Career Concerns, Beijing Style[*]

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1   Introduction

Why has China been able to achieve a sustained phenomenal growth despite a political institution free from checks and balances? An emerging popular answer is regional competition due to government officials' career concerns. The argument suggests that the otherwise unaccountable government officials become enthusiastic in promoting economic growth, an honorable action unwitnessed in, and yet will surely be envied by, many developing countries with a political institution similar to that of China, because beating their peer government officials in promoting economic growth will help themselves promoted to a higher level of government offices (Li and Zhou 2005, Xu 2011). The same reasoning has been applied to argue that, in pursuit of their career concerns, China's government officials often end up promoting economic growth at the detriment of many other social objectives (Xu 2011, Kung and Chen 2011, etc). Meanwhile, the pursuit of career concerns has also been criticized as the culprit for the infamous great famine in the 1960's of China, prior to the country's economic transition (Li and Yang 2005, for example).

Adding together, career concerns of Chinese government officials appear to have been seen by many students of the Chinese economy as a key determinant for a range of major phenomena happening in China. While an insightful observation, which perhaps bears a lot of truth to the reality of China, the argument has not yet subject to a formal reasoning. While we do not know what's the reason behind the absence of formal analysis, it is possible that scholars have deemed such an intuitive argument sufficient. As a result, officials' career concerns have become so important an explanation and yet at the same time so apparent to warrant any further investigation of such an explanation.

This paper expresses the view that, in a political institution free from checks and balances, nothing apparent are career concerns of government officials. First, in such a political institution, it is not only the accountability of government officials that matters, but more importantly, the accountability of the leadership. The existing literature, with a cursory argument of career concerns of government officials, has left it unaddressed the very question from which China's miracle arises: the accountability of the leadership when there is no checks and balances.

Second, a political institution like the one in China has a unique feature when it comes to the career concerns of bureaucrats. That is, promotion leads to succession: the very future career of a government official is to become the leader, and that is what we mean by career concerns, Beijing style. Incidentally, such a salient feature has been ignored in the existing literature that attributes various phenomena in the Chinese economy to government officials' career concerns.

Putting these two observations together, we note that, should a government official face an accountability problem that needs to be addressed through career concerns, a similar problem is likely to arise when the official advances his career to succeed the outgoing leader: An opportunist will become more opportunistic as he amasses greater power. Yet, as he reaches the top of his career, the official, now the leader, faces no more career concerns to contain his accountability problem.

This in turn raises a number of issues. For one thing, the accountability problem of the new leader is likely to impact the actions of his own government officials, even if the latter continues to aspire for their future career: A corrupt leader could waste good efforts of government officials, and without accountability at the top there is no reason why career concerns at the regional level will necessarily be conducive to the growth of an economy.

For another, it is no longer evident whether this new principal, suffering from his own accountability problem, will even be interested in promoting agents by their expected ability as a standard career concerns argument would suggest. This raises the question about the nature of career concerns of government officials and whether such career concerns can help correct the accountability of these government officials in the first place. Furthermore, without accountability of the leadership, career concerns can easily be driven by the urge of grabbing rents at the top, in which case it may even be socially optimal to eliminate career concerns all together.

Therefore, in order to make sense of how career concerns of government officials may have contributed to China's miracle, it seems essential to incorporate the study of officials' career concerns with an examination of leadership selection as well as leadership accountability, which is indeed the point of departure of this paper.

Different from a standard career concern model, pioneered by Holmstrom (1982, 1999), later extended to study government agencies (Tirole 1994, Dewatripont, Jewitt, and Tirole 1999, Acemoglu, Kremer, and Mian 2007, among others) with an incorporation of multitask consideration (Holmstrom and Milgrom 1991) and to investigate performance comparisons (Meyer and Vickers 1997), our paper does not feature an exogenous principal who is committed to promote the agents (to a salary level) according to their expected ability. Instead, the principal/leader in our paper is endogenously selected by his predecessor among the latter's agents/officials in an overlapping generation model.

Leadership accountability can take many forms. Myerson (2010) examines the leader's choice between rewarding his agents for their good efforts and pocketing the reward for himself. Rauch (2001) studies the leader's decision in spending time between monitoring his agents against their corruption and enriching himself. In both papers, the leader accountability rests in making his agents accountable. To highlight the role of career concerns of government officials, we place the leadership accountability elsewhere. Thus, in our paper as in our previous work (Che, Chung, and Qiao 2013), leadership accountability arises because the principal/leader has a role in allocating government resources: a leader can choose to allocate the resource in the public interest or embezzle to profit himself.

In contrast to Che, Chung, and Qiao (2013) where the leadership accountability is resolved once an intrinsically motivated politician emerges

through leadership selection,[1] we assume instead that all candidates for any government positions are self-interested. As a result, there does not exist in this paper any "right" leadership selection that can directly eliminate the leadership accountability problem.

With self-interested politicians, there potentially exist various possible ways to mitigate, if not resolve, leadership accountability problem; and whichever mechanism it is, it has to involve tying the action of the incumbent today to the incumbent's stake in the future. Roughly speaking, the incumbent's future stake can be associated with either him potentially continuing to be a leader tomorrow or him retiring as a citizen. The popular political economy thinking (see for example Olson (1993), Maskin and Tirole (2004), Besley and Kudamatsu (2008) among many others) tends to focus on the former, which either leaves the tomorrow's leadership accountability problem unaddressed or requires a leader to be able to remain in power forever. Neither is satisfactory, apparently, for the very issue the paper tries to tackle with. In fact, one of the major political reforms China had undertaken at the onset of its economic transition back in the 80's of the last century was exactly to impose term limits to the country's top leadership. And despite regularized leadership turnover, the performance of the country's leadership and associated with it, the country's economic performance, has been for the large part rather consistent, contributing on the one hand o the country's phenomenal growth for more than three decades and on the other hand defying any cycle between accountability and unaccountability that the popular reasoning would imply.

Our paper therefore takes a departure from the popular thinking to reflect the term limit and regularized leadership turnover, two salient features of the Chinese political institution and to address the problem of leadership accountability, the issue central to the China's miracle. In doing so, we demonstrate a mechanism through which the leadership accountability problem can be mitigated, if not resolved, as a result of the incumbent's attempt to select his own desired successor that ties his future stake after retiring to a citizen to his action today.

We develop the mechanism in a stylized three-period overlapping generation model, where a government is composed of a leader and two bureaucrats in each period. Bureaucrats serve when they are young, a leader, chosen from the bureaucrats by the previous leader, serves when he is middle-aged.

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[1]Intrinsic motivation has also been studied by Besley and Ghatak (2005) and Pendergast (2008) from an incentive perspective.

Otherwise they are retired as citizens. In each period, both the leader and the bureaucrats take an active role in public goods provision. All individuals differ in their competence that matter in civic service, which in turn shape their propensity to corrupt.

The driving force behind our mechanism is that the leader's choice of action impacts the noise in his agents' performance and consequently his ability to identify his desired successor among these agents. The root to this mechanism lies in the fact that the corrupting behavior by the leader tends to waste the effort of his agents, whereas the honest civic service of his offers room for his agents to perform to their best potential. This feature emerges in our paper under the condition that the leader's action complements those of the bureaucrats.

One of the central messages this paper arrives at therefore is that the leadership accountability may be mitigated, if not resolved, because the leader's intent to select his successor and the fact that an honest provision of civil service can better facilitate this selection.

Delving behind this observation, our paper goes on to investigate a leader's intent to select his successor. We show that, whether a leader will have any desire to identify a desired successor depends on what he expects of the quality of leadership of his successor, in particular, the latter's leadership accountability. In particular, if a future leader is expected to be corrupt regardless of the leadership selection, the current leader will have no intent to select and, as a result, his own leadership accountability problem will remain unresolved; so the current leader will corrupt as well. Conversely, if the current leader expects his successor to overcome the latter's leadership accountability, he will therefore acquire an intent to select, in which case our aforementioned mechanism helps resolve the current leader's leadership accountability problem.

Thus, the second central message of our paper is that, if leadership selection does not directly resolve leadership accountability by producing a benevolent politician (as in Che, Chung, and Qiao (2013) for example), there is then an inherent indeterminacy in career concerns, Beijing style.

Our paper then turns to the career concerns of the leader's agents, the bureaucrats, upon which we deliver the third message of this paper. That is, the bureaucrats acquire career concerns that will compel them to offer honest civic service only when there is accountability at the leadership level.

When the leader is not accountable, or when he expects his successor to be unaccountable and hence lose the intent to select, the leader's action adds

noises to the bureaucrats' performance, making it difficult to differentiate one bureaucrat from another. This in turn dampens the career concerns of the bureaucrats, inducing the bureaucrats to become unaccountable as well. In other words, the lack of accountability at the top contaminates the accountability at the bottom.

On the other hand, when there is accountability at the leadership level, the bureaucrats' performances better reflect their competence, and as a result the governments face a trade-off between embezzlement and an honest civic service that becomes more spelled out. As leadership accountability is associated with the expected leadership accountability in the future, the incumbent leader has an intent to select a competent successor.

Nonetheless, the intent of the incumbent leader to select a competent successor does not necessarily translate into career concerns for bureaucrats. The reason is straightforward: With leadership accountability, becoming a leader means offering an honest civic service to the public. Since accountable leadership is a public good, it creates, in the context of regional competition, a potential tendency for an incompetent bureaucrat to ride on the prospective promotion of a competent bureaucrat, and a similar tendency for a competent bureaucrat to ride on the prospective promotion of the other competent bureaucrat.

Therefore, although necessary, accountable leadership is not sufficient in generating career concerns for the bureaucrats to put up an honest civic service. Instead, in the context of regional competition among self-interested politicians, there will be a tendency for each bureaucrat to yield the career path to another competent bureaucrat.

Such a tendency can be overcome, however, when a competent bureaucrat wants to crowd out an incompetent bureaucrat from taking over the leadership position, as such leadership succession is a public bad. Yet, even in this case when a competent bureaucrat does acquire the career concerns, it does not follow that such career concerns will necessarily prompt him to put in an honest civic service. In fact, we show that there exists an equilibrium where a competent bureaucrat corrupts, but becomes accountable once in the high office, whereas an incompetent bureaucrat works honestly so that the former can be identified to succeed the incumbent leader under what we refer to as "forgiving", rather than merit-based, promotion. This last observation suggests that the linkage between career concerns and merit-based promotion, cited oftentimes in the existing literature on regional competition in China, should not be taken for granted.

2 The Model

This is an overlapping-generations model. Every generation lives for three periods, and has two unit masses of citizens. There is one government, consisting of a leader and two bureaucrats. Bureaucrats are drawn from citizens when they are young. The leader is selected between the two bureaucrats when they get to the middle age. The one who is not selected retires. The right to select rests with the incumbent leader when the latter retires in the old age.

Each bureaucrat governs a jurisdiction consisting of a unit mass of citizens. When the incumbent leader (and the bureaucrat who is not selected for promotion) retires, he becomes an ordinary citizen randomly assigned to one of the two jurisdictions.

The payoff of a citizen (including leader and bureaucrats) in a period depends on public good from both jurisdictions, as well as private consumption made possible when the citizen becomes a bureaucrat or a leader, who in turn gains access to a public fund:

$$u = f(b^i, g) + f(b^j, g) + e \equiv u^c + e$$

where f represents the public good offered in a jurisdiction, which depends on b^i, the output from its governing bureaucrat B^i as well as, g that from the leader, G.

Citizens differ in their competence, $\theta \in \{\theta_l, \theta_h\}$. The difference in competence among citizens ultimately leads to difference in competence among bureaucrats and the leader. There is a process, which we assume for the moment to be exogenous, that draws a competent citizen to be a bureaucrat with probability ρ and an incompetent citizen with the complementary probability $1 - \rho$.

In each period, the economy begins with some fixed amount of public funds allocated to the leader and the two bureaucrats. Let a be the amount under the control of the incumbent leader, and $\tilde{a}$ that under the control of each bureaucrat respectively. The leader decides whether to embezzle the public fund under its control for his private consumption ($\epsilon^L = 1$), in which case $e = a$, or to put the fund into the production ($\epsilon^L = 0$), in which case $g \in \{a, 0\}$ with the following probability distribution:

$$prob(g = a) = \begin{cases} 1, & \text{if } \theta^L = \theta_h; \text{ and} \\ \gamma, & \text{if } \theta^L = \theta_l. \end{cases}$$

The leader's production of g precedes that of bureaucrat's decision of b, and is publicly observed. Observing g, a bureaucrat governing jurisdiction i, follows up with a similar choice between embezzlement ($\epsilon^B = 1$) and production of local public goods ($\epsilon^B = 0$), in which case $b \in \{\tilde{a}, 0\}$ subject to the following probability distribution

$$prob(b^i = \tilde{a}) = \begin{cases} 1, & \text{if } \theta^B = \theta_h; \text{ and} \\ \gamma, & \text{if } \theta^B = \theta_l. \end{cases}$$

Prior to the end of a period, the leader observes b^i in each jurisdiction and forms an updated belief of each bureaucrat's competence, $\rho^i(b^i, g)$, with the understanding that his own strategy may impact the bureaucrat's decision. He then appoints one of them as his successor. We assume implicitly that there is some crucial learning by doing by a bureaucrat so that the next leadership can be chosen from the two bureaucrats only. The payoff of the public good $f(b^i, g)$ is realized at the end of the period.

Throughout the paper, we assume that g and b are complements in the sense that

$$f(\tilde{a}, a) - f(0, a) > f(\tilde{a}, 0) - f(0, 0). \tag{1}$$

3   Analysis

There are four potential types of players in any period: a competent leader, L_h, an incompetent leader, L_l, a competent bureaucrat B_h, an incompetent bureaucrat B_l. These four types of players result in the following configuration in the government:

$$\{L_h, B_h, B_h\}, \{L_h, B_h, B_l\}, \{L_h, B_l, B_l\}, \{L_l, B_h, B_h\}, \{L_l, B_h, B_l\}, \{L_l, B_l, B_l\}.$$

Each player decides whether to embezzle or not. Denote their strategies as

$$\{\epsilon_h^L, \epsilon_l^L, \epsilon_h^B(g), \epsilon_l^B(g)\},$$

where $\epsilon \in [0, 1]$ is a probability distribution between embezzlement and using the public fund for production, with $\epsilon = 1$ indicating that the party chooses to embezzle and $\epsilon = 0$ representing otherwise. These decisions are followed by the succession choice of the incumbent leader,

$$\{p_h, p_l\}$$

mapping from $\{\rho^1, \rho^2\}$ to a likelihood of promoting the bureaucrat governing jurisdiction one.

In choosing the succession decision, an incumbent leader is concerned with his successor's type and strategy, which, in combination with bureaucrats' strategies, determine his payoff when he retires as a citizen. That is, in choosing his successor, the incumbent leader of type i

$$\max_{p_i} p_i U^c(\rho^1) + (1 - p_i) U^c(\rho^2) \tag{2}$$

where

$$U^c(\rho^i) = 2\rho^i E_j E_{b(\epsilon_j^B(g))} E_{g(\epsilon_h^L)} f(b, g) + 2(1 - \rho^i) E_j E_{b(\epsilon_j^B(g))} E_{g(\epsilon_l^L)} f(b, g) \tag{3}$$

is the expected payoff of a citizen in a period *conditional on* the leader in that period being promoted from jurisdiction i.

The expected utility of the incumbent leader's future consumption as a citizen depends on his choice of his successor, which in turn depends on his updated ρ, but is independent of his competence for a given ρ. Therefore, we can obtain our first observation:

Lemma 1 *Both types of the incumbent leader adopt the same promotion strategy: $p_h(\rho^1, \rho^2) = p_l(\rho^1, \rho^2)$ for any given pair of $\{\rho^1, \rho^2\}$.*

Lemma 1 says that the two types of incumbent leadership are completely congruent in their choice of successors. Following this lemma, we from now on drop the subscript $i \in \{h, l\}$ in the promotion strategy: $p(\rho^1, \rho^2)$.

When updating his posterior belief, the incumbent leader takes into account of the fact that his own production g impacts the bureaucrats' strategies, and hence the observations of $\{b^1, b^2\}$, local output from jurisdictions one and two. Thus, the promotion strategy $p(\rho^1, \rho^2)$ can be rewritten as $p(b^1, b^2, g)$, which can be further transformed as

$$q(b^1, b^2, g),$$

a mapping from $\{b^1, b^2, g\}$ to a likelihood of a competent bureaucrat being promoted. With this transformation, we can define the expected payoff of a citizen in one period as

$$U^c(b^1, b^2, g) \equiv p_i U^c(\rho^1) + (1 - p_i) U^c(\rho^2)$$

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where

$$U^c(b^1, b^2, g) = 2q(b^1, b^2, g)E_j E_{b(\epsilon_j^B(g))} E_{g(\epsilon_h^L)} f(b, g) \qquad (4)$$
$$+2(1 - q(b^1, b^2, g))E_j E_{b(\epsilon_j^B(g))} E_{g(\epsilon_l^L)} f(b, g)$$

As a citizen, his expected well-being in one period, as shown in (4) is fully determined by the realization of $\{b^1, b^2, g\}$ in the previous period. Following this observation, the payoff for a middle-age citizen for his remaining life when he is governed by the type i leader with a strategy ϵ_i^L is

$$W^c(\epsilon_i^L) \equiv 2E_{g(\epsilon_i^L)} E_j E_{b(\epsilon_j^B(g))} f(b, g) \qquad (5)$$
$$+E_{g(\epsilon_i^L)} E_j E_{b^1(\epsilon_j^B(g))} E_k E_{b^2(\epsilon_k^B(g))} U^c(b^1, b^2, g);$$

whereas the incumbent leader of type i for the remainder of his life is

$$W_i^L(\epsilon_i^L) \equiv e(\epsilon_i^L) + W^c(\epsilon_i^L) \qquad (6)$$

with

$$e(\epsilon_i^L) = \begin{cases} a & \text{if } \epsilon_i^L = 1, \\ 0 & \text{if } \epsilon_i^L = 0. \end{cases}$$

And an incumbent leader of type i chooses ϵ_i^L so that

$$\epsilon_i^L = argmax\, W_i^L(\epsilon_i^L). \qquad (7)$$

A bureaucrat of type i in jurisdiction one chooses ϵ_i^B after observing, g, the output from the incumbent leader. The problem for a bureaucrat in jurisdiction two is symmetric and its description is therefore omitted. The bureaucrat makes the choice while anticipating, $\epsilon_j^B(g), j \in \{h, l\}$, the strategies of other bureaucrats (now and future) of possible different types, $p(b^1, b^2, g)$, the promotion strategy of the incumbent leader (as well as future leaders, possibly himself) , as well as $\epsilon_k^L, k \in \{h, l\}$ the embezzlement strategy of future leaders (possibly himself):

$$\epsilon_i^B(g) = \underset{\epsilon_i^B}{argmax}\, E_{b(\epsilon_i^B)} f(b, g) + e(\epsilon_i^B) + E_{b^1(\epsilon_i^B)} E_k E_{b^2(\epsilon_k(g))} p(b^1, b^2, g) W_i^L(\epsilon_i^L)$$
$$+E_{b^1(\epsilon_i^B)} E_k E_{b^2(\epsilon_k(g))} (1 - p(b^1, b^2, g)) W^c(\epsilon_k^L) \qquad (8)$$

with

$$e(\epsilon_i^B) = \begin{cases} \tilde{a} & \text{if } \epsilon_i^B = 1, \\ 0 & \text{if } \epsilon_i^B = 0. \end{cases}$$

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A Markovian equilibrium is a profile $\{\epsilon_i^L, \epsilon_i^B(g), p(b^1, b^2, g)\}_{i \in \{h,l\}}$, which satisfies (2), (7), and (8). (2) concerns promotion decisions, (7) is about leader's choice of action, and (8) that of bureaucrats. We analyze next these decisions one by one before spelling out the equilibrium outcomes.

3.1 Political Selection: Promotion Decisions

Promotion in China has often been said to be merit-based. However, should there be any evidence, it often points to the opposite as empirical works often demonstrated that factors other than merit matter as well (see Li and Zhou 2005 for example). With this in mind, we classify promotion decisions in our model of two bureaucrats into three kinds: merit-based, random, and forgiving. As bureaucrats take their actions conditional on their observation of g, whether a promotion decision is merit-based, random, or forgiving, hinges on g as well.

Definition 1 *A promotion after g is*

1. *merit-based if $p(b^1, b^2, g)$ is increasing in $b^1 - b^2$,*

2. *forgiving if $p(b^1, b^2, g)$ is decreasing in $b^1 - b^2$,*

3. *random if $p(b^1, b^2, g) = \frac{1}{2}$.*

Whether a promotion is merit-based or not depends, first, on whether the incumbent leader is even interested in promoting a competent bureaucrat. A common belief is that competence is the choice for all; a close examination, however, shows that this may not be the case when we take leadership as well as bureaucratic accountability into account. From (3) and (4), we observe:

Proposition 1 *An incumbent leader prefers a competent bureaucrat as his successor if and only if*

$$E_j E_{b(\epsilon_j^B(g))} E_{g(\epsilon_h^L)} f(b, g) > E_j E_{b(\epsilon_j^B(g))} E_{g(\epsilon_l^L)} f(b, g). \qquad (9)$$

As one of the central observation of this paper, Proposition 1 reveals that, whether an incumbent leader prefers a competent successor depends on his belief of different types of successor's strategies as well as the responses of different types of bureaucrats' to these strategies; that is, if condition (9) holds or not.

Condition (9) may not hold. It apparently does not hold when $\epsilon_h^L = \epsilon_l^L = 1$. For in this case, $g(\epsilon_h^L) = g(\epsilon_l^L)$, that is, there will be little difference in the performance of the future leadership when both types of a successor are corrupt. As a result, there will be little difference in local output from future bureaucrats under the leadership of either type as well. Hence $E_b E_g E_j f(b(\epsilon_j^B(g)), g(\epsilon_h^L)) = E_b E_g E_j f(b(\epsilon_j^B(g)), g(\epsilon_l^L))$.

This brings us to the next observation, which states that the incumbent will lose his interest in selecting between the two potential successors if the future leadership is expected to corrupt regardless of the leader's type.

Proposition 2 *Suppose that every successor to the incumbent leader will corrupt (i.e, $\epsilon_i^L = 1, i \in \{h, l\}$). Then promotion is random after all g.*

Even when a leader has an intent to promote a competent successor, such an intent does not necessarily translate into merit-based promotion. When updating his posterior belief, the leader takes into account of the fact that his own production g impacts the bureaucrats' strategies. In particular, if the competent bureaucrat chooses to embezzle after observing g ($\epsilon_h^B(g) = 1$), whereas the incompetent one decides to work honestly ($\epsilon_l^B(g) = 0$), promotion will be forgiving after g should the incumbent indeed prefer a competent successor. Whether forgiving promotion will take place *in equilibrium* is an issue that we shall explore in section 3.4. For now, we simply point out such a possibility in the following lemma.

Lemma 2 *Suppose that the incumbent prefers a competent successor. Then promotion after g is forgiving if $\epsilon_h^B(g) = 1$ but $\epsilon_l^B(g) = 0$.*

3.2 Bureaucratic Accountability: Career Concerns

Next, we turn to a bureaucrat's incentive. After observing g, a competent bureaucrat will choose $\epsilon_h^B = 0$ (behave honestly) if and only if

$$f(\tilde{a}, g) - f(0, g) - \tilde{a} + \Delta_h^B(g) \geq 0 \tag{10}$$

whereas an incompetent bureaucrat will do the same if and only if

$$f(\tilde{a}, g) - f(0, g) - \frac{\tilde{a}}{\gamma} + \Delta_l^B(g) \geq 0 \tag{11}$$

where

$$\Delta_h^B(g) \equiv \rho E_{b(\epsilon_h^B(g))}(p(\tilde{a}, b, g) - p(0, b, g))(W_h^L(\epsilon_h^L) - W^c(\epsilon_h^L)) +$$
$$(1 - \rho) E_{b(\epsilon_l^B(g))}(p(\tilde{a}, b, g) - p(0, b, g))(W_h^L(\epsilon_h^L) - W^c(\epsilon_l^L)); (12)$$
$$\Delta_l^B(g) \equiv (1 - \rho) E_{b(\epsilon_l^B(g))}(p(\tilde{a}, b, g) - p(0, b, g))(W_l^L(\epsilon_l^L) - W^c(\epsilon_l^L)) +$$
$$\rho E_{b(\epsilon_h^B(g))}(p(\tilde{a}, b, g) - p(0, b, g))(W_l^L(\epsilon_l^L) - W^c(\epsilon_h^L)). \qquad (13)$$

Conditions (10) and (11) break down a bureaucrat's incentive into two parts: the static incentive and the dynamic incentive, represented by $\Delta_h^B(g)$ for the competent bureaucrat and $\Delta_l^B(g)$ for the incompetent bureaucrat respectively.

The dynamic incentive ($\Delta_h^B(g)$ and $\Delta_l^B(g)$) can be decomposed into two parts, as shown in (12) and (13). The first part (the term that begins with ρ in (12) and the term that begins with $(1-\rho)$ in (13)) is derived from winning the promotion against one's own type, while the second part is derived from winning the promotion against one's opposing type.

Proposition 3 *In any equilibrium, the following properties hold*

1. *$W_i^L(\epsilon_i^L) \geq W^c(\epsilon_i^L), \forall \in \{h, l\}$, and the equality holds if and only if $\epsilon_i^L = 0$;*

2. *$W_h^L(\epsilon_h^L) \geq W_l^L(\epsilon_l^L)$;*

3. *$W_h^L(\epsilon_h^L) \geq W^c(\epsilon_l^L)$; and*

4. *$W_l^L(\epsilon_l^L) \leq W^c(\epsilon_h^L)$ if $\epsilon_i^L = 0 \; \forall i$.*

The first point of Proposition 3 says that for both types, it is weakly better being a leader than being a citizen under the leadership of one's own type. In other words, a bureaucrat derives a non-negative career aspiration in winning the promotion against his own type. This is apparent because being a leader enjoys an extra option of corruption as compared to being a citizen living under the leadership of his own type. Such an option is not valuable, however, if the leader of the particular type is accountable; and hence the equality holds when $\epsilon_i^L = 0$. That is, the career aspiration to win the promotion against one's own type vanishes if the type will be accountable after assuming leadership.

The second point of Proposition 3 says that a competent leader must derive a higher expected payoff for his remaining life than an incompetent

leader does. The reason is as follows. At his middle age, a leader's continuation payoff consists of the continuation payoff of his as a middle-age citizen and the private consumption he obtains as a leader from embezzlement, if any. For a middle-age citizen, the continuation payoff of his is determined completely by the realization of the output of the incumbent leader at his middle age, holding others' strategies constant. Therefore, when an incompetent bureaucrat becomes the leader, he generates for himself an expected continuation payoff in the amount of $W^c(\epsilon_l^L)$ as a middle-age citizen as well as a private consumption from embezzlement with some probability (allowing for mixed strategy) by being the leader. Now, notice that a competent leader can embezzle and as a result produce zero output, or remain honest and produce a; whereas an incompetent leader can produce a only with probability γ, but zero otherwise even when he chooses to be honest. In other words, to generate the same distribution of output, a competent leader can allow himself a weakly larger probability of embezzlement than an incompetent leader. As a result, holding others' strategies constant, a competent leader can always mix between embezzlement and working honestly to generate the exact same expected continuation payoff for himself as a middle-age citizen, and private consumption from embezzlement by a weakly larger probability as a leader. Therefore, the expected continuation payoff for a competent leader must be weakly higher than that for an incompetent leader in equilibrium.

The third and the fourth points follow from the first and the second points. The third point states that, for a competent bureaucrat, it is always better to become a leader than to retire under the shadow of an incompetent leader; in other words, a competent bureaucrat always derives a positive career aspiration to win promotion against his opposing type. The final point says that, if a leader is to behave honestly in equilibrium regardless of his type (i.e., $\epsilon_i^L = 0 \; \forall i$), an incompetent bureaucrat would be weakly better off to live as a citizen under a competent leader than to become a leader himself; that is, an incompetent bureaucrat acquires a non-positive career aspiration to win promotion against his competing type.

The intuition for these two points is straight forward. Accountable leadership is a public good. When leadership is completely acceptable (i.e., $\epsilon_i^L = 0 \; \forall i$), everyone prefers someone else who is competent to be the leader. As a result, the incompetent type has no interest to race against its own type and is willing to lose the race to the competent type. The incompetent is willing to lose the competition to the the competent not because he cannot win the race, as in Cai and Triesman (2005), but because he does

not want to. Understanding that he himself will behave as accountably as a competent bureaucrat will do once either of them becomes the leader, the incompetent would rather be led than lead. For the competent type, he is not interested in competing against his own type either. However, he wants to stay ahead of the incompetent type, as he now becomes the last frontier to safeguard the leadership post from falling into the hand of an incapable leader.

Proposition 3 thus presents one of the central observations of this paper. It shows that, in the context of inter-jurisdiction competition, the career inspiration of bureaucrats cannot be taken for granted when the career advancement of a bureaucrat leads to the succession of the leadership. In particular, a bureaucrat may be completely uninterested in competing against his own type, or even feel more comfortable to lose the competition against his opposing type.

Not only should a bureaucrat's career inspiration not be taken for granted, the incentive effect of such a career inspiration is not guaranteed either: Even when a career inspiration is positive, it does not necessarily contribute to a positive incentive for the bureaucrat to behave honestly. In fact, in order for a positive career inspiration against one's own type to turn into a positive incentive for type i bureaucrat, it requires:

$$E_{b(\epsilon_i^B(g))}(p(\tilde{a}, b, g) - p(0, b, g)) > 0;$$

whereas in order for a positive career inspiration against against one's opposing type, j, to turn into a positive incentive for type i bureaucrat, it requires:

$$E_{b(\epsilon_j^B(g))}(p(\tilde{a}, b, g) - p(0, b, g)) > 0.$$

The next lemma calculates these differences in promotion probability as follows:

Lemma 3 *For any $k \in \{h, l\}$ and $g \in \{a, 0\}$,*

$$E_{b(\epsilon_k^B(g))}(p(\tilde{a}, b, g) - p(0, b, g)) = \begin{cases} \frac{1}{2} & \text{if merit-based promotion after } g; \\ -\frac{1}{2} & \text{if forgiving promotion after } g; \text{ and} \\ 0 & \text{if random promotion after } g. \end{cases}$$

Following Lemma 3, we note that, even though it may affect the pattern of promotion, the leader's performance, g has no bearing on the difference in promotion probability and hence the magnitude of either $\Delta_h^B(g)$ or $\Delta_l^B(g)$. Accordingly, we can rewrite (12) and (13) as

$$\Delta_i^B = \begin{cases} \frac{1}{2}(W_i^L(\epsilon_i^L) - \rho W^c(\epsilon_h^L) - (1-\rho)W^c(\epsilon_l^L)); & \text{if merit-based promotion after } g; \\ -\frac{1}{2}(W_i^L(\epsilon_i^L) - \rho W^c(\epsilon_h^L) - (1-\rho)W^c(\epsilon_l^L)); & \text{if forgiving promotion after } g; \text{ and} \\ 0; & \text{if random promotion after } g. \end{cases}$$
$$(14)$$

where $i \in \{h, l\}$. We can then apply Lemma 3 to (14) and derive two corollaries:

Corollary 1 *Suppose that every successor to the incumbent leader will behave honestly ($\epsilon_i^L = 0, i \in \{h, l\}$). Then*

1. *a competent bureaucrat derives non-negative career concerns ($\Delta_h^B \geq 0$), whereas an incompetent bureaucrat derives non-positive career concerns ($\Delta_l^B \leq 0$) if promotion is merit-based after g;*

2. *if instead promotion is forgiving after g, an incompetent bureaucrat derives non-negative career concerns ($\Delta_l^B \geq 0$), whereas a competent bureaucrat derives non-positive career concerns ($\Delta_h^B \leq 0$).*

Corollary 2 *Suppose that every successor to the incumbent leader will corrupt (i.e., $\epsilon_i^L = 1, i \in \{h, l\}$). Then neither type bureaucrat acquires any career incentives ($\Delta_i^B = 0, i \in \{h, l\}$) .*

While the above discussion of ours has focused on the career concerns of a bureaucrat, it is worth pointing out that the career concern is not the only factor determining a bureaucrat's accountability; the static incentive matters too. We shall incorporate the static incentive when we analyze the equilibrium outcomes in section 3.4; but before that, let's turn to the incentive of a leader.

3.3 Leadership Accountability: Selection Concerns

Unlike a bureaucrat, a leader faces no career concerns as he reaches the top of his career. What then brings the leader incentives to behave responsibly? In the political institution we are analyzing here, the leader is free from any form of checks and balances, but is institutionally endowed with the sole right to select his successor. Realizing the world tomorrow rests in his hand today, a leader must calculate the extent to which his action

today affects the quality of the government tomorrow.[2] As we show next, the leader's action today affects the leader's ability to select his successor, and as a result the quality of the government tomorrow. This is what we refer to as "selection concerns".

In particular, a leader's incentive compatibility condition is

$$E_j E_{b(\epsilon_j^B(a))} f(b,a) - E_j E_{b(\epsilon_j^B(0))} f(b,0) - \frac{a}{2} + \Delta^L \geq 0 \qquad (15)$$

if he is competent; and is

$$E_j E_{b(\epsilon_j^B(a))} f(b,a) - E_j E_{b(\epsilon_j^B(0))} f(b,0) - \frac{a}{2\gamma} + \Delta^L \geq 0 \qquad (16)$$

if he is not. In conditions (15) and (16), the term in front of Δ^L represents the leader's static incentive; while

$$\Delta^L \equiv 2\rho(1-\rho)(q(a) - q(0))$$

$$[E_{g(\epsilon_h^L)} E_j E_{b(\epsilon_j^B(g))} f(b,g) - E_{g(\epsilon_l^L)} E_j E_{b(\epsilon_j^B(g))} f(b,g)]. \qquad (17)$$

where

$$q(a) = E_{b^1(\epsilon_h^B(a))} E_{b^2(\epsilon_l^B(a))} q(b^1, b^2, a);$$
$$q(0) = E_{b^1(\epsilon_l^B(0))} E_{b^2(\epsilon_l^B(0))} q(b^1, b^2, 0)$$

represents the leader's dynamic incentive, or "selection concerns".

Δ^L consists of three terms. The first term,

$$\rho(1-\rho),$$

reflects the fact that if the two jurisdictions have the same type bureaucrats, the incumbent's choice of action will not affect the successor type. Apparently, Δ^L approaches to zero when ρ approaches to either one or zero, highlighting the importance of information asymmetry in producing

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[2]One particular feature of the political institution we analyze here is that today's leader selects his successor, who in turn selects his own successor, and so on so forth. Therefore, the succession decision of the leader today can potentially have a long lasting impact. We can therefore easily extend our argument to allow the leader to care not only about the quality of the government in the next period, but also up to n periods in the future, should we assume some form of altruism in a leader so that he cares about the welfare of his offsprings over several generations.

dynamic incentives for the leader. Likewise, reflecting the variance in candidates' types, $\rho(1-\rho)$ also suggests the importance of political selection in shaping the dynamic incentives of the incumbent leader. Although we have assumed that the types of bureaucrats are independently distributed, it is straightforward to deduce that, should the types of the two bureaucrats are highly positively correlated, the dynamic incentive of the incumbent leader will vanish as well.[3]

The second term,

$$q(a) - q(0),$$

indicates whether the incumbent leader is more likely to choose a competent successor (recall that q represents the probability of selecting a competent successor) if he offers honest civic service rather than corruption; whereas the third term,

$$E_{g(\epsilon_h^L)}E_j E_{b(\epsilon_j^B(g))}f(b,g) - E_{g(\epsilon_l^L)}E_j E_{b(\epsilon_j^B(g))}f(b,g),$$

indicates whether the incumbent leader prefers a competent successor to an incompetent one. Multiplied together, these two terms suggest that the incumbent leader acquires the selection concern to behave honestly only if he finds himself to be more capable of identifying his desired successor with an honest provision of civic service rather than embezzlement.

An examination of the second term reveals that the selection concern vanishes should ϵ_h^L and ϵ_l^L give rise to the same distribution of the leader performance, g. A specific case in point is when $\epsilon_i^L = 1, i \in \{h, l\}$; that is, when the successor, regardless of his type, is expected to be corrupt.

Proposition 4 *There is no selection concern for the incumbent leader (i.e., $\Delta^L = 0$) if every successor to the incumbent leader will corrupt (i.e, $\epsilon_i^L = 1, i \in \{h, l\}$).*

Likewise, we can observe from the third term that if the incumbent leader's choice of action does not alter either types of bureaucrats' actions, the selection concern goes out of the window as well.

Proposition 5 *There is no selection concern for the incumbent leader (i.e., $\Delta^L = 0$) if all bureaucrats adopt their strategies independent of g (i.e., $\epsilon_i^B(a) = \epsilon_i^B(0), \forall i$).*

---

[3]This particular observation may be related to Meyer and Vickers (1997). In a standard career concerns setting, where agents are paid according to their expected competence, Meyer and Vickers (1997) showed that relative performance evaluation compromises an agent's incentive to work when the characteristics of agents are correlated.

The following corollary of Proposition 5 delivers a specific case in point. That is, the selection concerns will evaporate either when all bureaucrats commit corruption all the time or when they behave honestly all the time.

Corollary 3 *There is no selection concern for the incumbent leader (i.e., $\Delta^L = 0$) either when bureaucrats are completely accountable (i.e., $\epsilon_i^B(a) = \epsilon_i^B(0) = 0$, $\forall i$) or when bureaucrats are completely corrupt (i.e., $\epsilon_i^B(a) = \epsilon_i^B(0) = 1$, $\forall i$).*

The second part of Corollary 3 echoes Propositions 2 and 4. Together they suggest the possibility of a vicious cycle in the sense that the dynamic incentive for an incumbent leader to behave honestly disappears when he expects a future successor, regardless of his type, to corrupt, or when his bureaucrats, regardless of their types, corrupt all the time; and that, when the selection concern is lost on the part of the incumbent leader, also lost are the career concerns on the part of all bureaucrats, regardless of their types. In other words, *the anticipated lack of leadership accountability in the future has the potential to destroy the dynamic incentives throughout the government today.*

With the viscous cycle present, there is a natural question of whether a virtuous cycle also exits so that everyone in the government can acquire positive dynamic incentives because it is anticipated that others are accountable. Unfortunately, the reverse is not true. Combining the first part of Corollary 3 with Corollary 1, there emerges a somber picture confronting the political institution we are analyzing here: *The dynamic incentive cannot be present everywhere in the entire government.* In particular, should there be anticipation of complete leadership accountability in the future, some bureaucrats will have negative rather than positive career concerns; and should there be complete bureaucratic accountability, the selection concerns of the leader will evaporate as well.

However, dynamic incentives are not the only factor that determines whether a government official, leader or bureaucrat, will offer honest civic service. Static incentives matter as well. Before turning to the equilibrium analysis, let's take a look at a leader's static incentive. Because a leader's action impacts bureaucrats' behavior in our model, we examine the static incentive of a leader with a comparison to that of a bureaucrat.

The static incentive of a leader is

$$E_j E_{b(\epsilon_j^B(a))} f(b, a) - E_j E_{b(\epsilon_j^B(0))} f(b, 0) - \frac{a}{2},$$

for a competent type, and

$$E_j E_{b(\epsilon_j^B(a))} f(b,a) - E_j E_{b(\epsilon_j^B(0))} f(b,0) - \frac{a}{2\gamma},$$

for an incompetent type. It differs from that of a bureaucrat in two aspects.

The first difference is that the leader discounts the cost of accountability (i.e., the gain from embezzlement) as his action has a wider impact than that of a bureaucrat does. This is reflected by the fact that the private benefit of embezzlement is divided by the number of jurisdictions (two in this model). This observation has a broad implication. That is, *other things equal, loading a responsibility with a larger scale of economy to a government official (bureaucrat or leader) helps improve accountability.*

The second difference is that the leader can use his choice of action to affect those of the bureaucrats, as the latter choose ϵ^B conditional on their observation of the leader's choice of action, g. This in turn leads to a possible effect, which we shall refer to as "leading by example": that is, at least some bureaucrats may acquire an incentive to become accountable after observing $g = a$ instead of $g = 0$. As a result, what enters into a leader's calculation between honest civic service and corruption is not a marginal effect as in the case of a bureaucrat, but a total effect provided that his honest civic service can lead some bureaucrats to act honestly as well.

With these considerations in mind, we introduce the following assumption to simplify, as well as to sharpen, our equilibrium analysis, which is coming next.

Assumption 1 *The following hold for any a, γ:*

$$f(\tilde{a}, 0) = f(0, a) = f(0, 0) = 0; \tag{18}$$

$$\tilde{a} < f(\tilde{a}, a) \equiv f < \frac{\tilde{a}}{\gamma}. \tag{19}$$

Condition (18) is a dramatization of the complementarity between g and b. In combination with condition (18), condition (19) says that, without any dynamic incentives, an honest civic service from the leader is insufficient for an incompetent bureaucrat (the second inequality), but is sufficient to induce a competent bureaucrat to do the same (the first inequality). That an honest civic service by the leader is sufficient to induce a competent bureaucrat to follow suit makes it possible for the "leading by example" effect to emerge. We are now ready to characterize the equilibrium outcomes. To simplify our exposition, we will focus our discussion on pure strategy equilibrium only.

3.4 Equilibrium Outcomes

Earlier we have demonstrated the impossibility of having dynamic incentive everywhere in the government (Coroolary 1 together with the first part of Corollary 3). With the introduction of Assumption 1, we can push our argument one step further.

Following Assumption 1, the static incentive is insufficient to induce an incompetent bureaucrat to behave honestly. Accordingly, an incompetent bureaucrat will corrupt in the absence of dynamic incentives. Per Corollary 1, we know that when the leadership is completely accountable, an incompetent bureaucrat derives negative incentives from career concerns, should promotion be merit-based. This, together with the fact that forgiving promotion cannot take place with both types of bureaucrats working honestly, we are able to highlight an important reality faced by the political institution we analyze here:

Proposition 6 *The government is never completely accountable; that is,*

$$\sum_{i \in \{h,l\}} \epsilon_i^L + \sum_{i \in \{h,l\}} \epsilon_i^B > 0.$$

Proposition 6 suggests that some corruption somewhere in the government is a fact of life in the political institution studied in this paper and that it is futile to demand the government to become completely clean, should a political institution free from checks and balances, relies entirely on officials' own calculation of self-interest to become acceptability to the public duty.

Next, we observe that, in any equilibrium, a competent leader will always have a (weakly) stronger incentive to behave honestly than an incompetent leader does. The intuition is straightforward: Because a competent leader is more productive than an incompetent leader, the former will have a weaker incentive to offer honest civic service only when he faces negative dynamic incentives, in which case the incompetent leader will corrupt as well given Assumption 1, contradicting to the supposition that a competent leader has a weaker incentive to work honestly.

Lemma 4 *There does not exist an equilibrium where $\epsilon_h^L = 1$ but $\epsilon_l^L = 0$.*

Following Lemma 4, we conclude that there exist only three kinds of possible equilibrium outcomes in terms of leadership accountability: complete corrupt leadership ($\epsilon_l^L = \epsilon_h^L = 1$), complete accountable leadership

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$(\epsilon_l^L = \epsilon_h^L = 0)$, and conditionally accountable leadership $(\epsilon_l^L = 0, \epsilon_h^L = 1)$. We shall analyze each of them one by one.

3.4.1 Completely Corrupt Government

Imagine an equilibrium where leadership is completely corrupt $(\epsilon_l^L = \epsilon_h^L = 1)$. In such an equilibrium, every leader, once in power, will enrich himself instead of devoting to honest civic service. The leadership position is therefore lucrative. Will such a lucrative leadership position inspire the subordinating bureaucrats to work hard to compete for career advancement so that an economic miracle like that of China can be created as a result?

In our model, the answer is no. Proposition 2 has argued that completely corrupt leadership wipes out bureaucrats' career concerns because, knowing that every possible successor of his will corrupt, the incumbent leader will lose an interest to identify which subordinate of his is more competent. Without career concerns, an incompetent bureaucrat will always corrupt, whereas a competent bureaucrat will behave honestly only when his leader chooses to behave honestly as well, according to Assumption 1. Therefore, we have:

Proposition 7 *Completely corrupt leadership leads to completely corrupt government, that is, $e_i^B(0) = 1, i \in \{h, l\}$, if $e_i^L = 1, i \in \{h, l\}$.*

Under what condition will a completely corrupt government emerge? By Assumption 1, should a leader perform well $(g = a)$, a competent bureaucrat will respond with honest civic service. However, with the selection concern evaporating when $\epsilon_l^L = \epsilon_h^L = 1$ (Proposition 4), even the competent leader will not take advantage of such a response from a competent bureaucrat and act honestly if

$$\rho < \frac{a}{2f}. \tag{20}$$

Proposition 8 *There exists an equilibrium outcome characterized by completely corrupt government if and only if condition (20) holds.*

Proof. We prove the necessary part only. Suppose that $\rho \geq \frac{a}{2f}$ and there exists an equilibrium with completely corrupt government. Since the government is completely corrupt, promotion must be random and there as a result will not be negative career concerns for the bureaucrats. Following

Assumption 1, the competent bureaucrat will respond with honest civic service should the leader perform well ($g = a$). Realizing this possibility and the fact that $\rho \geq \frac{a}{2f}$, the competent leader will not behave honestly unless he faces negative selection concerns. However, since both types of successors are expected to corrupt, selection concerns must be zero. Contradiction. ∎

Proposition 8 highlights the worst possible equilibrium outcome under the political institution we analyze here. Such an outcome emerges when the likelihood of having a competent bureaucrat falls below the threshold of ρ_1 where

$$\rho_1 \equiv \frac{a}{2f}.$$

Below the threshold, the static incentive created by "leading by example" effect is insufficient to induce the competent leader to behave honestly.

3.4.2   Better Government by Faith

While Proposition 8 demonstrates an outcome where the selection concerns do not exist and the government becomes completely corrupt as a result, completely corrupt government is not the only possible equilibrium outcome even for $\rho \leq \rho_1$. With different beliefs, various equilibrium outcomes may emerge.

Imagine that, instead of anticipating his successor to be completely corrupt, the incumbent leader anticipates that a competent successor will act honestly. Following Assumption 1, the incumbent leader must also anticipate a competent bureaucrat in the future government to work honestly after observing $g = a$ as long as promotion is not forgiving. Imagine further that the incumbent anticipates in all other circumstances, a bureaucrat in the future government will choose to corrupt. With these anticipations, the incumbent leader is able to rationalize his expectation that promotion in the future government will not be forgiving. In this case, the incumbent leader acquires the selection concerns, which according to (17) becomes:

$$\begin{aligned}
\Delta^L &= \rho(1-\rho)(\rho^2 f + \rho(1-\rho)f) \\
&= \rho(1-\rho)\rho f
\end{aligned}$$

As a result, a competent leader will choose honest civic service if the following condition holds:

$$\frac{a}{2f(1 + \rho(1-\rho))} \leq \rho; \tag{21}$$

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while an incompetent leader will choose to corrupt if

$$\rho < \frac{a}{2f\gamma(1 + \rho(1 - \rho))}. \tag{22}$$

Meanwhile, should honest civic service at the local level emerge only when a competent bureaucrat follows a good performance from the leader, promotion will clearly be merit-based. However, with merit-based promotion, career concerns emerge for both the competent bureaucrat (to become a clean leader) and the incompetent bureaucrat (to grab rents at the leadership position). Following (14), we can show that

$$
\begin{aligned}
W^c(\epsilon_h^L = 1) - W^c(\epsilon_l^L = 0) &= 2(\rho f + \Delta^L) \\
&= 2\rho f(1 + \rho(1 - \rho))
\end{aligned}
$$

Hence

$$
\begin{aligned}
\Delta_h^B &= \frac{1}{2}(1 - \rho)(W^c(\epsilon_h^L = 1) - W^c(\epsilon_l^L = 0)) \\
&= (1 - \rho)(1 + \rho(1 - \rho))\rho f; \\
\Delta_l^B &= \frac{1}{2}(a - \rho(W^c(\epsilon_h^L = 1) - W^c(\epsilon_l^L = 0)) \\
&= \frac{1}{2}a - \rho^2 f(1 + \rho(1 - \rho))).
\end{aligned}
$$

Apparently, $\Delta_h^B > 0$ whereas the sign of Δ_l^B is ambiguous. The positive career concerns ensure that the competent bureaucrat will be accountable when the leader performs well; and yet the career concerns will be insufficient to induce the competent bureaucrat to act honestly all the time if $\Delta_h^B < \tilde{a}$ or

$$(1 - \rho)\rho < \frac{\tilde{a}}{f(1 + \rho(1 - \rho))}; \tag{23}$$

and the career concerns will be insufficient to compensate for the deficit in the static incentives for the incompetent bureaucrat even when $g = a$ if:

$$\frac{1}{2}a - \rho^2 f(1 + \rho(1 - \rho))) < \frac{\tilde{a}}{\gamma} - f. \tag{24}$$

Proposition 9 *There exists a non-empty set of parameters under which there co-exist the "completely corrupt government" equilibrium and an equilibrium with "conditionally accountable leadership" equilibrium, where a competent leader behaves honestly while an incompetent leader commits corruption, incompetent bureaucrats commits corruption irregardless of leadership performance, while competent bureaucrats behaves honestly only under good leadership performance.*

The co-existence of the "completely corrupt government" equilibrium and an equilibrium with "conditionally accountable leadership" reveal two things, which are in fact two sides of one coin. First, *good faith in government may by itself rescue a government from complete corruption.* Here we have shown that a good faith in the future government triggers the incumbent leader's intent to carefully select his subordinates, whereas such an intent to select creates both an incentive for the incumbent to behave honestly (so as to facilitate his personnel selection) as well as career concerns for competent bureaucrats to make a difference. Second, *good government performance may not be attributed to fundamentals in the economy.* In other words, there may be no fundamental particulars making government performance destined to be good. As a result, good government performance can be fragile: it can collapse when the incumbent, for whatever reason, loses confidence in his successors. In this regard, *political selection is not only about selecting talents but also about selecting confidence in the future of the political institution.*

How far can faith carry the government performance? Per conditions (21) and (23), there clearly exists a positive lower bound of ρ below which the aforementioned equilibrium ceases to exist.

However, the aforementioned equilibrium is not the only one with conditionally accountable leadership that co-exists with the "completely corrupt government" equilibrium. Even when ρ approaches zero, there may still exist another equilibrium with "conditionally accountable leadership" where both types of bureaucrats act responsibly after observing $g = a$:

Proposition 10 *Suppose that the following conditions hold:*

$$\frac{a}{2} < \gamma f < \frac{a}{2\gamma};\tag{25}$$

$$f - \frac{\tilde{a}}{\gamma} + \frac{a}{2} > 0.\tag{26}$$

Then there exists an equilibrium outcome with "conditionally accountable leadership", where both types of bureaucrats work honestly after observing $g = a$, even when ρ is infinitesimally small.

Condition (25) says that a competent leader is willing to inspire honest behavior from even an incompetent bureaucrat, whereas an incompetent leader is not (thus, the leadership is only conditionally acceptable). Condition (26) states that the urge to compete for rents at the leadership position

compels even the incompetent bureaucrat to work honestly after observing good performance from the leader. Notice that, in the limit, an incompetent bureaucrat will be competing against his own type for the leadership position.

Note, however, despite the fact that this particular equilibrium with conditionally accountable leadership can take place even when ρ approaches zero, the government performance in such an equilibrium converges to that of the "completely corrupt government" equilibrium. Thus, in the limit, the equilibrium delivers the same social welfare as the "completely corrupt government" equilibrium does.

In other words, faith cannot lead to an equilibrium with "conditionally accountable leadership" that is substantively different from the "completely corrupt government" equilibrium for all $\rho < \rho_1$.

3.4.3 Completely Accountable Leadership

Faith cannot bring about the co-existence of an equilibrium with "completely accountable leadership" alongside the "completely corrupt government" equilibrium, provided that promotion is merit-based in the "completely accountable leadership" equilibrium.

There are two equilibrium outcomes with "completely accountable leadership" and merit-based promotion. In both equilibrium outcomes, the incompetent bureaucrat will corrupt as he acquires negative career incentives under merit-based promotion. In one of the two, the competent bureaucrat always work honestly, whereas in another, the competent bureaucrat works honestly only if the leader has a good performance ($g = a$).

Lemma 5 *There exists an equilibrium with completely accountable leadership, where both types of a leader act honestly, the incompetent bureaucrats always corrupt while the competent bureaucrats corrupt only after the leader's performance falls short ($g = 0$) if and only if the following condition holds:*

$$\frac{a}{2f\gamma(1+\rho(1-\rho)(1-\gamma))} < \rho < \frac{\tilde{a}}{f(1-\rho)(1-\gamma)(1+\frac{\gamma\rho}{2})} \qquad (27)$$

Condition (27) ensures that the incompetent leader will provide honest civic service (the left-side inequality), whereas the competent bureaucrat is unwilling to do if the leader's performance falls short. It is easy to verify that the left inequality will not hold for any $\rho < \rho_1$. Therefore, the "completely

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accountable leadership" equilibrium with the competent bureaucrat being accountable only when $g = a$ and merit-based promotion cannot co-exist with the "completely corrupt government" equilibrium.

Neither can the "completely accountable leadership" equilibrium with merit-based promotion and the competent bureaucrat always being accountable can co-exist with the "completely corrupt government" equilibrium, as it is made clear in the following lemma.

Lemma 6 *There exists an equilibrium with completely accountable leadership, where both types of a leader act honestly ($\epsilon_h^L = \epsilon_l^L = 0$), the incompetent bureaucrats always corrupt while the competent bureaucrats are always accountable if and only if the following condition holds:*

$$\rho > \max\{\frac{a}{2\gamma f}, \frac{\tilde{a}}{f(1-\rho)(1-\gamma)}\} \tag{28}$$

With the observations above, we can conclude on the limit on how much good performance by the government faith can bring about:

Proposition 11 *There exists an equilibrium with completely accountable leadership and merit-based promotion only if $\rho > \rho_1$.*

4 Conclusion

(To be added)

5 Appendix

Proof of Lemma 3

Let $x = prob(b = a)$ given $\epsilon_k^B(g)$.

$$E_{b(\epsilon_k^B(g))}(p(a, b, g) - p(0, b, g)) = \frac{1}{2}x + z(1 - x) - (1 - z)x - \frac{1}{2}(1 - x)$$

where $z = 1$ if promotion is merit-based after g, and $z = 0$ if promotion is forgiving after g. The case of random promotion is obvious.   *Q.E.D.*

Proof of Lemma 4 An equilibrium where $\epsilon_h^L = 1$ but $\epsilon_l^L = 0$ exists only if

$$W_h^L(\epsilon_h^L = 0) - W_l^L(\epsilon_l^L = 0) < W_h^L(\epsilon_h^L = 1) - W_l^L(\epsilon_l^L = 1).$$

Because a competent leader acquires a stronger static incentive to behave honestly than an incompetent leader, the above condition holds only if $\Delta^L < 0$. Since the static incentive for an incompetent leader is insufficient to induce him to behave honestly (per condition (19)), $\Delta^L < 0$ implies that he will choose $\epsilon^L = 0$. Contradiction. $\hspace{2cm}$ Q.E.D.

Proof of Proposition 9 Note that γ plays no role in the existence of the "completely corrupt government" equilibrium. Let γ be sufficiently small so that condition (22) and (24) can apparently hold. Define ρ_2 such that condition (21) holds in equality. Define ρ_3 as the smaller ρ such that condition (23) holds in equality. With γ sufficiently small, the aforementioned equilibrium with "conditionally accountable leadership" exists if and only if $\rho_2 < \rho_3$, which holds provided that $\tilde{a} > \frac{a}{8}$. Apparently, $\rho_2 < \rho_1$. Thus, with γ sufficiently small, both equilibria exist for $\rho \in [\rho_2, \min\{\rho_1, \rho_3\})$. Q.E.D.

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