

Replication:  
How the Party Commands the Gun:  
The Foreign–Domestic Threat  
Dilemma in China

By Caesar Zhang

# Explaining the Original Work: Operationalisation of Variables

- Research Question: Who is more likely to be promoted to general and the Central Military Committee (CMC)?
- Hypothesis: There is a trade-off in loyalty and professionalism.
- Outcome variables:  
Central Committee Member: Yes (1) vs. No (0)  
Promoted to General: Yes (1) vs. No (0)
- Explanatory Variables:  
Career Connection with Leader: Yes (1) vs. No (0)  
Combat Experience after 1949: Yes (1) or No (0)  
Education: 1=primary graduate, 2=college/military academy graduate, 3=postgraduate

# Data Generation

- Original Dataset
- “extensive biographical data on nearly all officers who reached the level of deputy military region commander or deputy commissar”
- 779 officers are included

# Model Choice: OLS

- The author also ran the logit regression for the main table, but only OLS is included in the paper.
- The author ran OLS for the promotion & tie with different leaders, but did not run logit regression for it.
- The OLS is chosen, but the author did not give a reason for the selection.

# Findings by Author: Promotion to General (OLS)

Table 23: Cross-Sectional Measure of Promotion to General by CMC Chairman, Restricted to Generals Eligible For Promotion During Each Chairmans' Term.

	<i>Dependent variable:</i>							
	Promoted to General (Deng)		Promoted to General (Jiang)		Promoted to General (Hu)		Promoted to General (Xi)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Career Tie to Deng Xiaoping	0.203** (0.040)	0.185** (0.043)						
Career Tie to Jiang Zemin			0.034 (0.112)	0.061 (0.110)				
Career Tie to Hu Jintao					0.090 (0.251)	−0.062 (0.238)		
Career Tie to Xi Jinping							0.266** (0.097)	0.265** (0.097)
Constant	0.024 (0.018)	−0.228* (0.092)	0.232** (0.025)	−0.226 (0.323)	0.244** (0.031)	−0.161 (0.413)	0.119** (0.025)	−0.155 (0.140)
Observations	209	207	312	308	200	200	190	187
R <sup>2</sup>	0.110	0.198	0.0003	0.141	0.001	0.166	0.038	0.162
Adjusted R <sup>2</sup>	0.105	0.144	−0.003	0.100	−0.004	0.122	0.033	0.114

Note:

<sup>+</sup>p<0.1; \*p<0.05; \*\*p<0.01

# Findings by Author: Promotion to CMC (OLS)

Table 24: Cross-Sectional Measure of Promotion to CMC by CMC Chairman, Restricted to Generals Eligible For Promotion During Each Chairmans' Term.

	<i>Dependent variable:</i>							
	Promoted to CMC (Deng)		Promoted to CMC (Jiang)		Promoted to CMC (Hu)		Promoted to CMC (Xi)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Career Tie to Deng Xiaoping	0.480** (0.043)	0.075* (0.030)						
Career Tie to Jiang Zemin			0.019 (0.057)	0.029 (0.054)				
Career Tie to Hu Jintao					-0.046 (0.149)	-0.098 (0.140)		
Career Tie to Xi Jinping							0.351** (0.063)	0.288** (0.059)
Constant	0.020+ (0.010)	0.558** (0.048)	0.047** (0.012)	-0.145 (0.157)	0.046** (0.016)	0.991** (0.197)	0.034* (0.016)	0.373** (0.085)
Control variables		✓		✓		✓		✓
Observations	325	321	311	307	177	177	189	186
R <sup>2</sup>	0.274	0.806	0.0004	0.204	0.001	0.194	0.144	0.329
Adjusted R <sup>2</sup>	0.272	0.797	-0.003	0.166	-0.005	0.146	0.139	0.291

Note:

+p<0.1; \*p<0.05; \*\*p<0.01

# Findings by author, binary logit regression

Table 1: Promotion to full general-level position and to the CCP Central Military Commission

	<i>Dependent variable:</i>					
	Promoted to General			Promoted to CMC		
	(1)	(2)	(3)	(4)	(5)	(6)
Career Tie to Paramount Leader	0.200** (0.048)		0.133** (0.047)	0.176** (0.039)		0.128** (0.036)
Combat Experience, Post-1949		0.348** (0.052)	0.248** (0.057)		0.153** (0.042)	0.077* (0.039)
College-Level Education			0.129** (0.030)			0.049** (0.016)
Long March Participant			0.095 (0.095)			0.248** (0.075)
Political Commissar Experience			0.106** (0.032)			−0.018 (0.018)
Ethnic Minority			0.145 (0.124)			0.070 (0.070)
Princeling			0.010 (0.080)			−0.005 (0.043)
Rural Birth			0.071+ (0.042)			0.076** (0.027)
Constant	0.218** (0.016)	0.217** (0.016)	0.325+ (0.173)	0.045** (0.008)	0.055** (0.009)	0.250 (0.157)
Birth cohort fixed effects			✓			✓
Observations	764	779	755	764	779	755
R <sup>2</sup>	0.029	0.071	0.160	0.061	0.039	0.231
Adjusted R <sup>2</sup>	0.027	0.069	0.144	0.060	0.037	0.216

Table 25: Logistic Regression, Main Table: Promotion to full general and to the CCP Central Military Commission

	<i>Dependent variable:</i>					
	Promoted to General			Promoted to CMC		
	(1)	(2)	(3)	(4)	(5)	(6)
Career Tie to Paramount Leader	0.946** (0.208)		0.751** (0.246)	1.793** (0.291)		1.619** (0.385)
Combat Experience, Post-1949		1.543** (0.223)	1.239** (0.281)		1.515** (0.300)	0.855+ (0.450)
College-Level Education			0.879** (0.218)			1.135* (0.443)
Long March Participant			0.375 (0.474)			1.717+ (1.025)
Political Commissar Experience			0.667** (0.194)			−0.273 (0.374)
Ethnic Minority			0.784 (0.589)			1.273 (0.864)
Princeling			0.083 (0.473)			−0.140 (0.845)
Rural Birth			0.383 (0.234)			1.077** (0.379)
Constant	−1.277** (0.096)	−1.284** (0.093)	−1.136 (0.820)	−3.051** (0.190)	−2.852** (0.169)	−3.045** (1.150)
Birth cohort fixed effects			✓			✓
Observations	764	779	755	764	779	755
Log Likelihood	−419.616	−423.659	−366.939	−182.641	−195.206	−141.371
Akaike Inf. Crit.	843.231	851.317	763.878	369.282	394.412	312.741

Note:

+p<0.1; \*p<0.05; \*\*p<0.01

# My Contribution

- 1. Why we should use logit regression here, despite “the results remain robust” as in OLS?
- 2. Run logit regression on promotion & tie with different leaders  
(“Which leader is more likely to promote the “loyal”?”)  
Run logit regression on post-Deng officers  
(“With what features is an officers more likely to be promoted in post-Deng era?”)
- 3. Add three interaction effects in the main model:
  - rural : minority
  - combat\_post\_1949 : commissar
  - minority : commissar



# Promotion to General & Tie to leaders

## Original Code with OLS

```
lm1 <- lm(general_deng~deng.network, data=bio)
lm2 <- lm(general_deng~deng.network+combat_post_1949+college+participated_long_march+
  commissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio)
lm3 <- lm(general_jiang~jiang.network, data=bio)
lm4 <- lm(general_jiang~jiang.network+combat_post_1949+college+participated_long_march+
  commissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio)
lm5 <- lm(general_hu~hu.network, data=bio)
lm6 <- lm(general_hu~hu.network+combat_post_1949+college+participated_long_march+
  commissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio)
lm7 <- lm(general_xi~xi.network, data=bio)
lm8 <- lm(general_xi~xi.network+combat_post_1949+college+participated_long_march+
  commissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio)

stargazer(lm1, lm2, lm3, lm4, lm5, lm6, lm7, lm8, type = "latex",
  omit=c("combat_post_1949", "college", "participated_long_march", "commissar",
    "minority", "parent_CCP_leader", "rural", "cohort_decade"),
  label = "table_a18",
  omit.stat=c("f", "ser"),
  dep.var.labels = c("Promoted to General (Deng)", "Promoted to General (Jiang)",
    "Promoted to General (Hu)", "Promoted to General (Xi)"),
  title = "Cross-Sectional Measure of Promotion to General by CMC Chairman,
    Restricted to Generals Eligible For Promotion During Each Chairmans' Term.",
  covariate.labels = c("Career Tie to Deng Xiaoping", "Career Tie to Jiang Zemin",
    "Career Tie to Hu Jintao", "Career Tie to Xi Jinping"),
  star.char = c("+", "*", "***"),
  notes.append=FALSE,
  notes = c("$^{+}$p$<$0.1; $^{*}$p$<$0.05; $^{**}$p$<$0.01$"),
  out = "Table_A18.tex")
```

# Promotion to General & Tie to leaders

## Replicate with logit regression

```
glm1 <- glm(general_deng~deng.network, data=bio, family=binomial(link="logit"))
glm2 <- glm(general_deng~deng.network+combat_post_1949+college+participated_long_march+
  commissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio, family=binomial(link="logit"))
glm3 <- glm(general_jiang~jiang.network, data=bio, family=binomial(link="logit"))
glm4 <- glm(general_jiang~jiang.network+combat_post_1949+college+participated_long_march+
  commissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio, family=binomial(link="logit"))
glm5 <- glm(general_hu~hu.network, data=bio, family=binomial(link="logit"))
glm6 <- glm(general_hu~hu.network+combat_post_1949+college+participated_long_march+
  commissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio, family=binomial(link="logit"))
glm7 <- glm(general_xi~xi.network, data=bio, family=binomial(link="logit"))
glm8 <- glm(general_xi~xi.network+combat_post_1949+college+participated_long_march+c
  ommissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio, family=binomial(link="logit"))

stargazer(glm1, glm2, glm3, glm4, glm5, glm6, glm7, glm8, type = "latex",
  omit=c("combat_post_1949", "college", "participated_long_march",
    "commissar", "minority", "parent_CCP_leader", "rural", "cohort_decade"),
  label = "table_a18",
  omit.stat=c("f", "ser"),
  dep.var.labels = c("Promoted to General (Deng)", "Promoted to General (Jiang)",
    "Promoted to General (Hu)", "Promoted to General (Xi)"),
  title = "Logit Regression, Cross-Sectional Measure of Promotion to General by CMC Chairman,
    Restricted to Generals Eligible For Promotion During Each Chairmans' Term.",
  covariate.labels = c("Career Tie to Deng Xiaoping", "Career Tie to Jiang Zemin",
    "Career Tie to Hu Jintao", "Career Tie to Xi Jinping"),
  star.char = c("+", "*", "***"),
  notes.append=FALSE,
  notes = c("$^{+}$p$<$0.1; $^{*}$p$<$0.05; $^{**}$p$<$0.01$"),
  out = "Table_A18.tex")
```

# Promotion to General & Tie to leaders

## OLS vs. Logit Regression

Table 23: Cross-Sectional Measure of Promotion to General by CMC Chairman, Restricted to Generals Eligible For Promotion During Each Chairmans' Term.

	<i>Dependent variable:</i>							
	Promoted to General (Deng)		Promoted to General (Jiang)		Promoted to General (Hu)		Promoted to General (Xi)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Career Tie to Deng Xiaoping	0.203** (0.040)	0.185** (0.043)						
Career Tie to Jiang Zemin			0.034 (0.112)	0.061 (0.110)				
Career Tie to Hu Jintao					0.090 (0.251)	-0.062 (0.238)		
Career Tie to Xi Jinping							0.266** (0.097)	0.265** (0.097)
Constant	0.024 (0.018)	-0.228* (0.092)	0.232** (0.025)	-0.226 (0.323)	0.244** (0.031)	-0.161 (0.413)	0.119** (0.025)	-0.155 (0.140)
Observations	209	207	312	308	200	200	190	187
R <sup>2</sup>	0.110	0.198	0.0003	0.141	0.001	0.166	0.038	0.162
Adjusted R <sup>2</sup>	0.105	0.144	-0.003	0.100	-0.004	0.122	0.033	0.114

Note: +p<0.1; \*p<0.05; \*\*p<0.01

Table 27: Logit Regression, Cross-Sectional Measure of Promotion to General by CMC Chairman, Restricted to Generals Eligible For Promotion During Each Chairmans' Term.

	<i>Dependent variable:</i>							
	Promoted to General (Deng)		Promoted to General (Jiang)		Promoted to General (Hu)		Promoted to General (Xi)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Career Tie to Deng Xiaoping	2.471** (0.621)	2.692** (0.796)						
Career Tie to Jiang Zemin			0.184 (0.600)	0.475 (0.672)				
Career Tie to Hu Jintao					0.440 (1.236)	-0.353 (1.252)		
Career Tie to Xi Jinping							1.535* (0.616)	2.159** (0.788)
Constant	-3.695** (0.506)	-25.688 (5,135.905)	-1.195** (0.137)	-19.186 (2,795.266)	-1.133** (0.166)	-16.660 (1,455.398)	-2.005** (0.232)	-21.553 (3,982.260)
Observations	209	207	312	308	200	200	190	187
Log Likelihood	-42.412	-30.839	-169.693	-144.408	-111.295	-92.642	-73.128	-56.742
Akaike Inf. Crit.	88.824	89.678	343.386	318.816	226.590	207.285	150.255	135.483

Note: +p<0.1; \*p<0.05; \*\*p<0.01

# Promotion to CMC & Tie to leaders

## Original Code with OLS

```
lm1 <- lm(cmc_deng~deng.network, data=bio)
lm2 <- lm(cmc_deng~deng.network+combat_post_1949+college+participated_long_march+
  commissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio)
lm3 <- lm(cmc_jiang~jiang.network, data=bio)
lm4 <- lm(cmc_jiang~jiang.network+combat_post_1949+college+participated_long_march+
  commissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio)
lm5 <- lm(cmc_hu~hu.network, data=bio)
lm6 <- lm(cmc_hu~hu.network+combat_post_1949+college+participated_long_march+commissar+
  minority+parent_CCP_leader+rural+cohort_decade, data=bio)
lm7 <- lm(cmc_xi~xi.network, data=bio)
lm8 <- lm(cmc_xi~xi.network+combat_post_1949+college+participated_long_march+commissar+
  minority+parent_CCP_leader+rural+cohort_decade, data=bio)

stargazer(lm1, lm2, lm3, lm4, lm5, lm6, lm7, lm8, type = "latex",
  omit=c("combat_post_1949", "college", "participated_long_march", "commissar",
    "minority", "parent_CCP_leader", "rural", "cohort_decade"),
  label = "table_a19",
  omit.stat=c("f", "ser"),
  dep.var.labels = c("Promoted to CMC (Deng)", "Promoted to CMC (Jiang)",
    "Promoted to CMC (Hu)", "Promoted to CMC (Xi)"),
  title = "Cross-Sectional Measure of Promotion to CMC by CMC Chairman,
  Restricted to Generals Eligible For Promotion During Each Chairmans' Term.",
  covariate.labels = c("Career Tie to Deng Xiaoping", "Career Tie to Jiang Zemin",
    "Career Tie to Hu Jintao", "Career Tie to Xi Jinping"),
  add.lines=list(c("Control variables", "", "$\\checkmark$", "", "$\\checkmark$", "",
    "$\\checkmark$", "", "$\\checkmark$")),
  star.char = c("+", "*", "***"),
  notes.append=FALSE,
  notes = c("$^{+}$p$<$0.1; $^{*}$p$<$0.05; $^{**}$p$<$0.01$"),
  out = "Table_A19.tex")
```

# Promotion to CMC & Tie to leaders

## Replicate with logit regression

```
glm1 <- glm(cmc_deng~deng.network, data=bio, family=binomial(link="logit"))
glm2 <- glm(cmc_deng~deng.network+combat_post_1949+college+participated_long_march+
            commissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio, family=binomial(link="logit"))
glm3 <- glm(cmc_jiang~jiang.network, data=bio, family=binomial(link="logit"))
glm4 <- glm(cmc_jiang~jiang.network+combat_post_1949+college+participated_long_march+
            commissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio, family=binomial(link="logit"))
glm5 <- glm(cmc_hu~hu.network, data=bio, family=binomial(link="logit"))
glm6 <- glm(cmc_hu~hu.network+combat_post_1949+college+participated_long_march+
            commissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio, family=binomial(link="logit"))
glm7 <- glm(cmc_xi~xi.network, data=bio, family=binomial(link="logit"))
glm8 <- glm(cmc_xi~xi.network+combat_post_1949+college+participated_long_march+
            commissar+minority+parent_CCP_leader+rural+cohort_decade, data=bio, family=binomial(link="logit"))

stargazer(glm1, glm2, glm3, glm4, glm5, glm6, glm7, glm8, type = "latex",
  omit=c("combat_post_1949", "college", "participated_long_march", "commissar", "minority",
        "parent_CCP_leader", "rural", "cohort_decade"),
  label = "table_a19",
  omit.stat=c("f", "ser"),
  dep.var.labels = c("Promoted to CMC (Deng)", "Promoted to CMC (Jiang)", "Promoted to CMC (Hu)",
                    "Promoted to CMC (Xi)"),
  title = "logit regression Cross-Sectional Measure of Promotion to CMC by CMC Chairman,
Restricted to Generals Eligible For Promotion During Each Chairmans' Term.",
  covariate.labels = c("Career Tie to Deng Xiaoping", "Career Tie to Jiang Zemin",
                      "Career Tie to Hu Jintao", "Career Tie to Xi Jinping"),
  add.lines=list(c("Control variables", "", "$\\checkmark$", "", "$\\checkmark$", "",
                  "$\\checkmark$", "", "$\\checkmark$")),
  star.char = c("+", "*", "***"),
  notes.append=FALSE,
  notes = c("$^{+}$p$<$0.1; $^{*}$p$<$0.05; $^{**}$p$<$0.01$"),
  out = "Table_A19.tex")
```

# Promotion to CMC & Tie to leaders

## OLS vs. Logit Regression

Table 24: Cross-Sectional Measure of Promotion to CMC by CMC Chairman, Restricted to Generals Eligible For Promotion During Each Chairmans' Term.

	<i>Dependent variable:</i>							
	Promoted to CMC (Deng)		Promoted to CMC (Jiang)		Promoted to CMC (Hu)		Promoted to CMC (Xi)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Career Tie to Deng Xiaoping	0.480** (0.043)	0.075* (0.030)						
Career Tie to Jiang Zemin			0.019 (0.057)	0.029 (0.054)				
Career Tie to Hu Jintao					-0.046 (0.149)	-0.098 (0.140)		
Career Tie to Xi Jinping							0.351** (0.063)	0.288** (0.059)
Constant	0.020+ (0.010)	0.558** (0.048)	0.047** (0.012)	-0.145 (0.157)	0.046** (0.016)	0.991** (0.197)	0.034* (0.016)	0.373** (0.085)
Control variables		✓		✓		✓		✓
Observations	325	321	311	307	177	177	189	186
R <sup>2</sup>	0.274	0.806	0.0004	0.204	0.001	0.194	0.144	0.329
Adjusted R <sup>2</sup>	0.272	0.797	-0.003	0.166	-0.005	0.146	0.139	0.291

Note:

+p<0.1; \*p<0.05; \*\*p<0.01

Table 28: logit regression Cross-Sectional Measure of Promotion to CMC by CMC Chairman, Restricted to Generals Eligible For Promotion During Each Chairmans' Term.

	<i>Dependent variable:</i>							
	Promoted to CMC (Deng)		Promoted to CMC (Jiang)		Promoted to CMC (Hu)		Promoted to CMC (Xi)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Career Tie to Deng Xiaoping	3.915** (0.626)	21.346 (24,859.740)						
Career Tie to Jiang Zemin			0.364 (1.071)	0.747 (1.297)				
Career Tie to Hu Jintao					-13.528 (1,696.734)	-18.893 (12,531.920)		
Career Tie to Xi Jinping							2.874** (0.705)	3.511** (1.091)
Constant	-3.915** (0.412)	7.095 (308,115.800)	-3.003** (0.274)	-21.648 (7,025.609)	-3.039** (0.362)	4.584 (17,849.010)	-3.344** (0.415)	-2.832+ (1.572)
Control variables		✓		✓		✓		✓
Observations	325	321	311	307	177	177	189	186
Log Likelihood	-42.028	-0.000	-60.056	-44.017	-32.497	-21.875	-34.831	-20.063
Akaike Inf. Crit.	88.056	30.000	124.112	118.033	68.994	65.750	73.661	62.126

Note:

+p<0.1; \*p<0.05; \*\*p<0.01

# logit regression on post-Deng officers, not OLS

- Outcome variables, promotion to general & promotion to CMC are binary;
- The coefficients in the OLS model can only tell direction, but we can't interpret individual coefficient (the partial effect);



# OLS vs. Logit regression: Code

```
lm1 <- lm(general~cmc_chair_connection_current, data=bio, subset=post_deng==1)
lm2 <- lm(general~combat_post_1949, data=bio, subset=post_deng==1)
lm3 <- lm(general~cmc_chair_connection_current+combat_post_1949+
          college+participated_long_march+commissar+minority+parent_CCP_leader+rural, data=bio, subset=post_deng==1)
lm4 <- lm(cmc~cmc_chair_connection_current, data=bio, subset=post_deng==1)
lm5 <- lm(cmc~combat_post_1949, data=bio, subset=post_deng==1)
lm6 <- lm(cmc~cmc_chair_connection_current+combat_post_1949
          +college+participated_long_march+commissar+minority+parent_CCP_leader+rural, data=bio, subset=post_deng==1)

rob.fit1 <- coeftest(lm1, function(x) vcovHC(x, type="HC3"))
rob.fit2 <- coeftest(lm2, function(x) vcovHC(x, type="HC3"))
rob.fit3 <- coeftest(lm3, function(x) vcovHC(x, type="HC3"))
rob.fit4 <- coeftest(lm4, function(x) vcovHC(x, type="HC3"))
rob.fit5 <- coeftest(lm5, function(x) vcovHC(x, type="HC3"))
rob.fit6 <- coeftest(lm6, function(x) vcovHC(x, type="HC3"))

stargazer(lm1, lm2, lm3, lm4, lm5, lm6, type = "latex",
          se = list(rob.fit1[, "Std. Error"], rob.fit2[, "Std. Error"],
                    rob.fit3[, "Std. Error"], rob.fit4[, "Std. Error"],
                    rob.fit5[, "Std. Error"], rob.fit6[, "Std. Error"]),
          omit=c("cohort_decade"),
          label = "table_a11",
          omit.stat=c("f", "ser"),
          dep.var.labels = c("Promoted to General", "Promoted to CMC"),
          title = "Post-Deng Officers Only: Promotion to full general-level
position and to the CCP Central Military Commission",
          star.char = c("+", "*", "**"),
          notes.append=FALSE,
          notes = c("$^{+}$p$<$0.1; $^{*}$p$<$0.05; $^{**}$p$<$0.01$"),
          covariate.labels = c("Career Tie to Paramount Leader",
                               "Combat Experience, Post-1949", "College-Level Education",
                               "Long March Participant", "Political Commissar Experience",
                               "Ethnic Minority", "Princeling", "Rural Birth"),
          out = "Table_A11.tex")
```



# OLS vs. Logit regression: Code

```
glm1 <- glm(general~cmc_chair_connection_current, data=bio, subset=post_deng==1, family=binomial(link="logit"))
glm2 <- glm(general~combat_post_1949, data=bio, subset=post_deng==1, family=binomial(link="logit"))
glm3 <- glm(general~cmc_chair_connection_current+combat_post_1949+college+participated_long_march+
            commissar+minority+parent_CCP_leader+rural, data=bio, subset=post_deng==1, family=binomial(link="logit"))
glm4 <- glm(cmc~cmc_chair_connection_current, data=bio, subset=post_deng==1, family=binomial(link="logit"))
glm5 <- glm(cmc~combat_post_1949, data=bio, subset=post_deng==1, family=binomial(link="logit"))
glm6 <- glm(cmc~cmc_chair_connection_current+combat_post_1949+college+participated_long_march+
            commissar+minority+parent_CCP_leader+rural, data=bio, subset=post_deng==1, family=binomial(link="logit"))

rob.fit1 <- coeftest(glm1, function(x) vcovHC(x, type="HC3"))
rob.fit2 <- coeftest(glm2, function(x) vcovHC(x, type="HC3"))
rob.fit3 <- coeftest(glm3, function(x) vcovHC(x, type="HC3"))
rob.fit4 <- coeftest(glm4, function(x) vcovHC(x, type="HC3"))
rob.fit5 <- coeftest(glm5, function(x) vcovHC(x, type="HC3"))
rob.fit6 <- coeftest(glm6, function(x) vcovHC(x, type="HC3"))

stargazer(glm1, glm2, glm3, glm4, glm5, glm6, type = "latex",
  se = list(rob.fit1[, "Std. Error"], rob.fit2[, "Std. Error"],
            rob.fit3[, "Std. Error"], rob.fit4[, "Std. Error"],
            rob.fit5[, "Std. Error"], rob.fit6[, "Std. Error"]),
  omit=c("cohort_decade"),
  label = "table_a11",
  omit.stat=c("f", "ser"),
  dep.var.labels = c("Promoted to General", "Promoted to CMC"),
  title = "glm, Post-Deng Officers Only: Promotion to full general-level
position and to the CCP Central Military Commission",
  star.char = c("+", "*", "**"),
  notes.append=FALSE,
  notes = c("$^{+}$p$<$0.1; $^{*}$p$<$0.05; $^{**}$p$<$0.01$"),
  covariate.labels = c("Career Tie to Paramount Leader",
                      "Combat Experience, Post-1949", "College-Level Education",
                      "Long March Participant", "Political Commissar Experience",
                      "Ethnic Minority", "Princeling", "Rural Birth"),
  out = "Table_A11.tex")
```

# OLS vs. Logit regression: Output

Table 17: Post-Deng Officers Only: Promotion to full general-level position and to the CCP Central Military Commission

	<i>Dependent variable:</i>					
	Promoted to General			Promoted to CMC		
	(1)	(2)	(3)	(4)	(5)	(6)
Career Tie to Paramount Leader	0.169** (0.055)		0.125* (0.055)	0.129** (0.041)		0.100** (0.038)
Combat Experience, Post-1949		0.349** (0.066)	0.245** (0.072)		0.117* (0.047)	0.058 (0.043)
College-Level Education			0.133** (0.031)			0.039** (0.015)
Long March Participant			0.459** (0.159)			0.429* (0.214)
Political Commissar Experience			0.110** (0.034)			−0.017 (0.017)
Ethnic Minority			0.022 (0.131)			0.017 (0.069)
Princeling			−0.014 (0.078)			0.007 (0.044)
Rural Birth			0.088+ (0.048)			0.055+ (0.031)
Constant	0.203** (0.017)	0.207** (0.017)	0.040 (0.024)	0.034** (0.008)	0.042** (0.008)	−0.0005 (0.011)
Observations	648	663	648	648	663	648
R <sup>2</sup>	0.019	0.057	0.114	0.040	0.024	0.110
Adjusted R <sup>2</sup>	0.017	0.056	0.103	0.038	0.022	0.099

Note:

+p<0.1; \*p<0.05; \*\*p<0.01

Table 18: glm, Post-Deng Officers Only: Promotion to full general-level position and to the CCP Central Military Commission

	<i>Dependent variable:</i>					
	Promoted to General			Promoted to CMC		
	(1)	(2)	(3)	(4)	(5)	(6)
Career Tie to Paramount Leader	0.845** (0.249)		0.707* (0.284)	1.715** (0.377)		1.497** (0.425)
Combat Experience, Post-1949		1.568** (0.277)	1.262** (0.336)		1.468** (0.406)	0.740 (0.545)
College-Level Education			0.937** (0.240)			1.153* (0.487)
Long March Participant			2.679+ (1.433)			2.374+ (1.291)
Political Commissar Experience			0.693** (0.206)			−0.403 (0.430)
Ethnic Minority			0.171 (0.707)			0.434 (1.275)
Princeling			−0.070 (0.469)			0.151 (0.777)
Rural Birth			0.508+ (0.262)			0.929* (0.464)
Constant	−1.369** (0.105)	−1.345** (0.101)	−2.569** (0.243)	−3.353** (0.234)	−3.135** (0.205)	−4.436** (0.478)
Observations	648	663	648	648	663	648
Log Likelihood	−340.195	−348.983	−310.012	−121.236	−131.489	−109.285
Akaike Inf. Crit.	684.390	701.965	638.024	246.473	266.979	236.570

Note:

+p<0.1; \*p<0.05; \*\*p<0.01

# Interaction 1

## Minority : Rural

```
## additive model: general promotion
glm_general <- glm(general~cmc_chair_connection_current+combat_post_1949
                  +college+participated_long_march+commissar+minority+
                  parent_CCP_leader+rural+cohort_decade, data=bio, family=binomial(link="logit"))
summary(glm_general)
stargazer(glm_general, titile = "logit model, additive: general")
```

```
## interaction model: general promotion
glm_int_general <- glm(general~cmc_chair_connection_current+combat_post_1949
                      +college+participated_long_march+commissar+minority+
                      parent_CCP_leader+rural+cohort_decade +
                      minority : rural, data=bio, family=binomial(link="logit"))
summary(glm_int_general)
stargazer(glm_int_general, titile = "logit model, additive: general")
```

```
## additive model: cmc promotion
glm_cmc <- glm(cmc~cmc_chair_connection_current+combat_post_1949
              +college+participated_long_march+commissar+minority+
              parent_CCP_leader+rural+cohort_decade, data=bio, family=binomial(link="logit"))
summary(glm)
stargazer(glm, title = "logit model, additive: cmc")
```

```
## interaction model: cmc promotion
glm_int_cmc <- glm(cmc~cmc_chair_connection_current+combat_post_1949
                  +college+participated_long_march+commissar+minority+
                  parent_CCP_leader+rural+cohort_decade + minority : rural, data=bio, family=binomial(link="logit"))
summary(glm_int)
stargazer(glm_int, title = "logit model, interaction: cmc")
```

# Additive vs. Interaction: General Promotion

Holding other covariates constant, if an officer from ethnic minority background is born in rural China, the log odds of that officer being promoted to general are by 0.516 larger than those officers from ethnic minority families and born in urban on average.

But the interaction effect is not significantly different from 0.

Therefore, the effect of being born in rural China does not have a different effect (that statistically significantly different from 0) between officers from Han ethnicity and ethnic minority on being promoted to general or not.

Table 11: logit model, additive: general

	<i>Dependent variable:</i>
	general
cmc_chair_connection_current	0.751*** (0.237)
combat_post_1949	1.239*** (0.274)
college	0.879*** (0.217)
participated_long_march	0.375 (0.446)
commissar	0.667*** (0.188)
minority	0.784 (0.538)
parent_CCP_leader	0.083 (0.451)
rural	0.383* (0.232)
cohort_decade1	-0.782 (0.706)
cohort_decade2	-1.751** (0.754)
cohort_decade3	-1.397* (0.742)
cohort_decade4	-1.608** (0.733)
cohort_decade5	-1.139 (0.729)
cohort_decade6	-2.087** (0.944)
Constant	-1.136 (0.736)
Observations	755
Log Likelihood	-366.939
Akaike Inf. Crit.	763.878
<i>Note:</i> *p<0.1; **p<0.05; ***p<0.01	

Table 12: logit model, interaction, general

	<i>Dependent variable:</i>
	general
cmc_chair_connection_current	0.755*** (0.237)
combat_post_1949	1.234*** (0.274)
college	0.880*** (0.217)
participated_long_march	0.372 (0.447)
commissar	0.670*** (0.188)
minority	0.694 (0.599)
parent_CCP_leader	0.093 (0.452)
rural	0.372 (0.234)
cohort_decade1	-0.784 (0.706)
cohort_decade2	-1.765** (0.755)
cohort_decade3	-1.398* (0.742)
cohort_decade4	-1.614** (0.733)
cohort_decade5	-1.143 (0.729)
cohort_decade6	-2.085** (0.943)
minority:rural	0.516 (1.446)
Constant	-1.131 (0.736)
Observations	755
Log Likelihood	-366.874
Akaike Inf. Crit.	765.747
<i>Note:</i> *p<0.1; **p<0.05; ***p<0.01	

# Additive vs. Interaction: CMC Promotion

Holding other covariates constant, if an officer from ethnic minority background is born in rural China, the log odds of that officer being promoted to CMC are by 1.055 larger than those officers from ethnic minority families and born in urban on average.

But the interaction effect is not significantly different from 0.

Therefore, the effect of being born in rural China does not have a different effect between officers from Han ethnicity and ethnic minority on being promoted to CMC or not.

Table 9: logit model, additive: cmc

	Dependent variable:
	cmc
cmc_chair_connection_current	1.619*** (0.356)
combat_post_1949	0.855** (0.425)
college	1.135*** (0.440)
participated_long_march	1.717** (0.741)
commissar	-0.273 (0.350)
minority	1.273 (0.845)
parent_CCP_leader	-0.140 (0.815)
rural	1.077*** (0.386)
cohort_decade1	-1.924** (0.847)
cohort_decade2	-3.041*** (1.063)
cohort_decade3	-1.886* (1.016)
cohort_decade4	-1.279 (0.955)
cohort_decade5	-1.257 (0.957)
cohort_decade6	-1.519 (1.373)
Constant	-3.045*** (0.974)
Observations	755
Log Likelihood	-141.371
Akaike Inf. Crit.	312.741
Note: *p<0.1; **p<0.05; ***p<0.01	

Table 10: logit model, interaction: cmc

	Dependent variable:
	cmc
cmc_chair_connection_current	1.630*** (0.356)
combat_post_1949	0.868** (0.426)
college	1.129** (0.440)
participated_long_march	1.717** (0.745)
commissar	-0.278 (0.350)
minority	0.933 (1.111)
parent_CCP_leader	-0.100 (0.815)
rural	1.051*** (0.390)
cohort_decade1	-1.943** (0.848)
cohort_decade2	-3.111*** (1.077)
cohort_decade3	-1.870* (1.017)
cohort_decade4	-1.283 (0.956)
cohort_decade5	-1.257 (0.958)
cohort_decade6	-1.502 (1.374)
minority:rural	1.055 (1.851)
Constant	-3.028*** (0.975)
Observations	755
Log Likelihood	-141.207
Akaike Inf. Crit.	314.415
Note: *p<0.1; **p<0.05; ***p<0.01	

# Interaction 2

## combat\_post\_1949 : commissar

```
## interaction model (combat_post_1949 : commissar): general promotion
glm_int_cmc_cc <- glm(general~cmc_chair_connection_current+combat_post_1949
                      +college+participated_long_march+commissar+minority+
                      parent_CCP_leader+rural+cohort_decade +
                      combat_post_1949 : commissar, data=bio, family=binomial(link="logit"))
summary(glm_int_cmc_cc)
stargazer(glm_int_cmc_cc, title = "logit model, interaction (combat_post_1949 : commissar): general")
```

```
## interaction model (combat_post_1949 : commissar): cmc promotion
glm_int_cmc_cc <- glm(cmc~cmc_chair_connection_current+combat_post_1949
                      +college+participated_long_march+commissar+minority+
                      parent_CCP_leader+rural+cohort_decade +
                      combat_post_1949 : commissar, data=bio, family=binomial(link="logit"))
summary(glm_int_cmc_cc)
stargazer(glm_int_cmc_cc, title = "logit model, interaction (combat_post_1949 : commissar): cmc")
```

# Additive vs. Interaction: General Promotion

Holding other covariates constant, if an officer with combat experience after 1949 has commissar experience at the same time, the log odds of that officer being promoted to general are by 0.371 smaller than those combat experienced officers without commissar experience.

But the interaction effect is not significantly different from 0.

Therefore, the effect of having combat experience does not have a different effect (that statistically significantly different from 0) between officers with commissar experience and those without commissar experience.

Table 11: logit model, additive: general

	Dependent variable: general
cmc_chair_connection_current	0.751*** (0.237)
combat_post_1949	1.239*** (0.274)
college	0.879*** (0.217)
participated_long_march	0.375 (0.446)
commissar	0.667*** (0.188)
minority	0.784 (0.538)
parent_CCP_leader	0.083 (0.451)
rural	0.383* (0.232)
cohort_decade1	-0.782 (0.706)
cohort_decade2	-1.751** (0.754)
cohort_decade3	-1.397* (0.742)
cohort_decade4	-1.608** (0.733)
cohort_decade5	-1.139 (0.729)
cohort_decade6	-2.087** (0.944)
Constant	-1.136 (0.736)
Observations	755
Log Likelihood	-366.939
Akaike Inf. Crit.	763.878

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table 13: logit model, interaction (combatpost1949 : commissar): general

	Dependent variable: general
cmc_chair_connection_current	0.753*** (0.237)
combat_post_1949	1.377*** (0.337)
college	0.873*** (0.217)
participated_long_march	0.360 (0.445)
commissar	0.722*** (0.204)
minority	0.746 (0.542)
parent_CCP_leader	0.081 (0.453)
rural	0.387* (0.232)
cohort_decade1	-0.791 (0.708)
cohort_decade2	-1.773** (0.756)
cohort_decade3	-1.390* (0.743)
cohort_decade4	-1.620** (0.734)
cohort_decade5	-1.157 (0.731)
cohort_decade6	-2.092** (0.945)
combat_post_1949:commissar	-0.371 (0.525)
Constant	-1.147 (0.737)
Observations	755
Log Likelihood	-366.691
Akaike Inf. Crit.	765.381

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

# Additive vs. Interaction: CMC Promotion

Holding other covariates constant, if an officer with combat experience after 1949 also has career experience in commissar, the log odds of that officer being promoted to CMC are by 0.221 larger than those officers with combat experiences but have no experience in commissar.

But the interaction effect is not significantly different from 0.

Therefore, the effect of being born in rural China does not have a different effect (that statistically significantly different from 0) between officers from Han ethnicity and ethnic minority on being promoted to CMC or not.

Table 9: logit model, additive: cmc

	Dependent variable:
	cmc
cmc_chair_connection_current	1.619*** (0.356)
combat_post_1949	0.855** (0.425)
college	1.135*** (0.440)
participated_long_march	1.717** (0.741)
commissar	-0.273 (0.350)
minority	1.273 (0.845)
parent_CCP_leader	-0.140 (0.815)
rural	1.077*** (0.386)
cohort_decade1	-1.924** (0.847)
cohort_decade2	-3.041*** (1.063)
cohort_decade3	-1.886* (1.016)
cohort_decade4	-1.279 (0.955)
cohort_decade5	-1.257 (0.957)
cohort_decade6	-1.519 (1.373)
Constant	-3.045*** (0.974)
Observations	755
Log Likelihood	-141.371
Akaike Inf. Crit.	312.741
Note: *p<0.1; **p<0.05; ***p<0.01	

Table 14: logit model, interaction (combat post 1949 : commissar): cmc

	Dependent variable:
	cmc
cmc_chair_connection_current	1.624*** (0.357)
combat_post_1949	0.787 (0.496)
college	1.137*** (0.440)
participated_long_march	1.719** (0.740)
commissar	-0.324 (0.402)
minority	1.304 (0.853)
parent_CCP_leader	-0.139 (0.815)
rural	1.074*** (0.387)
cohort_decade1	-1.924** (0.847)
cohort_decade2	-3.044*** (1.065)
cohort_decade3	-1.901* (1.018)
cohort_decade4	-1.278 (0.955)
cohort_decade5	-1.250 (0.958)
cohort_decade6	-1.525 (1.373)
combat_post_1949:commissar	0.221 (0.828)
Constant	-3.031*** (0.976)
Observations	755
Log Likelihood	-141.335
Akaike Inf. Crit.	314.671
Note: *p<0.1; **p<0.05; ***p<0.01	



# Interaction 3

## commissar : minority

```
## interaction model (minority: commissar): general promotion
glm_int_gen_mc <- glm(cmc~cmc_chair_connection_current+combat_post_1949
                      +college+participated_long_march+commissar+minority+
                      parent_CCP_leader+rural+cohort_decade +
                      minority : commissar, data=bio, family=binomial(link="logit"))
summary(glm_int_gen_mc)
stargazer(glm_int_gen_mc, title = "logit model, interaction (minority : commissar): general")

## interaction model (minority: commissar): cmc promotion
glm_int_cmc_mc <- glm(cmc~cmc_chair_connection_current+combat_post_1949
                      +college+participated_long_march+commissar+minority+
                      parent_CCP_leader+rural+cohort_decade +
                      minority : commissar, data=bio, family=binomial(link="logit"))
summary(glm_int_cmc_mc)
stargazer(glm_int_cmc_mc, title = "logit model, interaction (minority : commissar): cmc")
```

# Additive vs. Interaction: General Promotion

Holding other covariates constant, if an officer from ethnic minority background has commissar experience, the log odds of that officer being promoted to general are by 0.458 larger than other ethnic minority officers without commissar experience.

But the interaction effect is not significantly different from 0.

Therefore, the effect of having commissar experience does not have a different effect (that statistically significantly different from 0) between officers from Han ethnicity and ethnic minority on being promoted to general or not.

Table 11: logit model, additive: general

	Dependent variable:
	general
cmc_chair_connection_current	0.751*** (0.237)
combat_post_1949	1.239*** (0.274)
college	0.879*** (0.217)
participated_long_march	0.375 (0.446)
commissar	0.667*** (0.188)
minority	0.784 (0.538)
parent_CCP_leader	0.083 (0.451)
rural	0.383* (0.232)
cohort_decade1	-0.782 (0.706)
cohort_decade2	-1.751** (0.754)
cohort_decade3	-1.397* (0.742)
cohort_decade4	-1.608** (0.733)
cohort_decade5	-1.139 (0.729)
cohort_decade6	-2.087** (0.944)
Constant	-1.136 (0.736)
Observations	755
Log Likelihood	-366.939
Akaike Inf. Crit.	763.878
Note: *p<0.1; **p<0.05; ***p<0.01	

Table 15: logit model, interaction (minority : commissar): general

	Dependent variable:
	general
cmc_chair_connection_current	0.752*** (0.237)
combat_post_1949	1.252*** (0.275)
college	0.875*** (0.217)
participated_long_march	0.373 (0.447)
commissar	0.654*** (0.191)
minority	0.555 (0.774)
parent_CCP_leader	0.093 (0.451)
rural	0.387* (0.232)
cohort_decade1	-0.788 (0.706)
cohort_decade2	-1.752** (0.754)
cohort_decade3	-1.391* (0.742)
cohort_decade4	-1.602** (0.733)
cohort_decade5	-1.139 (0.729)
cohort_decade6	-2.100** (0.946)
commissar:minority	0.458 (1.083)
Constant	-1.132 (0.736)
Observations	755
Log Likelihood	-366.849
Akaike Inf. Crit.	765.698
Note: *p<0.1; **p<0.05; ***p<0.01	

# Additive vs. Interaction: CMC Promotion

Holding other covariates constant, if an officer from ethnic minority background is born in rural China, the log odds of that officer being promoted to CMC are by 0.285 larger than those officers from ethnic minority born in urban on average.

But the interaction effect is not significantly different from 0.

Therefore, the effect of being born in rural China does not have a different effect (that statistically significantly different from 0) between officers from Han ethnicity and ethnic minority on being promoted to CMC or not.

Table 9: logit model, additive: cmc

	Dependent variable:
	cmc
cmc_chair_connection_current	1.619*** (0.356)
combat_post_1949	0.855** (0.425)
college	1.135*** (0.440)
participated_long_march	1.717** (0.741)
commissar	-0.273 (0.350)
minority	1.273 (0.845)
parent_CCP_leader	-0.140 (0.815)
rural	1.077*** (0.386)
cohort_decade1	-1.924** (0.847)
cohort_decade2	-3.041*** (1.063)
cohort_decade3	-1.886* (1.016)
cohort_decade4	-1.279 (0.955)
cohort_decade5	-1.257 (0.957)
cohort_decade6	-1.519 (1.373)
Constant	-3.045*** (0.974)
Observations	755
Log Likelihood	-141.371
Akaike Inf. Crit.	312.741
Note: *p<0.1; **p<0.05; ***p<0.01	

Table 15: logit model, interaction (minority : commissar): cmc

	Dependent variable:
	cmc
cmc_chair_connection_current	1.619*** (0.356)
combat_post_1949	0.865** (0.429)
college	1.129** (0.441)
participated_long_march	1.713** (0.742)
commissar	-0.285 (0.358)
minority	1.148 (1.155)
parent_CCP_leader	-0.122 (0.820)
rural	1.076*** (0.386)
cohort_decade1	-1.930** (0.848)
cohort_decade2	-3.040*** (1.063)
cohort_decade3	-1.883* (1.017)
cohort_decade4	-1.278 (0.955)
cohort_decade5	-1.262 (0.958)
cohort_decade6	-1.533 (1.376)
commissar:minority	0.285 (1.727)
Constant	-3.036*** (0.975)
Observations	755
Log Likelihood	-141.357
Akaike Inf. Crit.	314.714
Note: *p<0.1; **p<0.05; ***p<0.01	

# My Further Thoughts

- Overall, officers with combat experiences are more likely to be promoted to CMC if they have experience in commissar, but they are less likely to be promoted to general if they are former commissars.
- Theoretically coherent and relevant: CMC is the military decision-making organ, so the promotion is more politicalised.  
(Loyalty to the regime is essential, and experienced commissars will be preferred because their careers are binding with the regime.)
- But this interaction effect is not statistically significantly different from 0.

# My Further Thoughts

- Overall, officers from ethnic minority are more likely to be promoted to genera and CMC if they have experience in commissar.
- Theoretically coherent and relevant: loyalty to the regime may be the prior concern for promotion regarding the officers from ethnic minority.
- But this interaction effect is not statistically significantly different from 0.

# Bibliography

- Mattingly, Daniel. “How the Party Commands the Gun: The Foreign-Domestic Threat Dilemma in China.” *American Journal of Political Science*. Forthcoming.

# Q&A