

Online Appendix

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A Descriptive Statistics

Table A1: Descriptive Statistics: Panel Dataset

Statistic	Mean	St. Dev.	Min	Max
Network Centrality: Degree	27.539	51.919	0	444
Central Committee: Full	0.579	0.494	0	1
Central Committee: Full (Civilian Only)	0.537	0.499	0.000	1.000
Standing Committee	0.023	0.149	0	1
Standing Committee (Civilians Only)	0.019	0.137	0.000	1.000
Politburo	0.072	0.259	0	1
Central Military Commission/Military Affairs Committee	0.058	0.233	0	1
Ordinal Promotion (1=Alternate, 2=Full, 3=Politburo)	1.654	0.613	1	3
Mao Era	0.216	0.411	0	1
Deng Era	0.196	0.397	0	1
Jiang Era	0.186	0.389	0	1
Hu Era	0.204	0.403	0	1
Xi Era	0.105	0.307	0	1
Ethnic Minority	0.096	0.294	0	1
College Graduate	0.008	0.087	0	1
Purged	0.014	0.119	0	1
Princeling	0.035	0.185	0	1
Network Centrality: Betweenness	1,893.514	5,182.237	0	46,342
Network Centrality: Authority	0.067	0.182	0	1

B People's Liberation Army Career Dataset

B.1 Coding Process

As discussed in the main text, the *People's Liberation Army Dataset* draws on two underlying sources of data. The first are a six-volume set of organizational histories (组织史) of the People's Liberation Army (PLA) from 1927 to 1992. An example page extracted from the PLA organizational histories detailing the senior leadership of the Northeastern Military Region from 1949 to 1955 is provided in Figure A1. The second are twenty-five annual volumes of the *Directory of PRC Military Personalities* from 1988 to 2014.¹⁴ An example page extracted from the 2008 edition detailing the composition of the General Political Department is provided in Figure A2.

Figure A1: Example from PLA Organizational Histories

一、东北军区及其党委领导人名录

(一)东北军区领导人名录

中华人民共和国成立后,东北军区的主要领导人继续留任。1954年5月,中共中央、中央军委决定,撤销高岗的东北军区司令员兼政治委员职务。早在同年2月,中央军委任命邓华为东北军区第一副司令员、代理司令员。1955年3月,中共全国代表会议作出《关于高岗、饶漱石反党联盟的决议》,开除高岗的党籍,撤销其党内外一切职务。

司 令 员 高 岗(1949.10—1954.5)
代 司 令 员 邓 华(1954.2—1955.3)
政 治 委 员 高 岗(兼,1949.10—1954.5)
第一副司令员 邓 华(1954.2—1955.3)
副 司 令 员 贺 晋 年(1950.5—1954.8)
副 政 治 委 员 李 富 春(1949.10—1955.3)
周 桓(1950.6—1955.3)
张 秀 山(1950.9—1954.5)
林 枫(1954.5—1955.4)

(二)东北军区党委领导人名录

1950年11月,经总政治部批准,成立由15人组成的东北军区党委,未设常务委员会。

书 记 高 岗(1950.11—1952.10)
副 书 记 贺 晋 年(1950.11—1952.10)

1952年10月,经总政治部批准,东北军区党委作了调整,党委委员21人,常务委员会由7人组成。此后,根据军区领导人的变动,军区党委成员相应作了增补。

书 记 高 岗(1952.10—1954.4)
副 书 记 周 桓(1952.10—1954.4)
常 委 (书记、副书记均为常委,从略)
贺 晋 年(1952.10—1954.4)
张 秀 山(1952.10—1954.4)
莫 文 骅(1952.10—1954.4)

¹⁴Note that we were unable to obtain the 2012 edition of the *Directory of PRC Military Personalities*.

Figure A2: Example from *Directory of PRC Military Personalities*

GENERAL POLITICAL DEPARTMENT OF THE PEOPLE'S LIBERATION ARMY					
Position	Rank	Name (Pin Yin)	Name STC	Name Chinese	Date Identified
DIR	GEN	LI JINAI	2621/4949/5082	李继耐	20040919
DDIR	GEN	LIU YONGZHI	0491/3057/3112	刘永治	20041217
DDIR	GEN	SUN ZHONGTONG	1327/1813/0681	孙忠同	20040713
DDIR	GEN, AF	LIU ZHENQI	0491/2182/6386	刘振起	20051125
DDIR	LGEN	JIA TINGAN	6328/1694/1344	贾廷安	20080114
ASST TO DIR	MGEN	DU JINCAI	2629/6855/2088	杜金才	20070630
ASST TO DIR	MGEN	XU YAORYUAN	6079/5069/0337	许耀元	20071026
SG		CHAI SHAOLIANG	2693/4801/5328	柴绍良	20080607
DSG		LI BIN(7)	2621/2430	李斌	20080829
<u>DISCIPLINE INSPECTION DEPARTMENT</u>					
DIR	MGEN	CAI JIHUA	5591/4949/5478	蔡继华	20080419
DIR, DI BUREAU		YIN QIU	1438/4428	尹秋	20050113
<u>FOREIGN AFFAIRS BUREAU, GENERAL OFFICE</u>					
DIR	SCOL	DONG JINRONG	PHONETIC	--	20000906
<u>JUSTICE BUREAU (SIFA JU), GENERAL OFFICE</u>					
DDIR		LIU ZHICHENG	0491/1807/2052	刘志成	20031012
<u>MASS WORK BUREAU (QUNGGONG JU), GENERAL OFFICE</u>					
DIR	MGEN	CHANG SHENGRONG	1603/3932/2837	常生荣	20021031
<u>CADRE DEPARTMENT (GANBU BU)</u>					
DIR		ZHU FUXI	2612/4395/3556	朱福熙	20080424
DDIR		YU DAQING	0060/1129/3237	于大清	20071100
DDIR		ZHANG CHAOJIN	1728/6389/6855	张超金	20071204
DDIR		LIN XIANGHAI	2651/4382/3189	林祥海	20080429
DDIR, CADRE TRNG BUREAU		LI GUIJIN	2621/2710/6855	李桂金	20001204
DDIR, CADRE TRNG BUREAU	SCOL	SHANG CHUNMING	0794/2504/2494	商春明	20001218
DDIR, CADRE TRNG BUREAU	SCOL	ZHOU GUOPING(1)	0719/0948/1627	周国平	20031104
DDIR, MODERN DRAMA TROUPE	SCOL	MENG BING	1322/0393	孟冰	20020405
<u>DIRECTLY SUBORDINATE ORGANS WORK DEPARTMENT (ZHISHU JIGUAN GONGZUO BU)</u>					
DIR		WANG SENTAI	3769/2773/3141	王森泰	20070529
PC	MGEN	DONG JISHUN	5516/0679/7311	董吉顺	20070101
DDIR		KONG QINGXIN	1313/1987/2450	孔庆新	20031110

NOTE: GPD DDIR'S ARE LISTED IN OFFICIALLY PUBLISHED ORDER

We followed a three-step process to extract the data needed to build our dataset from these materials. First, a team of research assistants used a combination of automated text recognition and manual coding to extract the Chinese name, English Name, organization, position, entry date, and exit date for each of the 41,603 military officers listed in these materials. The codebook for these variables is provided in Appendix §B.2 below. In total, our team coded 145,358 postings for each of these individuals.¹⁵

Second, we leveraged the historical narratives describing the evolution of the PLA organization within each history to create a standardized hierarchical nomenclature for all Chinese military units since 1927. Critically, we developed a standardized set of central military organizations, military regions, military districts, and field/group armies, such that each particular assignment could be matched across the sample. Officers at the top of the organizational hierarchy have “short” organizational affiliations. For example, all the organizational affiliation of officers assigned to the Nanjing Military Region headquarters is simply 南京军区. These organizational names become progressively longer as we move down the organizational hierarchy. For example, the organizational affiliation of an officer assigned to the Jiangsu Military District under the Nanjing Military Region is 南京军区, 江苏军区. Officers in subsidiary units below the level of detail discussed in the organizational histories are coded as “Other,” but inside their respective parent organization.¹⁶ For example, the organizational affiliation of an officer assigned to the Inspection Committee of the Jiangsu Military District in the Nanjing Military Region is 南京军区, 江苏军区, 其他. A second team of research assistants manually reviewed each extracted organizational affiliation to standardize it according to our nomenclature. In the case of assignments identified in the *Directory of PRC Military Personalities*, this required translation from English to Chinese to ensure consistency across the two sets of materials. The team followed a similar process to standardize the position that each individual held within the organization (e.g., commander (司令员), political commissar (政治委员), chief of Staff (参谋部长), minister (部长).

Third, given that we are interested in ties that form between civilian cadres and military officers over the course of their careers, we leveraged the PLA organizational histories to create an index identifying where each Military Region, Military District, and Group Army was headquartered.

B.2 Codebook

- `cname`: Chinese name of the PLA officer
- `ename`: English name of the PLA officer
- `organization`: name of the military unit in which the PLA officer served; organizations are organized hierarchically by military region (军区) and military district/sub-district (军分区); common organizations include:
 - Central Organizations
 - * General Staff Department (总参谋部)

¹⁵Note that because listings in the *Directory of PRC Military Personalities* are arranged by year, military assignments are aggregated by individual and organization to recover the start and end date for each assignment.

¹⁶Note that because there are many disparate organizations under the “Other” category, individuals cannot build military ties in our dataset through co-appointment in the “Other” category.

- * General Armaments Department (总装备部)
 - * General Logistics Department (总后勤部)
 - * Beijing Garrison Command (北京卫戍区)
 - * Second Artillery (Nuclear Force) (第二炮兵部队)
 - * PLA Academy (解放军学院)
 - * PLA Air Force (空军)
 - * PLA Navy (海军)
 - * Armed Police (武警)
- Military Regions
- * Beijing Military Region (北京军区)
 - * Guangzhou Military Region (广州军区)
 - * Shenyang Military Region (沈阳军区)
 - * Chengdu Military Region (成都军区)
 - * Lanzhou Military Region (兰州军区)
 - * Ji'nan Military Region (济南军区)
 - * And other historical Military Regions (non-exhaustive list)
- Military Districts
- * Xinjiang Military District (新疆军区)
 - * Guangdong Military District (广东军区)
 - * Yunnan Military District (云南军区)
 - * Hubei Military District (湖北军区)
 - * Tibet Military District (西藏军区)
 - * Guangxi Military District (广西军区)
 - * Heilongjiang Military District (黑龙江军区)
 - * And other historical Military Districts (non-exhaustive list)
- Group Armies
- * 12th Group Army (第12集团军)
 - * 14th Group Army (第14集团军)
 - * 16th Group Army (第16集团军)
 - * 20th Group Army (第20集团军)
 - * 26th Group Army (第26集团军)
 - * 39th Group Army (第39集团军)
 - * 40th Group Army (第40集团军)
 - * 41st Group Army (第41集团军)
 - * 42nd Group Army (第42集团军)
 - * 54th Group Army (第54集团军)
 - * And other historical Group Armies (non-exhaustive list)

- position: position that the individual held within the PLA organization; common position titles include:
 - Commander (司令员)
 - Deputy Commander (副司令员)
 - Political Commissar (政治委员)
 - Deputy Political Commissar (副政治委员)
 - Secretary (书记)
 - Vice Secretary (副书记)
 - Chief of Staff (参谋部长)
 - Minister (部长)
 - Vice Minister (副部长)
 - Army Commander (军长)
 - Deputy Army Commander (副军长)
 - Group Army Commander (团长)
 - Division Commander (师长)
- entry year the individual entered the position
- exit: year the individual exited the position

C Alternative Measurement Strategies

Table A2: Alternate outcome measure: Ordinal measure of promotion.

	<i>Dependent variable:</i>					
	Promotion (1=Alternate CC, 2=Full CC, 3=Politburo))					
	All		Civilians		Civilians Post-1989	
	(1)	(2)	(3)	(4)	(5)	(6)
Centrality in Military Networks	0.169*** (0.027)	0.157*** (0.026)	0.175*** (0.031)	0.164*** (0.031)	0.227*** (0.034)	0.194*** (0.036)
Civilian Network Centrality Score		0.081*** (0.021)		0.058** (0.027)		0.044 (0.032)
Individual fixed effects	✓	✓	✓	✓	✓	✓
Time period fixed effects	✓	✓	✓	✓	✓	✓
Controls		✓		✓		✓
Clusters	1857	1857	1503	1503	453	453
Observations	3,564	3,564	2,294	2,294	1,765	1,765
R ²	0.391	0.416	0.452	0.483	0.510	0.529

Note: Robust standard errors are clustered by individual.

*p<0.1; **p<0.05; ***p<0.01

C.1 Alternative Measurement Strategies: Panel of Prefecture-level Leaders

Table A3: Alternate measure of network centrality: Kleinberg's authority centrality scores. Dataset on city leaders. Outcome is promotion to the Central Committee.

	<i>Dependent variable:</i>					
	Promotion to Central Committee (Full or Alternate Member)					
	All		Civilians		Civilians Post-1989	
	(1)	(2)	(3)	(4)	(5)	(6)
Network Centrality: Authority	0.015*** (0.004)	0.013*** (0.004)	0.016*** (0.004)	0.015*** (0.004)	0.014*** (0.004)	0.013*** (0.004)
Individual fixed effects	✓	✓	✓	✓	✓	✓
Time period fixed effects	✓	✓	✓	✓	✓	✓
Controls		✓		✓		✓
Clusters	3795	3795	3795	3795	3795	3795
Observations	7,347	5,969	6,400	5,199	5,279	4,781
R ²	0.074	0.113	0.071	0.115	0.073	0.118
Adjusted R ²	-0.920	-0.814	-0.926	-0.810	-0.994	-0.859

Note: Robust standard errors are clustered by individual.

*p<0.1; **p<0.05; ***p<0.01

Table A4: Alternate measure of network centrality: Eigenvector scores (page rank). Dataset on city leaders. Outcome is promotion to the Full Central Committee and Network Ties to Military Officers.

	<i>Dependent variable:</i>					
	Promotion to Central Committee (Full or Alternate Member)					
	All		Civilians		Civilians Post-1989	
	(1)	(2)	(3)	(4)	(5)	(6)
Network Centrality: Eigenvector	3.627** (1.494)	3.948** (1.740)	3.483** (1.494)	4.065** (1.740)	14.634*** (1.494)	13.440*** (1.740)
Individual fixed effects	✓	✓	✓	✓	✓	✓
Time period fixed effects	✓	✓	✓	✓	✓	✓
Controls		✓		✓		✓
Clusters	3795	3795	3795	3795	3795	3795
Observations	7,347	5,969	6,400	5,199	5,279	4,781
R ²	0.069	0.109	0.063	0.109	0.080	0.125
Adjusted R ²	-0.931	-0.822	-0.942	-0.821	-0.978	-0.845

Note: Robust standard errors are clustered by individual.

*p<0.1; **p<0.05; ***p<0.01

C.2 Alternative Measurement Strategies: Panel of Central Committee Members

Table A5: Alternate measure of network centrality: Eigenvector scores (page rank). Dataset of full and alternate CC members. Outcome is promotion to the Full Central Committee.

	<i>Dependent variable:</i>					
	Promotion to Central Committee (Full Member)					
	All	Civilians		Civilians Post-1989		
	(1)	(2)	(3)	(4)	(5)	(6)
Military Centrality: Eigenvector	0.142*** (0.018)	0.145*** (0.018)	0.151*** (0.020)	0.161*** (0.021)	0.221*** (0.027)	0.224*** (0.027)
Civilian Network Centrality		0.009 (0.015)		0.025 (0.017)		-0.022 (0.028)
Individual fixed effects	✓	✓	✓	✓	✓	✓
Time period fixed effects	✓	✓	✓	✓	✓	✓
Controls		✓		✓		✓
Clusters	1857	1857	1503	1503	859	859
Observations	3,564	3,564	2,808	2,808	1,470	1,470
R ²	0.340	0.373	0.364	0.399	0.472	0.491
Adjusted R ²	-0.387	-0.356	-0.379	-0.352	-0.280	-0.275

Note: Robust standard errors are clustered by individual.

*p<0.1; **p<0.05; ***p<0.01

Table A6: Alternate measure of network centrality: Kleinberg’s authority centrality scores . Dataset of full and alternate CC members. Outcome is promotion to the Full Central Committee.

	<i>Dependent variable:</i>					
	Promotion to the Central Committee:					
	All		Civilians			
	(1)	(2)	(3)	(4)	(5)	(6)
Military Network Centrality: Authority	0.072*** (0.019)	0.062*** (0.019)	0.070*** (0.025)	0.055** (0.026)	0.048 (0.043)	0.042 (0.048)
Civilian Network Centrality		0.014 (0.015)		0.032* (0.017)		-0.003 (0.028)
Individual fixed effects	✓	✓	✓	✓	✓	✓
Time period fixed effects	✓	✓	✓	✓	✓	✓
Controls		✓		✓		✓
Clusters	1857	1857	1503	1503	859	859
Observations	3,564	3,564	2,808	2,808	1,470	1,470
R ²	0.313	0.348	0.330	0.366	0.401	0.427
Adjusted R ²	-0.443	-0.409	-0.454	-0.428	-0.452	-0.437

Note: Robust standard errors are clustered by individual.

*p<0.1; **p<0.05; ***p<0.01

Table A7: Promotion to the Central Committee and Network Ties to Military Officers.

	<i>Dependent variable:</i>			
	Promoted to Standing Committee: Civilians			
	(1)	(2)	(3)	(4)
Military Network Eigenvector Centrality	0.002 (0.010)	-0.025** (0.011)	-0.009 (0.011)	-0.038*** (0.013)
Outside Leader's Network	-0.001 (0.018)	0.027 (0.018)	0.019 (0.023)	0.042** (0.021)
Civilian Network Centrality		0.055*** (0.015)		0.050*** (0.017)
Mil. Eigenvector x Outside Leader Network	-0.042** (0.017)	-0.036** (0.016)	-0.044** (0.018)	-0.028* (0.015)
Individual fixed effects	✓	✓	✓	✓
Time period fixed effects	✓	✓	✓	✓
Controls		✓		✓
Clusters	1503	1503	859	859
Observations	2,805	2,805	1,470	1,470
R ²	0.088	0.226	0.119	0.307
Adjusted R ²	-0.982	-0.745	-1.144	-0.744

Note: Robust standard errors are clustered by individual.

*p<0.1; **p<0.05; ***p<0.01

Table A8: Alternate outcome (ordinal measure) and alternate measure of network centrality: Eigenvector scores (page rank). Dataset of full and alternate CC members. Outcome is promotion to the Full Central Committee.

	<i>Dependent variable:</i>					
	Ordinal Promotion Measure: All					
	(1)	(2)	(3)	(4)	(5)	(6)
Military Network Centrality: Eigenvector	0.134*** (0.023)	0.114*** (0.023)	0.152*** (0.026)	0.129*** (0.026)	0.208*** (0.027)	0.184*** (0.029)
Civilian Network Centrality		0.067*** (0.021)		0.058** (0.027)		0.032 (0.032)
Individual fixed effects	✓	✓	✓	✓	✓	✓
Time period fixed effects	✓	✓	✓	✓	✓	✓
Controls		✓		✓		✓
Clusters	1857	1857	1503	1503	859	859
Observations	3,564	3,564	2,294	2,294	1,765	1,765
R ²	0.389	0.435	0.455	0.497	0.518	0.537
Adjusted R ²	-0.283	-0.223	-0.157	-0.114	-0.166	-0.151

Note: Robust standard errors are clustered by individual.

*p<0.1; **p<0.05; ***p<0.01

D Alternative Models

Table A9: Alternate model: Random effects. Panel of city-level leaders. Outcome is promotion to the Central Committee.

	<i>Dependent variable:</i>					
	Promotion to Central Committee (Full or Alternate Member)					
	All		Civilians		Civilians Post-1989	
	(1)	(2)	(3)	(4)	(5)	(6)
Network Centrality: Degree	0.088*** (0.026)	0.091*** (0.028)	0.084*** (0.026)	0.085*** (0.028)	0.088*** (0.026)	0.083*** (0.028)
Random effects	✓	✓	✓	✓	✓	✓
Time period fixed effects	✓	✓	✓	✓	✓	✓
Controls		✓		✓		✓
Clusters	3795	3795	3795	3795	3795	3795
Observations	7,347	5,969	6,400	5,199	5,279	4,781
R ²	0.017	0.044	0.012	0.044	0.018	0.047
Adjusted R ²	0.015	0.041	0.010	0.041	0.017	0.045

Note: Robust standard errors are clustered by individual.

*p<0.1; **p<0.05; ***p<0.01

Table A10: Alternative model: random effects. Promotion to the Central Committee and Network Ties to Military Officers.

	<i>Dependent variable:</i>					
	Promoted to Central Committee:					
	All		Civilians			
	(1)	(2)	(3)	(4)	(5)	(6)
Military Network Degree Centrality	0.180*** (0.010)	0.166*** (0.010)	0.225*** (0.013)	0.163*** (0.014)	0.279*** (0.019)	0.221*** (0.021)
Civilian Network Degree Centrality		0.141*** (0.008)		0.157*** (0.010)		0.178*** (0.013)
Individual fixed effects	✓	✓	✓	✓	✓	✓
Time period fixed effects	✓	✓	✓	✓	✓	✓
Controls		✓		✓		✓
Clusters	1857	1857	1503	1503	859	859
Observations	3,564	3,564	2,808	2,808	1,470	1,470
R ²	0.092	0.158	0.100	0.172	0.143	0.235
Adjusted R ²	0.089	0.155	0.097	0.168	0.140	0.231

Note: Robust standard errors are clustered by individual.

*p<0.1; **p<0.05; ***p<0.01

Table A11: Alternative model: random effects. Promotion to the Central Committee and Network Ties to Military Officers.

	<i>Dependent variable:</i>			
	Promoted to Standing Committee: Civilians			
	(1)	(2)	(3)	(4)
Military Network Degree Centrality	0.050*** (0.009)	0.043*** (0.009)	0.055*** (0.012)	0.036*** (0.011)
Outside Leader's Network	-0.055*** (0.008)	-0.004 (0.007)	-0.056*** (0.010)	-0.005 (0.009)
Civilian Network Degree Centrality		0.039** (0.007)		0.040*** (0.007)
Mil. Degree x Outside Leader Network	-0.042*** (0.009)	-0.043*** (0.009)	-0.046*** (0.011)	-0.037*** (0.011)
Individual fixed effects	✓	✓	✓	✓
Time period fixed effects	✓	✓	✓	✓
Controls		✓		✓
Clusters	1503	1503	859	859
Observations	2,805	2,805	1,470	1,470
R ²	0.056	0.089	0.051	0.102
Adjusted R ²	0.052	0.087	0.046	0.098

Note: Robust standard errors are clustered by individual.

*p<0.1; **p<0.05; ***p<0.01

Table A12: Promotion to the Politburo and Network Ties to Military Officers.

	<i>Dependent variable:</i>			
	Promotion to the Politburo		Standing Committee	
	All Civilians		Civilians Post-1989	
	(1)	(2)	(3)	(4)
Military Network Degree Centrality	0.039* (0.022)	-0.008 (0.023)	0.063** (0.027)	0.010 (0.028)
Outside Leader's Network	-0.006 (0.024)	0.030 (0.023)	-0.026 (0.035)	-0.005 (0.032)
Civilian Network Degree Centrality		0.063*** (0.016)		0.043* (0.022)
Mil. Degree x Outside Leader Network	-0.025 (0.027)	-0.012 (0.025)	-0.078** (0.039)	-0.042 (0.037)
Individual fixed effects	✓	✓	✓	✓
Time period fixed effects	✓	✓	✓	✓
Controls		✓		✓
Clusters	1503	1503	859	859
Observations	2,805	2,805	1,470	1,470
R ²	0.132	0.247	0.181	0.331

Note: Robust standard errors are clustered by individual. Controls are for provincial secretary, provincial governor, ethnic minority, princeling, and education. *p<0.1; **p<0.05; ***p<0.01

E Sensitivity Analysis

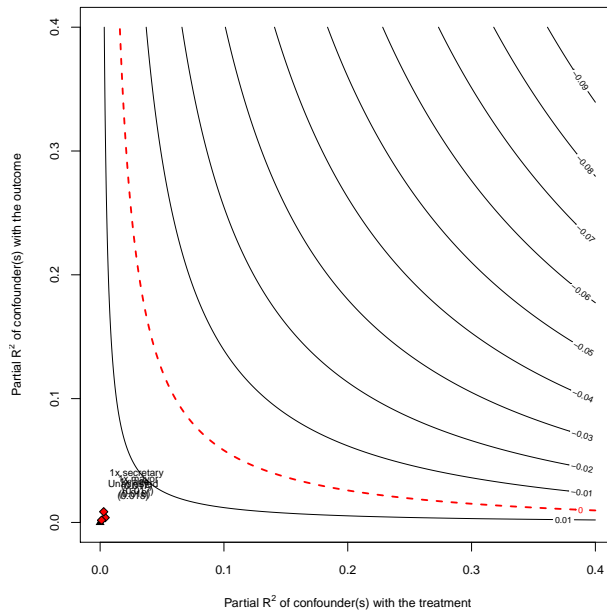


Figure A3: Sensitivity analysis the Standing Committee promotion results of the prefecture-level leaders, following procedure outline by [Cinelli and Hazlett \(2020\)](#). The figure shows the degree to which confounders would need to be correlated with the explanatory variable (degree centrality) and outcome (promotion to the Central Committee) in order to break the results. Three benchmark covariates are shown in red: being a prefectural governor or party secretary and age. The Figure show that to change the estimate from positive to negative, a confounder would need to be much more correlated with promotion and the outcome than serving as a governor or secretary or age. A confounder with partial R-squared of about 0.1 for both the outcome and explanatory variable would change the sign of the results, which is much more than the R-squared for any other variable in the model.

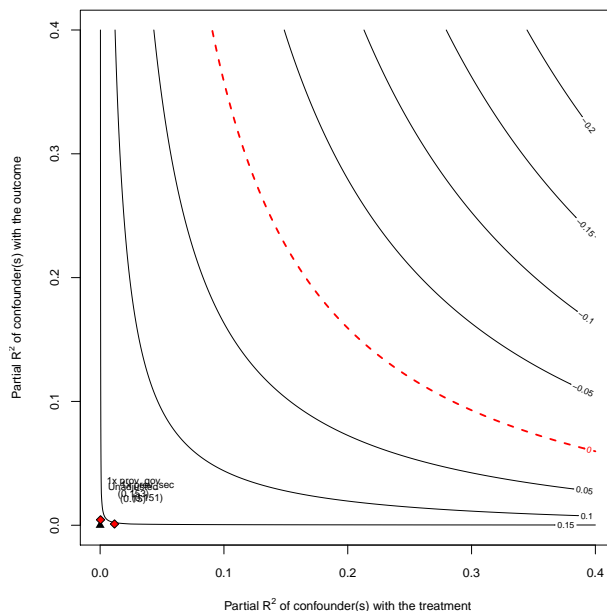


Figure A4: Sensitivity analysis the Central Committee promotion results following procedure outline by [Cinelli and Hazlett \(2020\)](#). The figure shows the degree to which confounders would need to be correlated with the explanatory variable (degree centrality) and outcome (promotion to the Central Committee) in order to break the results. Two benchmark covariates are shown in red: being a provincial governor or party secretary. The Figure show that to change the estimate from positive to negative, a confounder would need to be much more correlated with promotion and the outcome than serving as a governor or secretary. A confounder with need to have a partial R-squared of more than 0.2 for both the outcome and explanatory variable to switch the sign of the results, a robust result.