Committee election is not well defined, nor is the candidate list made public.)

The de facto leadership of the government resides within the Politburo, a collection of approximately 25 top leaders selected from the membership of the Central Committee at its first convening, which takes place immediately following the National Congress. In most terms, a small number of additional members are also elected during later Central Committee meetings to replace Politburo members lost to death, removed due to corruption, or purged for political reasons (especially during the Cultural Revolution).[6] Other than the twelfth term (1982–1987), during which ten members retired and were replaced by six new members, the number of midterm replacements is generally very small. Throughout, we will include all Politburo members selected at any point during a term as new members, and will code their connections based on the composition of the Politburo at the time of selection.

While, nominally speaking, the Central Committee is elected by the National Congress and the Politburo elected by the Central Committee, in practice the composition of both bodies is determined before any ballots are cast. Politburo selection follows a "single candidate election rule" whereby the number of candidates is exactly equal to the number of available seats. The key to understanding Politburo selection is thus understanding the origin of the candidate list presented to the Central Committee.

The candidate selection process is veiled in secrecy, so we cannot state in any factual or categorical sense that it is done by the incumbent Politburo. There is nonetheless a widely held view that the process is driven by the Politburo (in particular the Standing Committee). Shih (2016), for example, asserts that "Politburo member selection is ultimately done through the [Politburo Standing Committee's] collective leadership's votes." Nathan and Gilley (2003), in describing the selection of the Politburo's new membership in 2002, referred to the process as follows: "[new members] were considered and approved for promotion by the outgoing

[6] It may be argued that Politburo members who die while in office may still influence the selection of their successors. There are 15 such cases in our data; our results are virtually unchanged if we assume that candidates who share a hometown, college, or workplace with recently deceased Politburo members are connected.

leaders, who could draw on detailed confidential reports on each of them compiled by the Party's secretive, highly trusted Organization Department." [7] By contrast, the Central Committee's role is simply that of a rubber stamp, approving the (fixed) list generated by the Politburo (for example, Li 2008, observes that "the notion that the Central Committee 'elects' the Politburo is something of a fiction").

In secondary analyses, we also look at transitions within the Central Committee from alternate to full membership. While the search for Central Committee nominees is very broad, Central Committee alternates are selected at very high rates (in our data, about one-fifth are "promoted" to the Central Committee each term). Since the list of potential Central Committee members is never disclosed, the set of alternates thus presents one credible pool for studying promotion one step down from the Politburo. In the early part of our sample, the Central Committee "election" followed a single candidate rule, just as with the Politburo. While in 1987 the candidate list expanded relative to the number of positions, the "inner party democracy" that this introduced was modest to say the least. For example, in the 2012 Central Committee election, there were 108 candidates for every 100 positions. Thus, for Central Committee selection the key question is, once again, how the candidate lists are formed. In this case it is much more straightforward: the process is conducted and controlled by the Politburo. As documented in government sources describing Central Committee selection, the Politburo Standing Committee forms a set of search groups which are sent across the country to identify promising candidates. This initial stage leads to a very large set of potential candidates that is winnowed down to a shorter "primary list" that goes forward to final selection. Just ahead of the meeting of the National Congress, the Politburo selects the final candidates.[8]

To summarize, while the selection of the slate of formal Politburo nominees (who are then automatically elected as Politburo members) is secretive, there is a widely held consensus that the incumbent Politburo controls the process (and similarly controls the generation of the Central Committee candidate list).

B. *Data*

Our analysis requires background information on the full set of Central Committee members (including the small subset that are Politburo members). Our starting point for developing this database is the *People's Daily Online* list of Central Committee members, maintained by the Communist Party of China, which

[7] Nathan and Gilley (2003) provides profiles of potential Politburo members that, they claim, were based on top-secret dossiers that were compiled for the "use of the outgoing Politburo to pick candidates for the new Politburo and its Standing Committee. These dossiers were so highly confidential as to be denied even to Central Committee members." Thus, beyond asserting that the incumbent Politburo was responsible for selection, Gilley and Nathan further imply that not even Central Committee members were privy to documents evaluating potential incoming Politburo members.

[8] The interested reader may consult Tsai and Kao (2012) for a description of the selection of the eighteenth Central Committee candidate list. They describe a process in which a countrywide team of investigators, numbering as many as 1,000, put forth potential names for consideration. However, the decision of which names move forward once again rests with the Politburo. In particular, they observe that, "the investigative teams present their results for the initial name list to the Politburo, which then formulates a formal name list of preliminary candidates for Central Committee membership." For official government documentation of the process, the following description is available in Chinese: http://m.cnr.cn/news/20171024/t20171024_523997959.html (last accessed April 25, 2019).

includes information going back to the seventh term (1945–1956).[9] Background information on these individuals, including place of birth, year of birth, and detailed education and work history, may be found via the *Political Elites of the Communist Party of China* (National Chengchi University 2019).

Only a few candidates from the ninth and tenth term election cycles (1969–1973 and 1973–1977) are not contained in the database, since they are not minister-level officials. They are instead lower-level officials elected to the Central Committee during the Cultural Revolution who, by virtue of their celebrity status as "working class heroes," are easily tracked down via individual search results from Baidu Baike, the Chinese equivalent of Google.[10]

Our main outcome measure is $Elected_{it}$, an indicator variable denoting that candidate i was selected for term t of the Politburo. As noted in Section IA, while almost all new Politburo members are selected at the Central Committee's first meeting, replacement members may also be chosen at midterm meetings. We set $Elected_{it} = 1$ for all individuals elected during term t regardless of when during the term they are selected. While Politburo members at term $t - 1$ are eligible for membership also at term t, we omit them from our analysis, as they are generally reelected unless of retirement age.

We also use these data to measure shared backgrounds between Central Committee members (who comprise the full set of eligible Politburo candidates) and incumbent Politburo members.

Consider first our measure based on shared hometown. We define candidate i for Politburo term t to be hometown-connected ($CityTie = 1$) if there exists at least one Politburo member at term $t - 1$ (and hence in the Politburo when selection of the term t Politburo takes place) who is from the same prefecture as i. Note, *CityTie* can be measured from the eighth term (1956–1969) onward, since we require lagged observations of the Politburo to calculate connections of candidates to incumbent Politburo members. Our data end with the nineteenth term (2017–2022).

We similarly construct *CollegeTie* based on Central Committee and Politburo members' undergraduate institutions, for the eighth through nineteenth terms. (For candidates without a college degree, we set $CollegeTie = 0$, and in all relevant specifications we include variables to capture a candidate's highest level of education, to avoid conflating the role of shared background with educational attainment.)

For shared work background, we require that Politburo candidates and Politburo incumbents have a period of overlap in their work histories, more specifically a period of time in which both worked in the same organization/department in the same prefecture.[11]

While no single position within the Central Committee guarantees Politburo membership, some positions tend to be elected at much higher rates than others. We

[9] We also begin our data in the postwar period because it is when Mao came to power. In the previous term, which stretched from 1928 to 1947, the Chinese central government was also structured quite differently. For example, the Central Committee had only 23 members, as compared to the approximately 200 members it has had for most of the postwar period.

[10] For 30 Central Committee members, no college was listed, but either a master's or PhD institution was provided. We treat these individuals as having no college connection, but in practice our results are unchanged if we drop them from the sample.

[11] We have also coded a variable to denote connections via the military, and find that it has no correlation with *Elected*.

therefore include controls for whether a Central Committee member is a military officer (*Military*); an indicator denoting that an individual is the party secretary of one of the directly controlled municipalities of Beijing, Shanghai, and Tianjin, or is the party secretary of Guangdong (*4_Leader*s) since these are positions that have most commonly (but by no means always) seen representation in the Politburo; an indicator variable for provincial governors and party secretaries (*Province*); and to account for political dynasties we include the variable *Princeling*, which captures whether any of the candidate's parents or parents-in-law ever served in the Politburo. We also include, where relevant, hometown, workplace, and college fixed effects to capture average differences in the rate of Politburo selection as a function of these background characteristics.

Our data include 1,273 distinct candidates, 654 of whom appear only once in our data. A substantial number also appear as candidates twice (409 individuals) and three or more times (210 individuals). We define *PriorCandidacies* as the number of previous terms an individual appeared as a (non-Politburo) member of the Central Committee. We control for prior candidacies throughout, given the higher likelihood of success for longer tenured Central Committee members.

Table 1 provides summary statistics on the main variables we employ in our main analysis. Observe that shared workplace experiences are by far the most common form of connection, despite our requirement that individuals overlap both in department and prefecture. This statistic emphasizes the fact that political elites often come up through similar career channels, with many spending time at the Secretariat of the Central Committee (71 distinct candidates) and the Organization Department of the Central Committee (48 distinct candidates), both located in Beijing. College ties are the least prevalent form of shared background. This arises, at least in part, because nearly one-third of candidates (concentrated in the earlier part of our sample) did not complete a college degree and hence have no college tie.

Before turning to our results, we also note some patterns in the data which we see as emphasizing the need to account for quality differences across city, college, and workplace groups. Consider first college attendance. The concern over quality differences is underscored by a comparison of colleges with frequent Politburo ties versus those with no Politburo representation at all. For example, by far the most common college of attendance for Politburo members in the post-Mao era is Tsinghua University (12 members, or 12.2 percent of the sample), also China's most prestigious university.[12] Peking University, the country's second-ranked school, produced the second-most Politburo members (6.1 percent) since 1982. The pool of Central Committee candidates is also dominated by individuals from elite schools, though less so than the Politburo: 5.0 percent of Central Committee members attended Tsinghua, 4.6 percent attended Peking University, and more broadly elite universities are overrepresented. Overall, the patterns in the data suggest that there is positive selection on education as one rises through the bureaucracy, and hence a need to try to control for it. Indeed, most candidates are from universities that are never represented on the Politburo: for our full sample of Central Committee members, only 21 colleges provide a connection to Politburo member (out of the

[12] Far fewer Politburo members were college-educated prior to 1982. Tsinghua is still the dominant college of Politburo members if we use the entire sample.

Table 1—Summary Statistics

Varible name	Mean	SD	Observations
Elected to Politburo	0.070	0.256	2,176
CityTie	0.173	0.378	2,176
CollegeTie	0.113	0.316	2,176
WorkTie	0.559	0.497	2,176
CityorCollegeTie	0.260	0.439	2,176
log(Age)	4.052	0.142	2,176
PriorCandidacies	0.601	0.871	2,176
Provincial	0.226	0.418	2,176
Military	0.201	0.401	2,176
4_Leaders	0.012	0.111	2,176
Princeling	0.016	0.126	2,176
Male	0.942	0.234	2,176
College	0.720	0.449	2,176
Master	0.210	0.407	2,176
Doctor	0.067	0.250	2,176

Notes: Elected to Politburo is an indicator variable denoting that the member of the Central Committee was elected to the Politburo. *CityTie* is an indicator variable denoting that the candidate shared his city of birth with an individual who was a Politburo member at the time of election. *CollegeTie* is an indicator variable denoting that the candidate went to the same university as an individual who was a Politburo member at the time of election. *CityorCollegeTie* is an indicator variable denoting that $CityTie = 1$ or $CollegeTie = 1$. *WorkTie* is an indicator variable denoting that the candidate's worked at the same department in the same city at the same time as at least one Politburo member. *PriorCandidacies* is the number of previous terms the individual was a Politburo-eligible member of the Central Committee. *Provincial* is an indicator variable denoting that the candidate was provincial governor or party secretary at the time of the election. *Military* is an indicator variable denoting that the candidate was a high-ranking military official at the time of the election. *4_Leaders* is an indicator variable denoting that the candidate was the party secretary of one of three municipalities, Beijing, Shanghai, and Tianjin, or the party secretary of Guangdong. *Princeling* denotes that one or more of the candidate's parents or parents-in-law ever served as a Politburo member. *Male* denotes the candidate's gender. *College*, *Master*, and *Doctor* denote completion of bachelor's, master's, and doctoral degrees.

435 colleges represented). However, these 21 schools are vastly overrepresented: 276 of 1,648 candidate-term observations (16.8 percent) attended one of these 21 institutions.

Our data on work histories suggest similar quality-related concerns, exacerbated by the fact that individuals on a fast track through the bureaucracy will be *assigned* to more prestigious postings in expectation of rapid promotion. Every Politburo in our dataset has had at least one member with work experience on the State Council, the country's top administrative body; the same is true for the Shanghai municipal government, described by Francois, Trebbi, and Xiao (2016) and others as a frequent assignment for future leaders. The current Party Secretary Xi Jinping is a case in point. He was appointed by the Politburo to be party secretary of Shanghai in March 2007, and was elected to the Politburo Standing Committee (thus resigning from his party secretary position) just seven months later. In fact, he was (endogenously) sent to Shanghai in anticipation of possible promotion, which underscores that particular problems associated with the use of work ties as a measure of connections: given that the Politburo itself is responsible for higher-level postings, it may promote talented officials to particular positions to groom them for higher office.

There is a much less obvious hierarchical ranking of birthplace prefectures. But it is perhaps notable that, for example, Huang Gang prefecture is well represented

TABLE 2—DIFFERENCE IN MEAN POLITBURO ELECTION RATES BY CONNECTION STATUS

	Fraction elected to Politburo						
	Tie = 1			Tie = 0			
	Observations	Mean	SD	Observations	Mean	SD	Difference
CityTie	376	0.0798	0.2713	1,800	0.0683	0.2524	0.0115 (0.0145)
CollegeTie	245	0.0898	0.2865	1,279	0.0696	0.2545	0.0202 (0.0181)
WorkTie	1,217	0.0945	0.2926	959	0.0396	0.1952	0.0549 (0.0110)

Notes: Elected is an indicator variable denoting that the member of the Central Committee was elected to the Politburo. *CityTie* is an indicator variable denoting that the candidate shared his city of birth with an individual who was a Politburo member at the time of election. *CollegeTie* is an indicator variable denoting that the candidate went to the same university as an individual who was a Politburo member at the time of election. *WorkTie* is an indicator variable denoting that the candidate's worked at the same department in the same city at the same time as at least one Politburo member.

on the Politburo (with at least one individual born there in all but one term in our sample). It is noted for its long history of producing top politicians and military leaders (see, e.g., Jiang 2011). Changsha, the city in which Mao began his political career and laid the foundations of the Communist Party, is also well represented, with as many Politburo members as Shanghai, a city more than three times its size. As with colleges, candidates from hometowns that have at least one Politburo representative during the sample are much more prevalent on the Central Committee. Of the 273 hometowns represented on the Central Committee in our sample, 62 (22.6 percent) have at least one Politburo connection, whereas these 62 hometowns provide 54 percent of our candidate-year observations. (There are no always-connected hometowns nor any always-connected colleges.)

In Table 2 we present the unconditional means of the selection rates for Central Committee members with and without Politburo connections, as well as their differences. We find that those with shared backgrounds are selected at higher rates for each of our three measures. This difference is modest and statistically insignificant for shared hometown and college ties (1.1 and 2.0 percentage points respectively), and somewhat larger and significant for shared workplace (5.5 percentage points). As noted above, we are concerned that these differences reflect an upward bias based on quality differences across individuals with more versus less prestigious backgrounds, which leads us to the fixed effects specifications we present in the next section.

II. Results

Our main analyses explore the relationship between shared backgrounds and Politburo selection, including a range of controls. Our specifications all take the following form:

$$(1) \qquad Elected_{it} = \beta \times Connection_{it}^{c} + \gamma_c + \omega_t + \epsilon_{it},$$

Table 3—Politburo Ties and Candidate Election Probability

	Elected to Politburo							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CityTie	−0.062				−0.051			
	(0.021)				(0.019)			
CollegeTie		−0.109				−0.093		
		(0.038)				(0.034)		
WorkTie			−0.003				−0.004	
			(0.013)				(0.013)	
CityorCollegeTie				−0.074				−0.069
				(0.023)				(0.022)
Individual controls					Yes	Yes	Yes	Yes
Term fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hometown fixed effects	Yes			Yes	Yes			Yes
College fixed effects		Yes		Yes		Yes		Yes
Workplace fixed effects			Yes				Yes	
Observations	2,118	1,357	2,176	1,954	2,118	1,357	2,176	1,954
R^2	0.109	0.209	0.305	0.234	0.212	0.327	0.386	0.311

Notes: The dependent variable in all specifications is an indicator variable denoting that the member of the Central Committee was elected to the Politburo. *CityTie* is an indicator variable denoting that the candidate shared his city of birth with an individual who was a Politburo member at the time of election. *CollegeTie* is an indicator variable denoting that the candidate went to the same university as an individual who was a Politburo member at the time of election. *WorkTie* is an indicator variable denoting that the candidate's worked at the same department in the same city at the same time as at least one Politburo member. *CityorCollegeTie* is an indicator variable denoting that *CityTie* $=$ 1 or *CollegeTie* $=$ 1. *Individual controls* include gender, age, education, previous eligible terms, a dummy variable for provincial leaders, a dummy variable for military leaders, a dummy variable for the party secretaries of Beijing, Shanghai, Tianjin, or Guangdong, and a Princeling dummy.

where $Elected_{it}$ is an indicator variable denoting that Central Committee member i was elected to the Politburo for term t, and $Connection_{it}^{c}$ denotes that candidate i was connected to at least one incumbent Politburo member via connection type $c \in \{CityTie, CollegeTie, WorkTie\}$. For each type of connection, we include a full set of fixed effects for the source of the tie. So when we measure connections by hometown ties we include 219 hometown fixed effects; similarly, we have 264 college fixed effects for the college tie specification, and 305 workplace fixed effects for the workplace tie specification.[13] The variable ω_t is a term fixed effect, and ϵ_{it} is an error term clustered at the candidate-level.

We present our main ordinary least squares (OLS) results in Table 3. In column 1, in which we use *CityTie* as our connection measure and include hometown fixed effects, hometown-connected candidates are 6.2 percentage points less likely to be selected as Politburo members (p-value < 0.01). In column 2 we use *CollegeTie* as our measure of connections; for specifications using this measure of shared background, we include only college graduates in the sample, to avoid conflating the effects of alumni connections and educational attainment. Again, we find a negative impact on Politburo election, of 10.9 percentage points (significant at the 1 percent level). In column 3, with *WorkTie* as the connections measure and workplace fixed

[13] We include fixed effects for all city-department combinations for which there exists *at least one* overlap in the workplace histories of a Politburo member and a Central Committee member.

effects, we find a precisely estimated near-zero effect, and can reject at a 95 percent confidence level a positive work tie effect of greater than 3 percentage points.

The precisely estimated zero on shared work experience has several plausible interpretations. Recall that it is, by far, the most common form of connection in our data, as a result of the very common career trajectories of leading politicians. It may thus reflect a relative unimportance of shared work background, or the coarseness of our measure.[14]

We next define a more inclusive measure of shared background, *CityorCollegeTie*, an indicator variable denoting either *CityTie* $= 1$ or *CollegeTie* $= 1$. While in almost all cases we continue to show results for city and college ties separately, it will be useful also to define this aggregate measure to allow for a more parsimonious specification when we turn to examine heterogeneity in the "connections penalty" in the next section. In column 4 we use *CityorCollegeTie* as the main explanatory variable. We employ a specification that includes hometown and undergraduate institution fixed effects, as well as an indicator variable for college completion. The coefficient on *CityorCollegeTie* is -0.074 (p-value < 0.01), in line with the individual estimates of shared hometown and college backgrounds. (While the estimated coefficient in column 4 should intuitively be an average of those in columns 1 and 2, the relationship is not mechanically implied, given the different sets of fixed effects and samples.)

We include additional candidate-level controls in columns 5–8, which leads to a small reduction in our estimates of the effect of hometown and college connections on Politburo selection.[15] The coefficient on *CityTie* in column 4 implies a 5.1 percentage point reduction in the probability of Politburo selection (significant at the 1 percent level). Relative to the selection base rate of 10.3 percent for *CityTie* $= 0$ candidates (from hometowns with variation in this variable), our estimate implies that a hometown tie reduces a candidate's election probability by about 50 percent. The coefficient on *CollegeTie* in column 5 implies a 9.3 percentage point reduction in the probability of Politburo selection, which also reflects a large impact given the base rate of election of 11.8 percent for *CollegeTie* $= 0$ candidates (who graduated from colleges with some variation in *CollegeTie*). The stability of our coefficients with the inclusion of controls at least mitigates concerns surrounding unobserved within-group differences in the quality (arising, for example, from differential selection onto the Central Committee) of connected versus unconnected candidates.

One concern is that the inclusion of group fixed effects may create a mechanical negative relationship between connections and selection, because a group with no connections at term t becomes connected at $t + 1$ precisely because a well-qualified candidate from the group at time t was elected in order to create the connection. This

[14] This has led other researchers to focus on particular work locales as nexuses of connection formation. Francois, Trebbi, and Xiao (2016), for example, highlights "the exceptionality of the Shanghai political machine" and thus look at the so-called Shanghai Gang of officials who worked in the Shanghai municipal bureaucracy in some capacity. As captured by the example of Xi Jinping, however, it may be particularly prone to concerns of endogenous work assignment. Furthermore, when we look at the effect of Shanghai Gang connections using the definition of Francois, Trebbi, and Xiao (2016) in a fixed effects specification, we estimate a negative effect, though very imprecisely measured.

[15] We suppress the coefficient estimates on the control variables in all tables to conserve space. For Table 3, which provides our main results, we show the full regression output in Appendix Table A1.

Table 4—Politburo Ties and First-Time Candidate Election Probability

	Elected to Politburo							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CityTie	−0.036				−0.040			
	(0.017)				(0.016)			
CollegeTie		−0.054				−0.050		
		(0.028)				(0.026)		
WorkTie			0.020				0.013	
			(0.013)				(0.012)	
CityorCollegeTie				−0.063				−0.063
				(0.021)				(0.021)
Individual controls					Yes	Yes	Yes	Yes
Term fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hometown fixed effects	Yes			Yes	Yes			Yes
College fixed effects		Yes		Yes		Yes		Yes
Workplace fixed effects			Yes				Yes	
Observations	1,166	582	1,270	839	1,166	582	1,270	839
R^2	0.196	0.251	0.494	0.328	0.291	0.366	0.594	0.352

Notes: The dependent variable in all specifications is an indicator variable denoting that the member of the Central Committee was elected to the Politburo. *CityTie* is an indicator variable denoting that the candidate shared his city of birth with an individual who was a Politburo member at the time of election. *CollegeTie* is an indicator variable denoting that the candidate went to the same university as an individual who was a Politburo member at the time of election. *WorkTie* is an indicator variable denoting that the candidate's worked at the same department in the same city at the same time as at least one Politburo member. *CityorCollegeTie* is an indicator variable denoting that *CityTie* $=$ 1 or *CollegeTie* $=$ 1. *Individual controls* include gender, age, education, previous eligible terms, a dummy variable for provincial leaders, a dummy variable for military leaders, a dummy variable for the party secretaries of Beijing, Shanghai, Tianjin, or Guangdong, and a Princeling dummy.

bias may be exacerbated by the fixed effects, which emphasize the within-group variation in connections. To assess the extent to which this is likely a first-order concern, we analyze a subsample of the data that includes only the candidate-term observations when an individual first appears in the Central Committee (and hence as a candidate for the Politburo). This removes from the sample the "leftover" candidates who are passed over (and thus remain in the candidate pool for the next term) when a group member is elected. Assuming that the quality of new arrivals at the Central Committee is independent across terms, the selecting out of high-quality candidates should be less of a concern in this subsample.

We present these results in Table 4, which estimates equation (1) on the subsample of first-time candidates. The point estimates reflecting the connections penalty for hometown and college ties are somewhat diminished, as are the base election rates: first-time candidates are generally selected less often. For our aggregated measure, the estimated coefficient declines only a small amount. While this test does not provide a decisive rejection of the selecting-out hypothesis (for example, the selecting out of higher quality candidates could take place below the Central Committee level), it does provide some suggestive evidence to the contrary. We note that there is a small positive correlation between workplace ties and selection in column 3, which is reduced in magnitude and significance with the addition of controls in column 7.

III. Heterogeneity in the Connections Penalty

Having established a robust negative within-group correlation between shared hometown/college backgrounds and election to the Politburo, we now turn to exploring how this "connections penalty" varies with the type of candidate or connection. Our analyses are guided by an interest in better understanding the mechanisms underlying our main result. We thus begin by laying out potential explanations for the connections penalty, and what patterns each may imply in the data. Throughout this section, we focus on hometown and college ties (given the lack of any discernible effect of workplace ties on selection) as well as our combined measure, *CityorCollegeTie*.

A. *Potential Explanations for the Connections Penalty*

In this section we describe three main classes of explanations for the connections penalty: (i) anti-factionalism; (ii) intra-group competition; and (iii) quotas and/or inter-group competition.

(i) *Anti-Factionalist Ideology*.—We begin with an explanation which turns the more standard favoritism intuition on its head: given concerns of favoring one's own group, Communist Party leaders have, since the Communist Revolution, inveighed against the dangers of "factionalism," and may have used Politburo selection as a visible and salient means of setting an example. The anti-factionalist rhetoric was fervent under China's postwar leader, Mao Zedong, who argued that it was harmful to both the collective and the individual if one chose to support another simply "because he is an old acquaintance, a fellow townsman, a schoolmate, a close friend, a loved one, an old colleague or old subordinate."[16] In addition to its prominence in Mao's rhetoric, anti-factionalism was written into the Communist Party's constitution during the 7th National Congress on June 11, 1945.[17]

Mao's successor, Deng Xiaoping, carried the torch of anti-factionalism forward, vociferously denying that he or Mao was ever associated with any faction and, like Mao, Deng spoke out against factions as impediments to party unity.[18]

Concerns of in-group favoritism led the government to impose rules, dating back to at least the early 1990s, with the express purpose of preventing local officials from favoring those from their home regions. Given the potent anti-factionalist rhetoric deployed by leaders in the postwar period, and perhaps the resulting desire to set an example (despite the absence of any formal restrictions on Politburo selection), connections may plausibly have been a liability rather than an advantage in Politburo selection.

[16] From *The Collected Works of Mao Zedong*, *Volume II*, translation obtained from https://www.marxists.org/reference/archive/mao/selected-works/volume-2/mswv2_03.htm.

[17] See in particular the General Principles, and also Article 23 of Section 1.

[18] See, for example, Deng's 1989 speech, "We must form a promising collective leadership that will carry out reform," reprinted in *The Collected Works of Deng Xiaoping*, *Volume III*.

We see this explanation primarily as a residual category for variation that is not well explained by other theories. Given Mao's particularly strong anti-factionalist writings, variation in the strength of the connections penalty over time (which we present at the end of Section IIIB) may provide a very tentative link to this explanation.

(ii) *Intra-Group Competition*.—Politburo members with shared backgrounds may compete for status and resources, and thus may wish to suppress the promotion of potential competitors. Francois, Trebbi, and Xiao (2016), for example, emphasizes competition among co-factional officials at the same level of the bureaucratic hierarchy. We take a similar view, in presuming that competition is more intense among individuals within a group at more comparable levels of seniority. In particular, more senior Politburo members, those in the Standing Committee, may be less concerned with the promotion of others within their group to more junior positions on the Politburo (there are only 13 instances in our data of politicians going straight from the Central Committee to the PSC). We conjecture, therefore, that intra-group competition may lead to a stronger connection penalty for non-PSC connections relative to PSC connections.

(iii) *Quotas or Inter-Group Competition*.—The same anti-factionalist motivations described in (i) above could operate effectively as a quota (even in the absence of explicit rules at the Politburo level). Relatedly (and with similar predictions), as emphasized in Francois, Trebbi, and Xiao (2016), groups may aim to limit any individual faction within the government from gaining too much power. This class of explanations for the connections penalty implies that Central Committee members of already-prevalent groups should have a higher connections penalty. To assess this possibility, we look at heterogeneity based on the prevalence of groups (in particular, whether a group has more than one member, or is the largest group) in the incumbent Politburo. We also compare the penalty from connections to incumbents who remain in the new Politburo, versus members who retire when the new Politburo is formed, as the latter group should not affect quotas or between-group power-sharing.

B. *Heterogeneity in the Connections Penalty: Results*

We begin by examining how the connections penalty varies as a function of the seniority of incumbent Politburo members. To do so, we include disaggregated versions of each of our connection variables, to allow for a differential effect of Standing Committee (suffix *PSC*) versus more junior Politburo incumbents (suffix *nonPSC*). We present these results in Table 5, for shared hometown and college ties, as well as our aggregated connection measure, *CityorCollegeTie*.

In columns 1 and 4 we show the results with *CityorCollegeTie_PSC* and *CityorCollegeTie_nonPSC* as explanatory variables, with and without controls. In both cases, the estimated coefficient on ties to the Standing Committee is close to zero, and significantly different (at least at the 10 percent level)

TABLE 5—PSC AND NONPSC TIES AND CANDIDATE ELECTION PROBABILITY

	Elected to Politburo					
	(1)	(2)	(3)	(4)	(5)	(6)
CityorCollegeTie_PSC	0.006			0.009		
	(0.039)			(0.035)		
CityorCollegeTie_nonPSC	−0.077			−0.075		
	(0.024)			(0.023)		
CityTie_PSC		0.008			−0.001	
		(0.046)			(0.034)	
CityTie_nonPSC		−0.082			−0.060	
		(0.028)			(0.021)	
CollegeTie_PSC			−0.064			−0.055
			(0.051)			(0.042)
CollegeTie_nonPSC			−0.099			−0.080
			(0.038)			(0.035)
Individual controls				Yes	Yes	Yes
Term fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Hometown fixed effects	Yes	Yes		Yes	Yes	
College fixed effects	Yes		Yes	Yes		Yes
PSC = nonPSC (p-value)	0.071	0.105	0.606	0.044	0.147	0.667
Observations	1,954	1,954	1,357	1,954	2,118	1,357
R^2	0.234	0.233	0.209	0.311	0.213	0.326

Notes: The dependent variable in all specifications is an indicator variable denoting that the member of the Central Committee was elected to the Politburo. *CityTie* is an indicator variable denoting that the candidate shared his city of birth with an individual who was a Politburo member at the time of election. *CollegeTie* is an indicator variable denoting that the candidate went to the same university as an individual who was a Politburo member at the time of election. *CityorCollegeTie* is an indicator variable denoting that *CityTie* = 1 or *CollegeTie* = 1. For each type of connection, *PSC* denotes a shared background with a Standing Committee member and *nonPSC* denotes a shared background with a Politburo member not on the Standing Committee. *Individual controls* include gender, age, education, previous eligible terms, a dummy variable for provincial leaders, a dummy variable for military leaders, a dummy variable for the party secretaries of Beijing, Shanghai, Tianjin, or Guangdong, and a Princeling dummy.

from *CityorCollegeTie_nonPSC*, which is negative, and indicates a connections penalty of roughly 7 percentage points. In the remaining columns, we present results for *CityTie* and *CollegeTie* separately, and observe that, while the non-PSC versus PSC difference is negative for both hometown and college connections, given the lack of precision in these specifications, we cannot reject the equality of coefficients in either case at the 10 percent level.

As noted in Section IIIA, the larger penalty for connections to more junior Politburo members is consistent with officials within a group viewing others at a comparable level as potential competitors. Naturally, given the observational nature of our data we cannot rule out other explanations that might be consistent with this pattern: for example, more senior members may use their influence to overcome a connections penalty that exists for other reasons.

We next turn to heterogeneity along two dimensions that relate to quota-based explanations for the connections penalty.

We begin with heterogeneity by a group's prevalence among Politburo incumbents, which we implement by augmenting our earlier specifications with explanatory variables that allow for a differential effect for cities or colleges with a larger number of Politburo members in a given term. For our first measure of this

"extensive margin" of connections, we generate indicator variables for hometowns and colleges with two or more ties in a given term (i.e., $I(CityTies \geq 2)$ and $I(CollegeTies \geq 2)$).[19] We also consider a variant based on our aggregated connection measure to denote whether a candidate is from a hometown with two or more connections or from an undergraduate institution with two or more connections ($I(CityTies \geq 2 \cup CollegeTies \geq 2)$).

We provide these results in the first three columns of Table 6 (to conserve space we present results only with full controls: the results without full controls are virtually identical). After accounting for the existence of at least one tie (via the variables used in our main analysis), the incremental role of multiple ties is negative, though very noisily measured.

In our second set of measures to capture group prominence, we define *LargestCityTie*, to denote candidates who share their hometown with the most commonly represented hometown among Politburo incumbents in a given term. We analogously define *LargestCollegeTie* for ties to the most prevalent college among Politburo incumbents, and *LargestCityorCollegeTie* if $LargestCityTie = 1$ or $LargestCollegeTie = 1$. The largest group measures capture prominence in a particular term, which varies across time.[20] We present results based on these alternative measures of group prominence in columns 4–6 of Table 6. Across all specifications, the estimated coefficient on the largest group variable is close to zero, though noisily measured, which does not allow us to draw any strong conclusions on how the connections penalty varies with group prominence.

In Table 7 we allow the connections penalty to vary as a function of whether incumbent Politburo member retires in the next term. To do so, we define variables (which are not mutually exclusive) for shared backgrounds with incumbent Politburo members who remain in office the following term (*CityTie_nonRetire*, etc.) and those that retire (*CityTie_Retire*, etc.). Again, we show our results only for specifications with full controls to conserve space, though the results are unchanged with the inclusion/exclusion of control variables. For both hometown and college ties, as well as our aggregate *CityorCollegeTie* variables, we estimate very similar negative coefficients for both retiring and non-retiring Politburo members. This result argues against quota-based explanations and, similarly, those based on efforts to prevent individual groups from gaining undue influence within the Politburo.

In our final set of heterogeneity analyses, we explore how the connections penalty varies over time. We focus on our overall connections measure, *CityorCollegeTie*, given the sparseness of our data when we allow the role of shared backgrounds to vary by time period, and include in all specifications both undergraduate institution and hometown fixed effects. In the first two columns, we divide our data

[19] There are few instances with more than two ties, which makes it difficult to look at how selection is affected as the number of ties grows. For example, the highest number of ties of a given hometown in our sample is 3, which occurs for Huang Gang, Tianjin, Changsha, and Shanghai. In only 5 of 12 terms in our data are there hometowns with 3 Politburo members. There is similar sparseness for college ties: only 1.7 percent of candidates are ever connected to three or more members via a college alumni tie. We look at these cases when we consider the largest group in each term in the second part of Table 6.

[20] Because relatively few hometowns or colleges ever have more than two representatives in the Politburo, there is much overlap between the measures in the two parts of Table 6. For example, 6.7 percent of candidates are connected via *LargestCityorCollegeTie*, which is only a little less than the 8.5 percent of candidates connected via a group with two or more incumbents.

TABLE 6—POLITBURO TIES AND CANDIDATE ELECTION PROBABILITY BY GROUP SIZE

	Elected to Politburo					
	(1)	(2)	(3)	(4)	(5)	(6)
CityorCollegeTie	−0.060			−0.067		
	(0.023)			(0.022)		
I(CityTies $\geq 2 \cup$ CollegeTies ≥ 2)	−0.046					
	(0.043)					
CityTie		−0.046			−0.051	
		(0.020)			(0.020)	
I(CityTies ≥ 2)		−0.031				
		(0.052)				
CollegeTie			−0.085			−0.087
			(0.039)			(0.036)
I(CollegeTies ≥ 2)			−0.030			
			(0.049)			
LargestCityorCollegeTie				−0.017		
				(0.049)		
LargestCityTie					−0.004	
					(0.062)	
LargestCollegeTie						−0.032
						(0.056)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Term fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Hometown fixed effects	Yes	Yes		Yes	Yes	
College fixed effects	Yes		Yes	Yes		Yes
Observations	1,954	2,118	1,357	1,954	2,118	1,357
R^2	0.312	0.213	0.327	0.311	0.212	0.327

Notes: The dependent variable in all specifications is an indicator variable denoting that the member of the Central Committee was elected to the Politburo. *CityTie* is an indicator variable denoting that the candidate shared his city of birth with an individual who was a Politburo member at the time of election. *CollegeTie* is an indicator variable denoting that the candidate went to the same university as an individual who was a Politburo member at the time of election. *CityorCollegeTie* is an indicator variable denoting that *CityTie* $= 1$ or *CollegeTie* $= 1$. In columns 1–3 we allow also for a differential effect of having two or more ties via a hometown or college. In columns 4–6 we allow also for a differential effect of being a member of the largest group within a term. See the text for additional details on variable construction. *Individual controls* include gender, age, education, previous eligible terms, a dummy variable for provincial leaders, a dummy variable for military leaders, a dummy variable for the party secretaries of Beijing, Shanghai, Tianjin, or Guangdong, and a Princeling dummy.

into three (roughly equal) time periods: *Mao* (terms 7–11), *Deng* (terms 12–14), and *postDeng* (terms 15–19). Table 8 presents results with variants on our main specification, with *CityorCollegeTie* $\times$ *TimePeriod* as explanatory variables for each of the three periods. The connections penalty is more than twice as large under Mao, relative to the other two time periods, which have near-identical (though imprecisely estimated) coefficients. A test for equality of coefficients between the earlier versus later two periods is rejected at the 10 percent level in the specification with controls. In column 3 we include a full set of interactions between all control variables and the time periods, to account for other features of candidate quality that may have shifted in importance across terms. The point estimates on *CityorCollegeTie* $\times$ *TimePeriod* are virtually unchanged (though less precisely estimated). In columns 4 and 5 we further disaggregate the post-Deng period into *Jiang* (terms 15 and 16), *Hu* (terms

Table 7—Ties to Retiring versus Non-Retiring Politburo Members and Candidate Election Probability

	Elected to Politburo		
	(1)	(2)	(3)
CityorCollegeTie_Retire	−0.069		
	(0.029)		
CityorCollegeTie_nonRetire	−0.069		
	(0.025)		
CityTie_Retire		−0.064	
		(0.025)	
CityTie_nonRetire		−0.038	
		(0.024)	
CollegeTie_Retire			−0.092
			(0.042)
CollegeTie_nonRetire			−0.094
			(0.037)
Individual controls	Yes	Yes	Yes
Term fixed effects	Yes	Yes	Yes
Hometown fixed effects	Yes	Yes	
College fixed effects	Yes		Yes
Observations	1,954	2,118	1,357
R^2	0.311	0.213	0.327

Notes: The dependent variable in all specifications is an indicator variable denoting that the member of the Central Committee was elected to the Politburo. *CityTie* is an indicator variable denoting that the candidate shared his city of birth with an individual who was a Politburo member at the time of election. *CollegeTie* is an indicator variable denoting that the candidate went to the same university as an individual who was a Politburo member at the time of election. *CityorCollegeTie* is an indicator variable denoting that *CityTie* $=$ 1 or *CollegeTie* $=$ 1. In each case, *Retire* denotes connections to a retiring Politburo member and *nonRetire* denotes connections to those remaining in office the following term. *Individual controls* include gender, age, education, previous eligible terms, a dummy variable for provincial leaders, a dummy variable for military leaders, a dummy variable for the party secretaries of Beijing, Shanghai, Tianjin, or Guangdong, and a Princeling dummy.

17 and 18), and *Xi* (term 19). All three interaction terms are negative, though (as expected) estimated with even less precision.

These patterns are broadly consistent with our reading of the relative emphasis on anti-factionalism in the postwar period, given the forcefulness of Mao's stance on the issue in particular. That said, the stability of coefficients with the inclusion of candidate-quality-times-time-period interactions notwithstanding, there are many features of Chinese politics that have shifted across decades and as such ascribing these over-time patterns as related, even in part, to shifting attitudes toward factionalism is decidedly speculative.

Taking stock of the results in this section, the heterogeneity in the connections penalty provides greater support for some underlying mechanisms than others. In particular, the much stronger connections penalty for ties to junior Politburo members (who would be in more direct competition with newly elected members from their group) suggests a role for within-group competition. By contrast, the near-identical connections penalty for retiring and non-retiring members argues

TABLE 8—POLITBURO TIES AND CANDIDATE ELECTION PROBABILITY BY PERIODS

	Elected to Politburo				
	(1)	(2)	(3)	(4)	(5)
CityorCollegeTie × Mao	−0.134	−0.127	−0.112	−0.134	−0.126
	(0.036)	(0.035)	(0.036)	(0.036)	(0.035)
CityorCollegeTie × Deng	−0.034	−0.044	−0.049	−0.034	−0.044
	(0.043)	(0.041)	(0.043)	(0.043)	(0.041)
CityorCollegeTie × postDeng	−0.063	−0.050	−0.051		
	(0.031)	(0.029)	(0.029)		
CityorCollegeTie × Jiang				−0.067	−0.057
				(0.048)	(0.045)
CityorCollegeTie × Hu				−0.065	−0.055
				(0.046)	(0.042)
CityorCollegeTie × Xi				−0.050	−0.020
				(0.068)	(0.064)
Individual controls		Yes	Yes		Yes
Individual controls × periods			Yes		
Term fixed effects	Yes	Yes	Yes	Yes	Yes
Hometown fixed effects	Yes	Yes	Yes	Yes	Yes
College fixed effects	Yes	Yes	Yes	Yes	Yes
Mao = Deng (p-value)	0.038	0.073	0.220	0.039	0.076
Mao = postDeng (p-value)	0.113	0.071	0.173		
Mao = (postDeng + Deng)/2 (p-value)	0.030	0.035	0.136		
Observations	1,954	1,954	1,954	1,954	1,954
R^2	0.237	0.313	0.333	0.237	0.313

Notes: The dependent variable in all specifications is an indicator variable denoting that the member of the Central Committee was elected to the Politburo. *CityTie* is an indicator variable denoting that the candidate shared his city of birth with an individual who was a Politburo member at the time of election. *CollegeTie* is an indicator variable denoting that the candidate went to the same university as an individual who was a Politburo member at the time of election. *CityorCollegeTie* is an indicator variable denoting that *CityTie* = 1 or *CollegeTie* = 1. The name of each leader is a dummy variable denoting elections that took place during his leadership terms: see the text for further details. *Individual controls* include gender, age, education, previous eligible terms, a dummy variable for provincial leaders, a dummy variable for military leaders, a dummy variable for the party secretaries of Beijing, Shanghai, Tianjin, or Guangdong, and a Princeling dummy.

against the most straightforward explanations based on quotas or other efforts to balance representation across groups. Similarly, we would expect such explanations to lead to a clearer increase in connections penalty as a function of the number of incumbent Politburo members from a group, which we do not observe in our data (though mainly because these specifications are imprecisely estimated). Finally, the patterns over time indicate that the connections penalty was far stronger under Mao. While there are many shifts in Chinese politics over this period, it is an intriguing finding given the forcefulness of Mao's anti-factional writings.

IV. Comparison to Earlier Estimates on Shared Background and Promotion

Given that our results stand in sharp contrast to the connections *benefit* documented in earlier work, we investigate which of the differences in our approach are responsible for the fact that our findings seem to contradict those of earlier work. We

Table 9—Summary of Previous Studies of Connection Benefits

	Francois et al. (2016)	Shih et al. (2012)	Jia et al. (2015)	Our paper
Sample and data				
Time period	13th–18th Congresses	12th–16th congress	1993–2009 (14th–17th)	8th–19th
Candidate sample	ACC through Politburo	ACC through PSC	Provincial leaders	CC (and ACC)
Variable construction				
Connection to	General secretary	General secretary	PSC	Politburo
Connected via	Shanghai and Youth League "gangs"	Hometown, college, and workplace overlap (aggregated)	Workplace overlap, college, and home province	Hometown and college
Promotions	ACC-CC-Politburo-PSC	ACC-CC-Politburo-PSC-GS	Politburo, Vice-Premier, State councilor	Politburo membership
Empirical approach				
Methodology	Reduced-form and model-based	Reduced-form and model-based	Reduced form	Reduced form
Identification of Social Tie effect	Difference-in-differences (based on GS turnover)	Cross-sectional	Cross-sectional	Within-group

Notes: We employ the following abbreviations in the table: ACC is Alternates of the Central Committee; CC is Central Committee; PSC is Politburo Standing Committee; GS is General Secretary. See the text for more details.

believe that providing a bit of structure to this discussion is a further contribution of our paper given the range of approaches and assumptions in recent work on promotion among elite Chinese politicians.

We focus primarily on three recent studies that we see as representing the most credible efforts at documenting the link between social connections and promotion: Shih, Adolph, and Liu (2012); Jia, Kudamatsu, and Seim (2015); and Francois, Trebbi, and Xiao (2016). Table 9 provides a summary of the key features of each of these papers, in comparison with our own, focusing on the following:

- *Sample*.—Both the level of hierarchy in which promotion is studied, as well as the time period;
- *Variable Construction*.—Measures of connections and also of promotion;
- *Empirical Approach*.—How the effect of shared background is identified, in particular cross-sectional versus difference-in-differences versus within-group estimation.

As the table makes clear, each paper (including our own) makes distinct choices in data construction and estimation. However, by exploring more deeply the patterns in our own data, we are able to understand better the particular features of these earlier papers that drive the positive relationship between shared background and promotion, and why our results differ from these prior estimates.

We begin reproducing the central result of earlier papers in our data, using definitions of shared background and estimation methodologies that are closer to those employed by prior studies. We define measures of shared background that center on workplace experience (an emphasis in all of the papers listed in Table 9), and that

focus on connections to very high-level officials. Specifically we define the following indicators for shared background:

(i) *WorkTie* is the variable we employed earlier in our analysis to capture overlapping work experience with at least one incumbent Politburo member. We include this variable given the emphasis on workplace ties in earlier work.

(ii) *WorkTie_PSC* to capture overlapping work experience with at least one incumbent Standing Committee member. We include this to account for the fact that all three earlier papers tend, in addition to focusing on work ties, to emphasize higher-level connections.[21]

(iii) *AnyTie* which indicates that *WorkTie*, *CityTie*, or *CollegeTie* is equal to 1. This very inclusive measure has a mean of 0.66. We include this definition because some prior studies (including Shih, Adolph, and Liu 2012) use all three types of shared background in defining connections.

(iv) *AnyTie_PSC* which is analogous to *AnyTie* but defined for Standing Committee connections only.

We present in Appendix Tables A2 and A3 results based on the *WorkTie* and *AnyTie* measures respectively. In each case, for both the main measure and also the PSC-focused one, we present three sets of coefficient estimates: (i) controlling only for term; (ii) controlling for term as well as candidate-level controls (age, past terms, etc.); (iii) including appropriate group fixed effects (workplace organization for the two workplace-based measures, and workplace, hometown, and college fixed effects for the *AnyTie* variables). A comparison between the unconditional estimates and those that account for candidate attributes provides an indication of how well these covariates account for quality differences, while a comparison to the fixed effects specification indicates the extent to which accounting for group-level differences in quality (and hence promotion probability) affects our estimates. Focusing first on specifications that control only for term of selection, the coefficients on the shared background variables are all positive, large, and statistically significant. When we include our full set of standard candidate controls, the coefficients on the shared background variables all decline substantially, indicating that, in the absence of individual-level controls, shared background was likely proxying at least in part for candidate quality. When we further add an appropriate set of fixed effects in the final columns in each table, the coefficients on the shared background variables are all estimated as close to 0.

[21] As indicated in Table 9, for both Shih, Adolph, and Liu (2012) and Francois, Trebbi, and Xiao (2016), connections are defined based on ties to the General Secretary only. We avoid this definition because we believe it to be too narrow, given the discussion of influence over Politburo selection provided in Section IA. Furthermore, it creates two distinct complications for our data. First, Deng never served as General Secretary, thus requiring an ad hoc shift in definition for this time period to account for his clear leadership role during his terms on the Standing Committee. Second, the timing of General Secretary transitions, which do not always coincide with Politburo selection, leading to further judgment calls in defining ties at this level. In practice, when we employ a definition based on General Secretary, the patterns are similar to those reported here: a positive association in the absence of workplace fixed effects, which disappears when workplace organization fixed effects are included.

Table 10—Politburo Ties and Candidate Election Probability, Understanding the Role of Group Fixed Effects

	Elected to Politburo		
	(1)	(2)	(3)
CityorCollegeTie	0.007	−0.005	−0.063
	(0.012)	(0.014)	(0.023)
Never-connected groups excluded		Yes	Yes
Individual controls	Yes	Yes	Yes
Term fixed effects	Yes	Yes	Yes
Hometown fixed effects			Yes
College fixed effects			Yes
Observations	2,176	1,456	1,324
R^2	0.132	0.129	0.308

Notes: The sample in columns 2 and 3 includes any individual from a hometown or college with at least one Politburo connection during the sample period. See text for further details. The dependent variable in all specifications is an indicator variable denoting that the member of the Central Committee was elected to the Politburo. *CityTie* is an indicator variable denoting that the candidate shared his city of birth with an individual who was a Politburo member at the time of election. *CollegeTie* is an indicator variable denoting that the candidate went to the same university as an individual who was a Politburo member at the time of election. *CityorCollegeTie* is an indicator variable denoting that *CityTie* $=$ 1 or *CollegeTie* $=$ 1. *Individual controls* include gender, age, education, previous eligible terms, a dummy variable for provincial leaders, a dummy variable for military leaders, a dummy variable for the party secretaries of Beijing, Shanghai, Tianjin, or Guangdong, and a Princeling dummy.

We draw two conclusions from the preceding results. First, relative to shared city and college background, there is a more positive pairwise association between overlapping work experiences and Politburo selection. We see as the most immediate explanation for this that workplace assignments are endogenous, and the result of an official's career potential. While certain hometowns and colleges may produce more high-potential bureaucrats, hometown or college "assignment" (in contrast to workplace assignment) is not *caused* by future promise as a politician.

We next turn to analyses based on *CityTie*, *CollegeTie*, and *CityorCollegeTie*, to further isolate the role that group fixed effects play in our estimated connections penalty. We present the results for the composite *CityorCollegeTie* variable in Table 10, and relegate the other results to Appendix Table A4, as further robustness checks. We present specifications that employ the following specifications: (i) including controls only for term and individual candidate attributes; (ii) including term and individual candidate controls, and limiting the sample to individuals affiliated with groups that have at least one connected candidate during our whole sample period; (iii) as in (ii), but also including appropriate group fixed effects. A comparison of (i) versus (ii) will indicate the extent to which our results differ from earlier work because we effectively get rid of variation from never-connected groups, while a comparison of (ii) versus (iii) indicates the extent to which our results differ because we throw out between-group variation entirely.

The patterns in Table 10 suggest that, while both factors play some role in generating the connections penalty in our fixed effects specifications, the addition of fixed effects in column 3 is the more decisive factor. Comparing column 1 (corresponding to specification (i)) and column 2 (corresponding to specification (ii)),

we see that the exclusion of never-connected hometowns leads the coefficient on *CityorCollegeTie* to decline by 1.2 percentage points. (The results in Table A4 indicate that this decline is driven by the *CityTie* variable.)

Comparing these results in turn to our fixed effects specifications (limiting the sample to those with variation in the relevant type of tie) in column 3 (corresponding to specification (iii)), we find a much sharper decline in the coefficient on *CityorCollegeTie*, of nearly 6 percentage points.

Taken together, the results in Table 10 and Appendix Tables A2–A4 indicate that our results differ from that of prior findings on Politburo selection because of our focus on city and college rather than workplace connections, as the coefficients for the former two types of ties are uniformly lower, regardless of the specification, and the inclusion of group fixed effects, which leads to a more negative relationship between shared background and Politburo selection, regardless of the type of connection.

In our final set of results, we examine the role of shared background in the promotion of Central Committee alternates to full membership in the Central Committee. We include these analyses in the current section because, as observed in Table 9, the promotions studied in earlier papers also include those of lower-level officials. Looking at the promotion of alternates allows us to consider whether the level of candidates in the Party hierarchy also affects our estimated connections penalty.

As noted in Section IA, Central Committee selection is conducted by the Politburo, and while there is not a well-defined set of candidates (as is the case for the Politburo, for which the Central Committee defines the candidate pool), the high rate of promotion from alternate to full membership of the Central Committee suggests that the former is a credible pool of candidates to study.

We present these results in Appendix Table A5, for *CityTie*, *CollegeTie*, and *CityorCollegeTie*. Before briefly discussing the results, a few notes are in order. First, because there are less systematic data available on Central Committee alternates, our set of control variables is somewhat thinner. Second, we are able to provide a direct measure of candidate popularity, based on the number of votes received during the Central Committee election. The ranks that result from these voting data are released to the public. A candidate's rank has real consequences: if a full member of the Central Committee is absent from a meeting (due to sickness, death, or arrest), the alternate Central Committee member with the highest votes serves as a temporary replacement. Finally, we observe that Central Committee alternates come from a somewhat wider range of educational backgrounds than those with full membership. In our data, we observe 527 distinct colleges for alternate members. Particularly given the smaller size of the alternate Central Committee body, this leads to a relatively large number of individuals who are the only representative of their college in the data.

With these observations and caveats in mind, we show results for promotion of alternates to full membership, both with and without group fixed effects. Our main finding is that the inclusion of group fixed effects once again leads to a lower estimated relationship between shared background and selection. Unlike our results on Politburo selection, however, we find that the relationship between shared hometown/college background and promotion is *positive* and significant in the absence

of fixed effects, and near zero with fixed effects included.[22] These results suggest that the prominence of Politburo selection in particular may be responsible in part for the results we report in Section II. However, a more systematic evaluation of this possibility will require a distinct and ambitious data collection, in order to assess the relationship between shared background and promotion at lower levels of the Party hierarchy.

V. Conclusion

In this paper we document that, among candidates for China's Politburo, those with hometown or college ties to incumbent Politburo members are less likely to be elected. Our results are of particular note because they stand in sharp contrast to the findings of earlier papers. We examine heterogeneity in the connections penalty, and observe that it is much stronger for ties to more junior Politburo members, which suggests that competition among officials with shared backgrounds may at least partly explain our main results. The fact that we observe a similar connections penalty for ties to retiring and non-retiring Politburo members argues against quota-based explanations.

Because our results contrast with those of earlier papers, we delve into the features of our estimation to account for the differences in findings. We suggest that both the type of shared background that one uses to measure connections, as well as the use of within- versus between-group variation, can help to explain our findings of a connections penalty.

Taking a broader view, our main analysis and findings emphasize also the care required in analyzing observational data on connections. In particular, in considering the full set of potential explanations for our results, we highlight the nuanced relationship between shared backgrounds and promotion. And by comparing results based on within- versus between-group variation, we show how cross-sectional analyses may be biased toward finding a positive effect of connections when none exists.

[22] The lack of any robust correlation between shared background and promotion to full Central Committee membership also argues against negative selection *into* the pool of Politburo candidates for connected individuals, which could itself lead to the connections "penalty" we document in our main results.

Appendix

Table A1—Politburo Ties and Candidate Election Probability, Full Set of Individual Controls Listed

	Elected to Politburo							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CityTie	−0.062				−0.051			
	(0.021)				(0.019)			
CollegeTie		−0.109				−0.093		
		(0.038)				(0.034)		
WorkTie			−0.003				−0.004	
			(0.013)				(0.013)	
CityorCollegeTie				−0.074				−0.069
				(0.023)				(0.022)
log(Age)					0.059	−0.035	0.030	0.060
					(0.050)	(0.095)	(0.047)	(0.069)
PriorCandidacies					0.050	0.054	0.036	0.055
					(0.009)	(0.014)	(0.008)	(0.011)
Provincial					0.024	0.044	0.050	0.026
					(0.017)	(0.022)	(0.015)	(0.022)
Military					−0.011	−0.010	0.015	−0.017
					(0.014)	(0.027)	(0.016)	(0.021)
4_Leaders					0.671	0.695	0.664	0.591
					(0.089)	(0.090)	(0.075)	(0.116)
College					0.005		−0.006	
					(0.013)		(0.013)	
Master					0.004	−0.032	−0.008	−0.011
					(0.017)	(0.024)	(0.016)	(0.027)
Doctor					−0.016	−0.036	0.009	−0.032
					(0.028)	(0.029)	(0.020)	(0.034)
Term fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hometown fixed effects	Yes			Yes	Yes			Yes
College fixed effects		Yes		Yes		Yes		Yes
Workplace fixed effects			Yes				Yes	
Observations	2,118	1,357	2,176	1,954	2,118	1,357	2,176	1,954
R^2	0.109	0.209	0.305	0.234	0.212	0.327	0.386	0.311

Notes: The dependent variable in all specifications is an indicator variable denoting that the member of the Central Committee was elected to the Politburo. *CityTie* is an indicator variable denoting that the candidate shared his city of birth with an individual who was a Politburo member at the time of election. *CollegeTie* is an indicator variable denoting that the candidate went to the same university as an individual who was a Politburo member at the time of election. *WorkTie* is an indicator variable denoting that the candidate's worked at the same department in the same city at the same time as at least one Politburo member. *CityorCollegeTie* is an indicator variable denoting that *CityTie* $=$ 1 or *CollegeTie* $=$ 1. *PriorCandidacies* is the number of previous terms the individual was a Politburo-eligible member of the Central Committee. *Provincial* is an indicator variable denoting that the candidate was provincial governor or party secretary at the time of the election. *Military* is an indicator variable denoting that the candidate was a high-ranking military official at the time of the election. *4_Leaders* is an indicator variable denoting that the candidate was the party secretary of one of three municipalities, Beijing, Shanghai, and Tianjin, or the party secretary of Guangdong. *Princeling* denotes that one or more of the candidate's parents or parents-in-law ever served as a Politburo member. *Male* denotes the candidate's gender. *College*, *Master*, and *Doctor* denote completion of bachelor's, master's, and doctoral degrees (note that *College* is the omitted category in specifications involving college fixed effects). Standard errors clustered by candidate in all regressions.

Table A2—Politburo Ties and Candidate Election Probability: Further Worktie-Focused Specifications

	Elected to Politburo					
	(1)	(2)	(3)	(4)	(5)	(6)
WorkTie	0.071		0.051		−0.004	
	(0.011)		(0.011)		(0.013)	
WorkTie_PSC		0.084		0.066		0.007
		(0.013)		(0.013)		(0.015)
Individual controls			Yes	Yes	Yes	Yes
Term fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Workplace fixed effects					Yes	Yes
Observations	2,176	2,176	2,176	2,176	2,176	2,176
R^2	0.0221	0.0285	0.139	0.144	0.386	0.386

Notes: The dependent variable in all specifications is an indicator variable denoting that the member of the Central Committee was elected to the Politburo. *WorkTie* is an indicator variable denoting that the candidate's worked at the same department in the same city at the same time as at least one Politburo member. The suffix PSC denotes connections to the Standing Committee.

Table A3—Politburo Ties and Candidate Election Probability, Incorporating Work, College, and Hometown Ties

	Elected to Politburo					
	(1)	(2)	(3)	(4)	(5)	(6)
AnyTie	0.059		0.042		−0.022	
	(0.011)		(0.010)		(0.017)	
AnyTie_PSC		0.073		0.060		0.009
		(0.013)		(0.012)		(0.022)
Individual controls			Yes	Yes	Yes	Yes
Term fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Workplace fixed effects					Yes	Yes
College fixed effects					Yes	Yes
Hometown fixed effects					Yes	Yes
Observations	2,176	2,176	2,176	2,176	1,954	1,954
R^2	0.0177	0.0243	0.137	0.142	0.534	0.534

Notes: The dependent variable in all specifications is an indicator variable denoting that the member of the Central Committee was elected to the Politburo. *CityTie* is an indicator variable denoting that the candidate shared his city of birth with an individual who was a Politburo member at the time of election. *CollegeTie* is an indicator variable denoting that the candidate went to the same university as an individual who was a Politburo member at the time of election. *WorkTie* is an indicator variable denoting that the candidate's worked at the same department in the same city at the same time as at least one Politburo member. *AnyTie* is an indicator variable denoting that $CityTie = 1$, $CollegeTie = 1$, or $WorkTie = 1$. The suffix *PSC* denotes connections to the Standing Committee. In columns 1 and 2 we include an indicator variable denoting college attendance, to distinguish college attendance from college connections. *Individual controls* include gender, age, education, previous eligible terms, a dummy variable for provincial leaders, a dummy variable for military leaders, a dummy variable for the party secretaries of Beijing, Shanghai, Tianjin, or Guangdong, and a Princeling dummy.

TABLE A4—UNDERSTANDING THE ROLE OF FIXED EFFECTS, DISAGGREGATING CITY AND COLLEGE TIES

	Elected to Politburo					
	(1)	(2)	(3)	(4)	(5)	(6)
CityTie	0.008		−0.025		−0.047	
	(0.014)		(0.017)		(0.019)	
CollegeTie		0.011		0.013		−0.083
		(0.018)		(0.021)		(0.035)
Never-connected groups excluded			Yes	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Term fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Hometown fixed effects					Yes	
College fixed effects						Yes
Observations	2,176	1,524	1,174	873	1,174	839
R^2	0.132	0.17	0.133	0.158	0.172	0.277

Notes: The sample in columns 3 and 5 includes only candidates from hometowns with at least one Politburo connection during the sample period. The sample in columns 4 and 6 does this for college ties. See text for further details. The dependent variable in all specifications is an indicator variable denoting that the member of the Central Committee was elected to the Politburo. *CityTie* is an indicator variable denoting that the candidate shared his city of birth with an individual who was a Politburo member at the time of election. *CollegeTie* is an indicator variable denoting that the candidate went to the same university as an individual who was a Politburo member at the time of election. *Individual controls* include gender, age, education, previous eligible terms, a dummy variable for provincial leaders, a dummy variable for military leaders, a dummy variable for the party secretaries of Beijing, Shanghai, Tianjin, or Guangdong, and a Princeling dummy.

Table A5—Politburo Ties and Promotion from Alternate to Full Central Committee Membership

	Promotion next term					
	(1)	(2)	(3)	(4)	(5)	(6)
CityTie	0.034	−0.017				
	(0.027)	(0.034)				
CollegeTie			0.124	0.027		
			(0.044)	(0.074)		
CityorCollegeTie					0.065	−0.031
					(0.025)	(0.042)
Past terms					−0.043	0.051
					(0.015)	(0.021)
College	0.041	0.022			0.034	0.075
	(0.023)	(0.028)			(0.023)	(0.112)
Military	−0.268	−0.293	−0.302	−0.342	−0.263	−0.278
	(0.016)	(0.022)	(0.021)	(0.058)	(0.016)	(0.039)
Master	−0.092	−0.081	−0.067	−0.110	−0.089	−0.100
	(0.031)	(0.036)	(0.034)	(0.056)	(0.030)	(0.062)
Doctor	−0.036	−0.057	−0.047	−0.042	−0.036	0.014
	(0.028)	(0.033)	(0.029)	(0.053)	(0.027)	(0.061)
Rank of popularity	−0.000	−0.000	−0.000	−0.000	−0.000	−0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Term fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Hometown fixed effects		Yes				Yes
College fixed effects				Yes		Yes
Observations	1,700	1,637	1,240	946	1,700	1,351
R^2	0.187	0.317	0.192	0.407	0.194	0.484

Notes: The dependent variable in all specifications is an indicator variable denoting that the Alternate member of the Central Committee was selected for full membership of the Central Committee. *CityTie* is an indicator variable denoting that the candidate shared his city of birth with an individual who was a Politburo member at the time of election. *CollegeTie* is an indicator variable denoting that the candidate went to the same university as an individual who was a Politburo member at the time of election. *CityorCollegeTie* is an indicator variable denoting that *CityTie* $=$ 1 or *CollegeTie* $=$ 1. *College*, *Master*, and *Doctor* denote completion of bachelor's, master's, and doctoral degrees. *Rank of Popularity* denotes rank in number of votes received for Alternate Central Committee members. See text for further details. Standard errors clustered by candidate in all regressions.

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