

Strategic Promotion, Reputation, and Responsiveness in Bureaucratic Hierarchies

Online Appendix (Not for Publication)

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A Proofs

A.1 Proof of Proposition 1

Proof. Rearranging the terms to get:

$$\begin{aligned}\max_{p(h,l)} \tilde{U}_r(h) &= (\alpha g(l) + \beta [q_P h + (1 - q_P)l - q_{NP} h - (1 - q_{NP})l]) p(h,l) + \text{constant} \\ &= (\alpha g(l) + \beta (q_P - q_{NP})(h - l)) p(h,l) + \text{constant}\end{aligned}$$

and

$$\max_{p(l,h)} \tilde{U}_r(l) = (\alpha g(h) + \beta (q_P - q_{NP})(h - l)) p(l,h) + \text{constant}$$

Now suppose $q_P \geq q_{NP}$. Then $p(l,h) = 1$, the weak always promotes. Then to maintain $q_P \geq q_{NP}$ in equilibrium, it has to be that $p(l,h) = p(h,l) = 1$. However, it is easy to see that the strong ruler has profitable deviation to $p(h,l) = 0$ because by our assumption of off-equilibrium path belief, now $q_{NP} = 1$. Contradiction.

Therefore $q_P < q_{NP}$. Then from the strong ruler's problem, $p(h,l) = 0$. For the weak ruler, there are three cases:

1. $\alpha g(h) + \beta (q_P - q_{NP})(h - l) > 0$. Then $p(l,h) = 1$. In equilibrium the citizen has the correct conjecture, therefore $q_P = 0$, $q_{NP} = 1$. Such equilibrium exists if and only if $\frac{\alpha g(h)}{\beta(h-l)} \geq 1$.
2. $\alpha g(h) + \beta (q_P - q_{NP})(h - l) = 0$. In equilibrium, $q_P = \frac{\mu \hat{p}(h,l)}{\mu \hat{p}(h,l) + (1-\mu) \hat{p}(l,h)} = 0$, $q_{NP} = \frac{(1-\mu)[1-\hat{p}(h,l)]}{1-\mu \hat{p}(h,l) - (1-\mu) \hat{p}(l,h)} = \frac{1-\mu}{1-(1-\mu)p(l,h)}$. To plug back, $p(l,h) = \frac{1}{1-\mu} - \frac{\beta(h-l)}{\alpha g(h)}$. This equilibrium exists if and only if $1 - \mu < \frac{\alpha g(h)}{\beta(h-l)} < 1$.
3. $\alpha g(h) + \beta (q_P - q_{NP})(h - l) < 0$. In this case we have a pooling equilibrium where $p(l,h) = p(h,l) = 0$. Consequently and based on our off-equilibrium path assumption, $q_P = 0$, $q_{NP} = 1 - \mu$. Such equilibrium exists if and only if $\frac{\alpha g(h)}{\beta(h-l)} \leq 1 - \mu$.

Lastly, $q_P < q_{NP}$ means that the reputation of the ruler always decreases after promotion. $\square$

A.2 Proof of Proposition 2

Proof. To achieve the result we require the following.

1. When $\tau^r = l, \tau^b = l$, no choice to make.
2. When $\tau^r = h, \tau^b = l$, $(1 - \alpha - \beta)(h + l) + \beta l - c \geq 2(1 - \alpha - \beta)l + \beta l$
3. When $\tau^r = l, \tau^b = h$, $(1 - \gamma)(h + l) + \gamma w - c \geq 2(1 - \gamma)l$

4. When $\tau^r = h, \tau^b = h$, since ruler moves first. We use backward induction. Given $\tau^r = h$, we require bureaucrat to choose high effort, that is: $2(1 - \gamma)h + \gamma w - c \geq (1 - \gamma)(h + l)$. Then it is bureaucrat's dominant strategy to choose to work. Next we turn to the ruler. For the ruler to work, we require: $(1 - \alpha - \beta)(h + h) + \alpha g(h) + \beta h - c \geq (1 - \alpha - \beta)(l + h) + \alpha g(h) + \beta l$.

To combine the inequalities above, we have: $c \leq \tilde{c} = \min\{(1 - \alpha - \beta)(h - l), (1 - \gamma)(h - l) + \gamma w\}$

□

A.3 Proof of Proposition 3

Proof. We aim to construct an equilibrium where the talented ruler shirks when she is paired with a talented bureaucrat, in the hope that the bureaucrat will exert effort. Next, the ruler manipulates promotion to try to convince the citizen otherwise. For the trick to succeed, it must be incentive compatible for a talented ruler to exert effort, when she is paired with an untalented bureaucrat, so that the local performance signal is jammed when it is mediocre.

Consequently, there are four cases to consider.

1. $\tau^r = l, \tau^b = l$

This is the simplest case. There is no effort choice for ruler or bureaucrat. Efficacy is perfectly learned. No promotion is made. Denote the payoff function as $U_i(\tau^i, \theta^i)$, $i \in \{r, b\}$, the payoffs are:

$$U_r(l, l) = 2(1 - \alpha - \beta)l + \beta l = (2 - 2\alpha - \beta)l$$

$$U_b(l, l) = 2(1 - \gamma)l$$

2. $\tau^r = h, \tau^b = l$

Then the ruler needs to decide whether to exert effort or not. Again denote citizen's conjecture as q_P and q_{NP} .

We look for the case where the ruler now chooses $\theta^r = h$. If ruler does exert effort, he gets:

$$U_r(h, l) = (1 - \alpha - \beta)(h + l) + \beta(q_{NP}h + (1 - q_{NP})l) - c$$

We require:

$$(1 - \alpha - \beta)(h + l) + \beta(q_{NP}h + (1 - q_{NP})l) - c \geq (2 - 2\alpha - \beta)l$$

That is,

$$c \leq (1 - \alpha - \beta + \beta q_{NP})(h - l)$$

3. $\tau^r = l, \tau^b = h$

Here we require the talented bureaucrat exert effort. That is,

$$U_b(h, h) = (1 - \gamma)(h + l) + \gamma \hat{p}(l, h)w - c \geq 2(1 - \gamma)l$$

That is,

$$c \leq (1 - \gamma)(h - l) + \gamma \hat{p}(l, h)w$$

And in this case the ruler's payoff is:

$$(1 - \alpha - \beta)(h + l) + \beta(q_{NP}h + (1 - q_{NP})l)$$

because in equilibrium the weak ruler is indifferent between mimicking the strong ruler or not.

4. $\tau^r = h, \tau^b = h$

Here we require the talented ruler shirks and talented bureaucrat exert effort. We divide the analysis into two parts.

First, we show the conditions under which $\theta^b = h$ after $\theta^r = l$. We require the same condition as in Case 3:

$$c \leq (1 - \gamma)(h - l) + \gamma \hat{p}(l, h)w$$

Next, we calculate ruler's payoff if $\theta^b = h$ and $\theta^r = h$. It is straightforward to see that if the ruler exerts efforts, the bureaucrat will exert efforts because $(1 - \gamma)(h + h) + \gamma - c > (1 - \gamma)(h - l) + \gamma \hat{p}(l, h)w - c$. Then, we can compare ruler's payoff between working and shirking, and we require that ruler prefers to shirk:

$$U_r(l, h) = (1 - \alpha - \beta)(h + l) + \beta(q_{NP}h + (1 - q_{NP})l) \geq (1 - \alpha - \beta)(h + h) + \beta h - c = U_r(h, h)$$

That is,

$$c \geq (1 - \alpha - \beta q_{NP})(h - l)$$

So now let's recap: when the citizen sees a mediocre performance $X = M$, he knows there are the following possibilities: 1. With probability $\mu_0(1 - \mu_0)$, a high talent ruler who works and a low talent bureaucrat. In this case we shall see no promotion; 2. With probability $\mu_0(1 - \mu_0)$, a low talent ruler and a high talent bureaucrat who works. In this case ruler promotes with probability $p(l, h)$; 3. With probability μ_0^2 , a high talent ruler who shirks and a high talent bureaucrat who

works. In this case ruler also promotes with probability $p(l, h)$.

We want to construct an equilibrium where all the following conditions hold at the same time.

$$c \leq (1 - \alpha - \beta + \beta q_{NP})(h - l)$$

$$c \leq (1 - \gamma)(h - l) + \gamma \hat{p}(l, h) w$$

$$c \geq (1 - \alpha - \beta q_{NP})(h - l)$$

$$\hat{p}(h, l) = \arg \max_{p(h, l)} \alpha p(h, l) g(l) + \beta (p(h, l) [q_P h + (1 - q_P) l] + [1 - p(h, l)] [q_{NP} h + (1 - q_{NP}) l])$$

$$\hat{p}(l, h) = \arg \max_{p(l, h)} \alpha p(l, h) g(h) + \beta (p(l, h) [q_P h + (1 - q_P) l] + [1 - p(l, h)] [q_{NP} h + (1 - q_{NP}) l])$$

$$q_P := \frac{\hat{p}(h, l) \mu_0 (1 - \mu_0)}{\hat{p}(h, l) \mu_0 (1 - \mu_0) + \hat{p}(l, h) [\mu_0 (1 - \mu_0) + \mu_0^2]} = \frac{\hat{p}(h, l) (1 - \mu_0)}{\hat{p}(h, l) (1 - \mu_0) + \hat{p}(l, h)}$$

$$q_{NP} := \frac{[1 - \hat{p}(h, l)] \mu_0 (1 - \mu_0)}{[1 - \hat{p}(h, l)] \mu_0 (1 - \mu_0) + [1 - \hat{p}(l, h)] [\mu_0 (1 - \mu_0) + \mu_0^2]} = \frac{[1 - \hat{p}(h, l)] (1 - \mu_0)}{[1 - \hat{p}(h, l)] (1 - \mu_0) + [1 - \hat{p}(l, h)]}$$

$$p(l, h) = \hat{p}(l, h) \in (0, 1)$$

$$p(h, l) = \hat{p}(h, l) = 0$$

Similar with the simple model, the solution of the equilibrium boils down to solving

$$\alpha g(h) + \beta (q_P - q_{NP})(h - l) = 0$$

That is,

$$p(l, h) = 2 - \mu_0 - (1 - \mu_0) \frac{\beta(h-l)}{\alpha g(h)}$$

In the meantime, from

$$c \leq (1 - \alpha - \beta + \beta q_{NP})(h-l)$$

$$c \leq (1 - \gamma)(h-l) + \gamma \hat{p}(l, h) w$$

we know that denote $\bar{c} = \min\{(1 - \alpha - \beta + \beta q_{NP})(h-l), (1 - \gamma)(h-l) + \gamma \hat{p}(l, h) w\}$, $\bar{c} \leq \tilde{c} = \min\{(1 - \alpha - \beta)(h-l), (1 - \gamma)(h-l) + \gamma w\}$. $\square$

A.4 Proof of Corollary 1

Proof. We only need to look at the case where information is hidden and the ruler has high talents. There are two cases.

If the bureaucrat's talent is seen, then everything is the same as in the original equilibrium.

If the bureaucrat's talent is hidden, the condition for the ruler to shirk is:

$$\mu U_r(l, h) + (1 - \mu) U_r(l, l) \geq \mu U_r(h, h) + (1 - \mu) U_r(h, l)$$

Comparing with the shirking condition in original equilibrium:

$$U_r(l, h) \geq U_r(h, h)$$

Since $U_r(l, l) \leq U_r(h, l)$ (Case 2 in the proof of Proposition 3), the condition is harder to satisfy than in the original equilibrium. In particular, when $U_r(l, l) < U_r(h, l)$ and $\mu = 0$, the inequality is reversed: the ruler never shirks. By continuity there exists $\underline{\mu}$ such that the ruler never shirks whenever $\mu \leq \underline{\mu}$. $\square$

B Pseudo Promotions and Bureaucratic Redundancy

Here we consider an alternate set-up. In the simple model we assume $g(h) > 0 > g(l)$, which corresponds to promotions where the role at a higher office is more important, or fits only for strong individuals. But sometimes the higher office may not necessarily be more powerful, nor difficult to harness. We argue that it is possible for some promotions that $g(l) > 0 > g(h)$. we refer the promotions satisfying this condition “pseudo promotions”, while we refer the promotions in the simple model as “real promotions”. Below we explain where the name comes from.

Pseudo promotion is created for the purpose of allocating those promoted officers without offering them real power. The reason behind such design is for replacement of local bureaucrat: if the local office is vital and a weak bureaucrat is sitting on it, the ruler has incentive to replace him, even with reasonable costs. However, demotion is often unusual and too costly in such centralized regime. Consequently, the ruler can pseudo promote the bureaucrat to some idle position with fancy titles, thus leaving the local office an opportunity to select a new one.¹ It is straightforward that in this case only pseudo promoting weak bureaucrats achieves the purpose ($g(l) > g(h)$). Pseudo promoting strong bureaucrat only brings additional local uncertainty because the local successor may not be high efficacy ($0 > g(h)$). Using the same solution techniques as in the simple model, we have the following corollary.

Corollary. *For pseudo promotions, in equilibrium, the strong ruler always promotes after mediocre local performance. And the reputation of the ruler always weakly increases after promotion.*

Proof. Rearranging the terms to get:

$$\begin{aligned} \max_{p(h,l)} \tilde{U}_r(h) &= (\alpha g(l) + \beta [q_P h + (1 - q_P) l - q_{NP} h - (1 - q_{NP}) l]) p(h, l) + \text{constant} \\ &= (\alpha g(l) + \beta (q_P - q_{NP}) (h - l)) p(h, l) + \text{constant} \end{aligned}$$

and

$$\max_{p(l,h)} \tilde{U}_r(l) = (\alpha g(h) + \beta (q_P - q_{NP}) (h - l)) p(l, h) + \text{constant}$$

Now suppose $q_P \leq q_{NP}$. Then $p(l, h) = 0$, the weak never promotes. Then to maintain $q_P \leq q_{NP}$ in equilibrium, it has to be that $p(l, h) = p(h, l) = 0$. However, it is easy to see that the strong ruler

¹ A similar motive applies to the teacher selection in public schools of the United States. Principals of schools send out the bad teachers, i.e. the lemons, in the hope for better replacement, because sacking teachers are very costly. See *The Economist*. 2014. “Dance of the lemons”, March 5th, <http://www.economist.com/news/united-states/21599005-reformers-want-make-it-easier-sack-bad-teachers-dance-lemons> (August 15 2017).

has profitable deviation to $p(h, l) = 1$ because by our assumption of off-equilibrium path belief, now $q_P = 1$. Contradiction.

Therefore $q_P > q_{NP}$, which means that the reputation of the ruler always increases after pseudo promotion. $\square$

The over-promotion under pseudo promotions sheds new light on explaining redundancy: it is a price to pay for the flexibility of personnel control. Given that demotions are hard, the superior officer sets aside idle positions at insignificant departments to accommodate the replaced local officials. Once the local officials are pseudo promoted, the superior officer is able to find potentially capable newcomers to fill in the position. Such strategic redundancy provision predicts that redundancy is not necessary an indicator of system failure. Instead, it could be a promising sign of effective replacement. For instance, we predict that redundancy could be positively correlated with local economic performance, especially when the local performance is vital to the regime. Our predictions is in stark contrast with conventional views that staff redundancy is an outcome of patronage (Ang 2016) or a tool used by local government to bargain over fiscal resources with upper-level government (Guo 2008).

The strategic roles of bureaucratic redundancy is understudied in existing literature, except for Ting (2003), who discusses redundancy as a strategic design for the principal to overcome conflict of interests with the agents. This paper adds to the literature by emphasizing redundancy as a byproduct of effective signaling in strategic promotions. That is, redundancy itself may be a good signal of competence.

References for Section B

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C Data Analysis

In this section, we provide empirical evidence in support of an implication in Proposition 1: a ruler’s reputation declines after promoting a bureaucrat whose observable performance is mediocre. As a preview of the results, using the 2012 World Value Survey (WVS) administrated in China during a narrow three-month window in coincidence with promotion of two provincial leaders, our difference-in-differences (DiD) estimation suggests that the central government’s reputation declined by eight percent after promoting provincial leaders. To our knowledge, we are the first to predict and confirm the reputation effect of bureaucratic promotions in China.

As detailed below, the limited data may render the evidence more suggestive than conclusive. However, the evidence lends reasonably strong support to our theory for several reasons. First, the detected reputation decline after promotion is unexplained by existing studies but fits well with our theory, because it is an immediate implication of Proposition 1. Notably, the empirical finding remains robust after considering two influential theses regarding promotion determinants, namely competence and networks, in Chinese bureaucracy. Additionally, we do not find similar effects of promotion on trust for other political institutions; in other words, the effects found for respondents’ trust in the central government are unique. The robustness and falsification tests increase our confidence that the empirical pattern is unlikely driven completely by channels other than what our theory has suggested.

Second, these findings also solidify our assumption that citizens (i.e., the third-party audience) are sophisticated enough to make inferences about the ruler (i.e., the promoter) after observing promotions. This is true even in the Chinese case where previous studies have assumed the effectiveness of naive propaganda and neglected the existence of sophisticated citizens. Together with existing evidence that authoritarian rulers care about their reputation among citizens (e.g., Li 2004), our new evidence about sophisticated citizens lends further support to our theoretical prediction that the promoter would manipulate promotion signals to build her reputation, resulting in promotional inefficiencies and decreased responsiveness.

C.1 Data and measures

Linking model setups to the empirics, the promoter is the Chinese central government and the subordinates are top provincial leaders, either party secretaries or governors. To test the predictions, we searched for feasible data among often used and publicly available social surveys.² Our target survey should meet two criteria: (1) it has appropriate measures of the central government’s reputation, and (2) there are promotions of provincial leaders during the survey period.

²We searched among recent waves of the Asian Barometer Survey (ABS), the Chinese General Social Survey (CGSS) and the World Value Survey (WVS).

The WVS 2012 data in China met both requirements. First, the survey interviewed 2274 individuals in China between November 16, 2012, and January 21, 2013.³ During the survey period, promotions of provincial leaders occurred in Shanxi and Guangxi on December 18, 2012, but not in any other provinces.⁴ More specifically, the Governor of Shanxi, Wang Jun, was promoted to the Party Secretary of Inner Mongolia, while the Party Secretary of Guangxi, Guo Shengkun, was promoted to the Party Secretary of the Ministry of Public Security (and was appointed as the Minister of Public Security on December 28, 2012).⁵ 62 interviews were conducted on or before December 18, 2012, and around 211 after the date in these two provinces with promotions; there were 1244 and 757 interviews conducted before and after that date, respectively, in the other provinces. Figure C.1 shows the timing of the surveys by province. It is also worth noting that the regional GDP growth rates of Shanxi and Guangxi ranked as 20th and 18th out of the 31 provincial units in 2012, which fits our definition of mediocre performance.⁶ Similarly, a comprehensive governance measure, consisting of various sub-indicators of public service, public infrastructure, government size, and economic welfare of residents, ranks Shanxi and Guangxi as 17th and 24th out of the 31 province units in 2010 during the two leaders' tenure (Tang et al. 2014).

As the promotion announcement date was not known to the public a priori, the fact that there were interviews conducted both before and after such date provides an opportunity to employ a difference-in-differences (DiD) strategy to estimate the reputation dampening effect of promotions.

Second, the survey includes a proper measure that captures the reputation of the promoter, namely political trust in the central government. Each respondent is asked about his/her trust in the central government, and values range from 1 ("Not at all") to 4 ("Very much"). Figure C.2 shows its distribution. At the conceptual level, political trust in an institution or a politician refers to citizens' belief or confidence that the institution or politician will work to produce outcomes consistent with their expectations (Li 2004, 2011), which fits well with our definition of reputation. At the

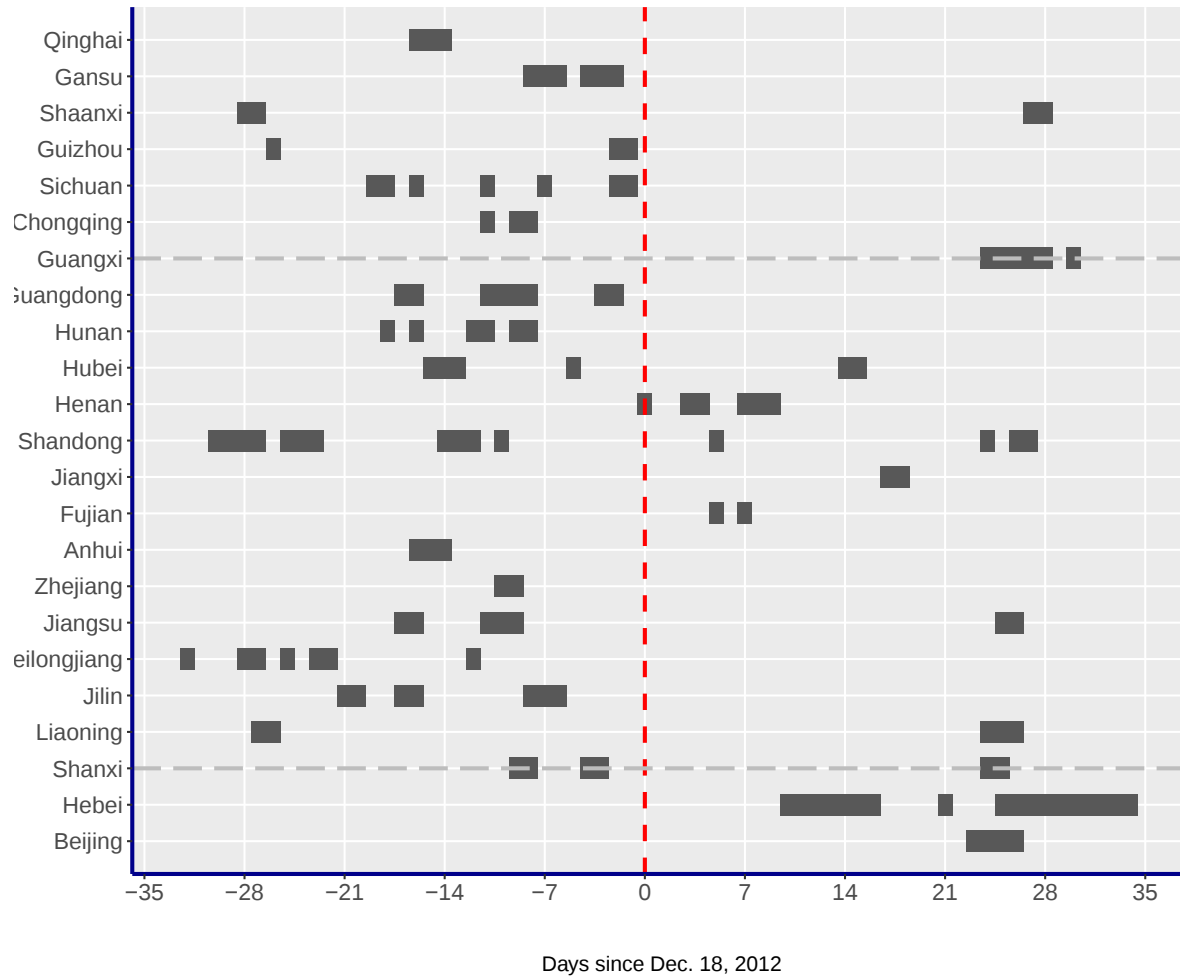
³In the original survey, 26 were interviewed before or on November 15, 2012. There were turnovers of provincial leaders in several provinces on November 15, immediately after the CPC's 18th National Congress. But only two out of the 26 respondents were from provinces with turnovers (on November 15), so the sample is not big enough to employ a DiD estimation. Thus, we focused on the estimating the effect of promotions on December 18 and dropped the 26 observations.

⁴A couple of provinces, such as Inner Mongolia, Jilin, Fujian and Sichuan, had promotions of provincial leaders on November 15, 2012 but no turnovers between November 16, 2012 and January 21, 2013, thus coded as provinces with no promotion. Their difference from other provinces experiencing no turnovers on either November 15 or December 18 will be captured by province fixed effects and will not affect our estimation.

⁵The promotion of Guo is less clear to the public as that of Wang because the former was not recognized until December 24, 2012 when he participated in a meeting under his new title. We respond to this problem in two ways: first, as all interviews conducted in Guangxi Province were in January 2013 (Figure C.1), re-coding the treatment date for Guangxi Province to December 24, 2012 does not change the result; second, as shown below, we report an additional set of results with Guangxi excluded from the sample, and the result does not change.

⁶It is widely accepted that GDP growth is one of the most important indicators of performance of Chinese local officials in the reform era (e.g., Li and Zhou 2005). The growth data is from the National Bureau of Statistics of China, <http://data.stats.gov.cn/easyquery.htm?cn=E0103> (May 2017).

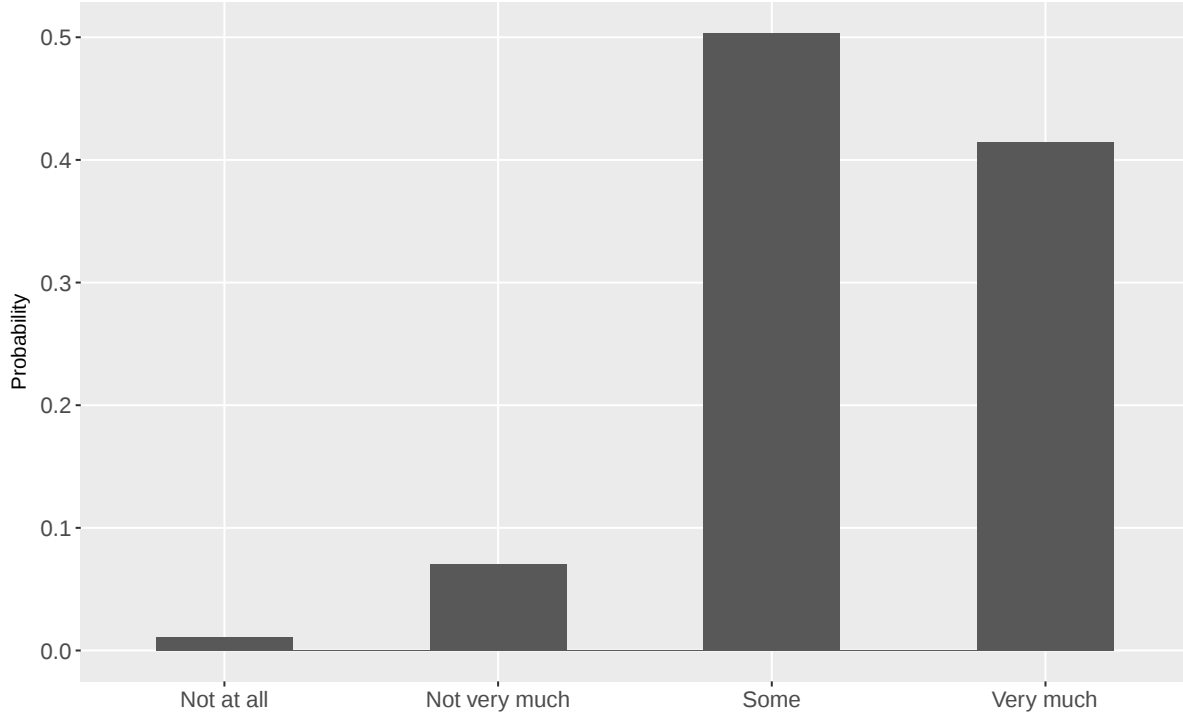
Figure C.1: Survey Time in Chinese Provinces



Note: This figure describes the World Value Survey (WVS) interview time in each province during the two-month window in late 2012 and early 2013. Negative values indicate that the interviews were conducted before December 18, 2012 while positive numbers refer to interviews conducted after such date.

operationalization level, the specific variable that we use has been frequently used as a measure for Chinese citizens' political trust in the central government (e.g. Li 2016; Lu 2014). Additionally, as discussed in previous observational and experimental studies, although political fear in China might affect respondents' answers to sensitive questions, like those concerning political trust, the magnitude is found to be too small to undermine the "validity" of the trust measurement (Shi 2001, p. 407; Tang 2016, p. 150).

Figure C.2: Trust in the Central Government



Data: 2012 World Value Survey (WVS) in China.

C.2 Model

We employ a DiD with province and week fixed effects:

$$y_{i,p,t} = \gamma_p + \lambda_t + \beta \left(\text{promotion}_p \times \text{post}_t \right) + X_{i,p,t} \delta + \varepsilon_{i,p,t}$$

The dependent variable ($y_{i,p,t}$) is the individual i 's trust in the central government from province p and interviewed in week t . γ and λ denote the province and week fixed effects, respectively, which capture time-invariant province effects and common time trends.⁷ `Promotion` takes the value of 1 if an individual is from a province where promotion happened during the time of the survey and is 0 otherwise; `Post` takes the value of 1 if an individual takes the survey after the promotion date and is set to 0 otherwise. The `Promotion` and `Post` variables per se are dropped because of their collinearity with the week and province dummies.

β , the coefficient of interest, is the estimator for the DiD effect of the treatment on the treated. It captures the idea that promotion decision of the central government leads citizens to downgrade its

⁷Excluding week fixed effect and including only the treatment time dummy yield qualitatively the same findings.

reputation and is expected to be negative. By conducting such test, we assume that citizens in each province update their beliefs about the central government's efficacy (i.e., θ') based only on promotion outcomes of their provincial officials, but not on similar information from other provinces. This is consistent with our model setup that there is only a central government and a local one. Consequently, citizens only infer the central government's efficacy from local performance. One may concern that citizens may acquire additional information from neighboring provinces to update their beliefs about the central government. However, the Chinese central government often has different policies for different provinces, causing its perceived efficacy to vary across regions. Accordingly, the information from other provinces becomes less helpful for citizens to infer the central government's efficacy in their home provinces.

$X_{i,p,t}$ is a set of individual-level controls, including age, gender, education, income, party membership, residence in an urban area, daily news consumption, and general social trust, which have generally been controlled for in previous studies of political trust in China (e.g., Li 2004, 2011). We also report estimation results after controlling for six variables measuring trust in domestic political institutions: trust in the civil service, trust in the army, trust in the police, trust in the courts, trust in political parties and trust in the legislature. We prefer the estimation results without controlling for those trust variables because they may be affected by the treatment; thus, including them may introduce post-treatment bias. Table C.1 presents the summary statistics.

Additionally, we consider two influential narratives about the determinants of officials' promotion in China. One narrative argues that an official's promotion chances are mainly determined by his/her competence (Li and Zhou 2005) while another argues that the chance is largely determined by networks with superior officials (Shih, Adolph, and Liu 2012). We are less concerned with the former because if true, there is no obvious reason to expect trust in the central government to decline, as stated in Proposition 1. But the network narrative indeed poses a challenge: If the narrative is valid and citizens indeed update their beliefs about the central government's quality after observing promotions, intuitively, promoting well-connected officials will decrease the central government's reputation, which generates an observationally equivalent prediction. Specifically, immediately after Wang Jun's promotion, Li Xiaopeng, the son of the former Premier Li Peng, was appointed as the acting Governor of Shanxi. We are concerned that citizens may view the promotion of Wang Jun as making room for the promotion of Li Xiaopeng, and downgrade the central government's reputation because of the perceived role of connections in Li's promotion. To mitigate these concerns, we control for the respondents' perceived importance of networks in determining success to ensure that our findings are not completely driven by the network narrative. Interestingly, we find that the promotions significantly increase respondents' perception of the importance of networks, which supports the network narrative. But because the reputation-decreasing effect of promotion still exists after controlling for the perceived importance of network, our find-

Table C.1: Summary Statistics

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Dependent variable					
Trust in national government	2,072	3.324	0.652	1	4
Key independent variables					
Post-promotion	2,274	0.426	0.495	0	1
Promotion province	2,274	0.120	0.325	0	1
Promotion province $\times$ Post-promotion	2,274	0.093	0.290	0	1
Control variables					
Age	2,274	43.885	14.970	18	75
Female	2,274	0.509	0.500	0	1
Education	2,274	5.347	2.372	1	9
Income	2,033	4.409	1.844	1	10
Party membership	2,271	0.081	0.273	0	1
Urban residence	2,274	0.551	0.498	0	1
Daily news consumption	2,090	0.728	0.445	0	1
General social trust	2,175	0.646	0.478	0	1
Network importance	2,098	3.696	2.383	1	10
Trust in civil service	1,911	2.961	0.685	1	4
Trust in army	2,052	3.288	0.637	1	4
Trust in police	2,051	2.904	0.741	1	4
Trust in courts	2,003	3.017	0.716	1	4
Trust in political parties	1,981	3.147	0.720	1	4
Trust in legislature	2,013	3.184	0.688	1	4

ings are not driven by the network narrative.

Finally, the usual parallel trend assumption for DiD estimation applies here. Specifically, we assume that treated provinces would have followed similar trends in central government trust to the control provinces in the absence of the promotion. This assumption is plausible in our case where the promotion announcement date is unexpected and the time window under consideration - around two months - is narrow. We provide additional evidence for this assumption in the robustness check section.

C.3 Results

Table C.2 summarizes the major findings. Because treatment is assigned at the provincial level, standard errors are clustered by province to avoid potential correlation of errors within provinces.⁸ We report three sets of results estimated using different samples: (1) the full sample, (2) a sub-sample after excluding one of the two treated provinces, Guangxi, and (3) a sub-sample keeping only the four weeks during which the treated provinces have observations.⁹ The DiD estimates are found statistically significant across all the models. In our preferred estimation, model 2 of Table 2, promotion decreases individual's trust in the central government by 0.266 points on a one to four scale. Given that the mean trust in central government is around 3.325, among individuals with the mean level of political trust, promotions decrease trust in central government by around 8 percent.

⁸Due to the small number of province clusters (i.e., 24 or fewer), we implement standard error clustering by using the `partial` function in `ivreg2` of Stata (to partial out week and province dummies first).

⁹We run the regression with Guangxi excluded because all corresponding respondents were interviewed after the treatment date (see Appendix Figure C.1), and we want to ensure that the finding is not completely driven by Guangxi observations. Similarly, by using the four-week subsample, we demonstrate that observations interviewed during weeks when no interviews are taken in treated provinces are not driving the main finding.

Table 2. Diff-in-Diffs Estimation: Promotion and Promoter's Reputation

VARIABLES	Full sample			Excluding Guangxi			Four weeks only		
	1	2	3	4	5	6	7	8	9
promotion $\times$ Post (β)	-0.267*** (0.062)	-0.266*** (0.071)	-0.267*** (0.037)	-0.268*** (0.063)	-0.265*** (0.078)	-0.268*** (0.037)	-0.322*** (0.067)	-0.431*** (0.099)	-0.256*** (0.062)
Dependent variable mean	3.324	3.325	3.312	3.334	3.336	3.323	3.297	3.305	3.291
Individual-level controls		yes	yes		yes	yes		yes	yes
Trust in domestic inst.			yes			yes			yes
Week fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes
Province fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes
Observations	2,072	1,639	1,460	1,910	1,510	1,358	1,230	965	849
R-squared	0.002	0.034	0.63	0.002	0.037	0.644	0.003	0.06	0.622

Note: Dependent variable is trust in the central government; individual-level controls include age, gender, education, income, party membership, residence in an urban area, daily news consumption, general social trust, and perceived importance of networks; trust in domestic institutions include six variables that measure trust in the civil service, the army, the police, courts, political parties and the legislatures, respectively; robust standard errors in parentheses are clustered at the province level; R-squared is computed after the week dummies and province dummies are partialled out, thus under-reporting the explanatory power; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

C.4 Robustness Checks

We conducted two robustness checks. First, we show that there is no significant difference between the promotion and non-promotion provinces before the treatment date (December 18, 2012), which lends some support to the parallel trend assumption. Second, we show that the DiD estimated effect of promotion on trust in the central government does not apply to trust in other political institutions or actors. The null effect on other political trust variables increases our confidence that the effect is driven by the promotions and the updating mechanism that our theory has proposed.

Insignificant difference between interviewers in provinces with and without promotions before the treatment. Parallel trends are a key identification assumption in DiD models. This assumption cannot be directly tested. Following Bechtel and Hainmueller (2011), we probe the plausibility of this assumption with a falsification test that estimates a placebo DiD regression for the pre-treatment period. If the falsification DiD estimate is not statistically significant, the parallel-trend assumption holds in the pre-treatment period; thus, it will be more plausible to assume that the treated and control units approximately follow parallel trends for the post-treatment period, especially given the short time window under investigation in this study.

Previously, we used all pre-promotion dates as a single pre-treatment period due to the short period of the survey time window. To test the parallel-trend assumption for the pre-treatment period, we use the subsample of two weeks before the original treatment date during which the treated provinces have observations. Then, we propose a hypothetical treatment date exactly in the middle of the two weeks, treat the two weeks as two periods, and estimate the placebo DiD regression. As shown in Table C.3, the DiD estimate is statistically insignificant with or without individual-level controls, supporting the parallel trends assumption during the pre-treatment period.

Insignificant effect on trust in other political institutions. Our theory does not explicitly speak to the impact of promotion on citizen's trust in other political institutions and thus does not necessarily predict null effects of promotion on other political trust variables. However, if indeed finding insignificant effects of promotion on other political trust variables, we will have more confidence that the reported findings are not driven by some time-varying factors that affect general political trust, which could also violate the parallel trend assumption of DiD estimation.¹⁰

Additionally, if finding no similar effects of promotion on the trust in other political actors who are not the promoter, we will be more confident that the effect is driven by promotion, rather than through some unobservable mechanisms that affect general political trust, of which the trust in central government is one component. Specifically, we estimate the effect of promotions on respondents' trust in the civil service, the army, the police, courts, political parties, legislatures and

¹⁰For instance, one may be concerned that people with some anti-government characters are somehow interviewed later. If true, we would expect the DiD estimator to yield similarly significant findings on the trust in other political institutions.

Table C.3. Falsification Test: Parallel Trend before Treatment

VARIABLES	Subsample: Two pre-treatment weeks only	
	(1)	(2)
Promotion $\times$ Last pre-treatment week	-0.138 (0.150)	0.094 (0.233)
Mean of dependent variable	3.336	3.328
Individual-level controls		yes
Week fixed effects	yes	yes
Province fixed effects	yes	yes
Observations	666	521
R-squared	0.001	0.103

Note: Dependent variable is trust in the central government; individual-level controls include age, gender, education, income, party membership, residence in an urban area, daily news consumption, general social trust, and perceived importance of networks; robust standard errors in parentheses are clustered at the province level; R-squared is computed after the week dummies and province dummies are partialled out, thus lower than the usual R-squared; * $p < 0.1$.

international institutions, such as the Asia-Pacific Economic Cooperation (APEC) and the United Nations (UN). As summarized in Table C.4, the DiD estimates are statistically insignificant across all eight columns. Thus, they do not reveal similar effects of promotion on trust in other domestic or international institutions.

Table C.4. Placebo Test: Null Effect on Trust in Other Political Institutions

VARIABLES	Domestic political institutions						Intl. institutions	
	Civil service	Army	Police	Courts	Poli. parties	Legislature	APEC	UN
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Promotion $\times$ Post (β)	0.003 (0.112)	-0.114 (0.087)	0.255 (0.169)	0.163 (0.113)	-0.013 (0.078)	-0.035 (0.082)	0.132 (0.193)	0.035 (0.118)
Individual-level controls	yes	yes	yes	yes	yes	yes	yes	yes
Province fixed effects	yes	yes	yes	yes	yes	yes	yes	yes
Week fixed effects	yes	yes	yes	yes	yes	yes	yes	yes
Observations	1,538	1,623	1,626	1,593	1,582	1,611	667	863
R-squared	0.039	0.028	0.025	0.024	0.039	0.051	0.015	0.022

Note: Dependent variable is trust in the central government; individual-level controls include age, gender, education, income, party membership, residence in an urban area, daily news consumption, general social trust, and perceived importance of networks; robust standard errors in parentheses are clustered at the province level; R-squared is computed after the week dummies and province dummies are partialled out, thus lower than the usual R-squared; * $p < 0.1$.

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