A Model of Chinese Central Government: the Role of Reciprocal Accountability[1]

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ABSTRACT

Why in the reform era the Chinese central government has been able to promote economic growth while in the previosu twenty years its economic policies has been so disastrous?

In this paper, we focus on the internal political structure in contemporary China showing the institutional arrangements that can induce autocratic governments to adopt growth-enhancing policies.

We consider a simple political agency model where the incumbent leader may be either congruent or not and where both types need the support of the selectorate to hold on power. Our main result is that to restrain opportunistic behavior of the leader, the size of the selectorate should be intermediate: if too small, the selectorate is captured by the leader and has no disciplinary role; if too big, the leader's incentives are diluted.

Key Words: Accountability, Selectorate, Political-agency, Chinese economic reform.

JEL Code: D02, H11, D74.

1.

INTRODUCTION

In last twenty years the Chinese central government has been extremely successful in promoting economic development, expecially in comparison to other autocratic governments and to itself under Mao Zedong's era. According to the offical data, China has maintained an average growth rate of 9.7 percent, the per capita GDP has increased from 250 USD at the end of 1970s to 3,330 USD (current prices) in 2008 and the number of people in absolute poverty has decreased from early 1980s figure of 300 million to 80 million today (NBS 2009).

There have been a large number of excellent researches explaining the recent outstanding economic growth in China and on the policies that might have promoted it. Many researches attribute China's remarkable economic growth to the country's fiscal and political decentralization. Fiscal decentralization is said to have generated "fiscal incentives" for the local governments to promote economic growth, which results in high investment and hard budget constraint (Oi 1992; Montinola et al. 1995; Qian and Weingast 1997; Qian and Roland 1998). Political decentralization is thought to have stimulated local policy experiments and restrained predatory central interventions (Xu and Zhuang 1998; Qian and Weingast 1996). We, too, believe that these aspects are important, however, they were not adequate to account for the entire success of the reform. They ignore the role played by the central government and other institutional changes in the Chinese political systems that were crucial for growth. Of course, local actors were important in the history of Chinese reforms, but they were important as actors in a game directed from Beijing (Cai and Treisman 2006). Even if the huge amount of direct investment made by the central government were ignored, it is anyway the central government who took the decisive initiatives to "reform and open up" (gaige kaifang). Hence we believe that the relevant question is why did the Chinese central government show a striking degree of accountability in promoting economic growth compared to other autocratic polities and to itself under Mao Zedong's regime? Therefore, the general question we want to tackle in this paper is: how does the internal political structure affect government performances in autocracies? And what are the accountability mechanisms that might incentivize the Chinese central government towards the adoption of good economic policies

choosing the appropriate road to reform?

One focal point of the literature on political institution is accountability through electoral competition, which is seen as the main mechanism, altough imperfect, to restrain opportunistic behavior by politicians. Then, what mechanism, if any, can discipline autocratic leaders? In this paper we are not interested in party competition as well in the separation of powers, the independence of media and the rule of law, all crucial aspects characterizing different political regimes and their economic performances. Instead, our main focus is the role of the political elites as a possible disciplining device on the selected leaders. In particular, the existing literature on political economics of autocracy suggests that accountability in non-democratic regimes might come from the "selectorate" i.e. those citizens that in a given political regime have the actual possibility to depose a leader. This expression is adopted from the British parliamentary politics to define the group within a political party that has the effective power to choose leaders[4]. The role of the selectorate as a disciplining device is the center of our analysis. From the point of view of this paper, political regimes are cast in a continuum from strict autocracies where the selectorate is very small compared to the citizen to full democracies where selectorate and citizenship coincide. In this paper we rely on three substantial works on autocracies: Shirk 1993, Bueno de Mesquita *et al.* 2003 and Besley and Kudamatsu 2007. Susan Shirk analysis of the behavior of the Chinese central government is grounded on the notion of "reciprocal accountability" between the selectorate and the leader, altough without a formal model. According to Shirk in the Chinese political system there is a sort of "reciprocal accountability" in that "top leaders of the party appoint the subordinate officials of the party and government" and, in turn, "the officials in the Central Committee choose (or at least ratify the choice of) the leaders". "Government officials are both the agents and constituents of the party leaders; local officials are both the agents and constituents of the central leaders. Officials hold their positions at the pleasure of the party leadership, but party leaders hold their positions at the pleasure of the officials in the selectorate"[5]. Our paper provides a formal model of this idea of reciprocal accountability between the incumbent leader and the se-

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[4] Shirk 1993, p. 71.

[5] Shirk (1993) p. 83.

lectorate, focusing the analysis on the relation between the size of the selectorate and the leader's behavior. Bueno de Mesquita et al. (2003) were the first to formally model accountability in non-democratic regimes: as a way of disciplining the incumbent leader in an autocracy they consider the role of two subsets of citizens, the winning coalition and the selectorate concluding that the larger the winning coalition, whose support is necessary for the incumbent politician to stay in power, the higher the level of public goods provided by the government, hence in democracy public goods provision is maximized. In our paper we do not distinguish between winning coalition and selectorate and we assume that they coincide since we want to focus our analysis on the notion of reciprocal accountability as previously defined. Finally, according to Besley and Kudamatsu (2007), autocratic governments work well when the power of the selectorate does not depend on the existing leader remaining in office. An important aspect of their model is the introduction of incomplete information into the game played between the autocrat and the selectorate, a characteristic that we use in our model too. So far, the selectorate theory has been the best theory to explain the reasons behind the policy choices in autocratic governments. Hence we will use a simplified version of Bueno de Mesquita et al. (2003) selectorate theory as our general framework and starting point for the analysis. Moreover, following Besley and Kudamatsu (2007) approach, we will consider incomplete information on the autocrat's possible types. But while the focus of their model is on the ability of enfranchised and unenfranchised citizens, a superset of the selectorate, to grip power after the incumbent leader has been ousted, the focus of our model is on the size of the selectorate and how this matters for the leader's behavior. In this way our model will be able to formalize the logic of "reciprocal accountability" between the selectorate and the leader as discussed by Susan Shirk (1993), explaining the conditions that make this reciprocal accountability effective as a disciplining device leading to good policies. Our basic model will show that under certain circumstances, as long as the risk of being excluded from the new challenger's coalition is not too high, the selectorate will be able to restrain the incumbent leader from opportunistic behavior inducing growth-enhancing policies. But this will not be an improvement for all the members in the society, because the leader will only distribute the fruit of the reform to the selectorate to gain their loyalty and support.

The remainder of the paper is organized as follows. Next section presents the basic model with two players, the incumbent leader and the selectorate. Section three analyzes the model, describes the equilibria in pure strategies and contains a discussion on the interpretation of the model and links its results to China. Section four discusses the application of this theoretical model to China, while the last section concludes.

2. THE MODEL

The basic starting game is a two-period political-agency model with incomplete information played between the incumbent leader and the selectorate. There are two types of the incumbent leader, congruent or noncongruent, and the selectorate revise their expectations about the leader's type according to first-period outcomes. Contrary to standard political-agency models in democracy[6], there is no regular general election, so the incumbent leader will be removed from office if and only if the selectorate choose to depose the leader. Since there is no heterogeneity within the selectorate, there is no collective action problem and there is no role for election: the selectorate control the leader through the single decision either to remove or to support it. Of course, by mapping the diverse dimensions of the selectorate political behaviour onto this simple dichotomic choice, we sacrifice details and subtle political strategies, but through this simplification we are able to emphasize the point of the paper, i.e. the analysis of the incentives that might induce noncongruent politicians to implement a costly but growth-enhancing action even without the threat of new election but just through the accountability towards other strategic players of the policy game.

In each period $t = 1, 2$, there is a (female) incumbent leader (L), who can be of two types, either congruent or noncongruent, $T_t \in \{C, N\}$, with probability π of being congruent. She is also privately informed of the true state of the world $\theta_t \in \{0, 1\}$ and has to make a discrete "general interest" policy denoted by $e_t \in \{0, 1\}$. The general interest requires the leader to match the true state of the world, but this would also mean that the incumbent leader foregoes her private benefits. The public payoff from the general interest policy is Δ if $e_t = \theta_t$, 0 if $e_t \neq \theta_t$. However the

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[6]Besley 2006, chapter 3; Berganze, 2000; Maskin and Tirole 2004.

noncongruent leader gets a private benefit r_t from picking $e_t \neq \theta_t$, where r_t is drawn from a distribution whose cumulative distribution function is $G(r_t)$ with $E(r_t) = \overline{r}$, $G(\Delta) = 0$, and $G(r_t) > 0$ for $r_t > \Delta$; on the other hand the congruent leader gets a null private benefit from picking $e_t \neq \theta_t$. Hence, a congruent leader will always choose the growth-enhancing policy in the interest of the whole society, while the choice of a noncongruent leader will depend on the selectorate's decision and on the realization of private benefit r_t.

The country population is normalized to 1. The leader is chosen by a subset of the population, the selectorate (S). Let $\phi \in [0, 1]$ be the size of the selectorate. The rest of the people who do not have the power to choose leaders are the citizens and their size is $1 - \phi$. Therefore in this model ϕ can be considered as an indicator of democracy: $\phi = 1$ means full democracy in the sense that the leader is chosen by the entire population, while $\phi = 0$ means one man dictatorship. Of course, in this way we abstract from many other aspects of liberal democracy, such as the rule of law, the separation of powers and the freedom of speech and of information, but this notwithstanding we believe this model is an interesting starting point to analyse governors' accountability. In particular, our definition agrees with Bollen 1990 idea that defines "democracy as the extent to which the political power of the elites is minimized and that of the nonelites is maximized", where political power refers "to the ability to control the national governing system"[7]. To gain the loyalty of the selectorate, the leader pays a patronage to the selectorate which is realized through the unfair distribution of social wealth. In our simple model, we suppose the leader distribute all the exogenous social wealth X to the selectorate and nothing to the citizens. X could be thought of as the revenue accumulated from sources other than current production (not including producers' capital goods). At the end of each period, the (male) representative member (S) of the selectorate observes his utility in that period and on the basis of this information decides whether to support the leader or not. If the selectorate support the leader, then the leader still hold office in the subsequent period. If the selectorate decides to oust the leader from power, they succeed automatically, as leader with no basis of support cannot survive. When the incumbent leader is ousted from office, a new challenger, randomly chosen from the pool of the selectorate, will enter the office

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[7]Bollen 1990 p. 9.

and form a new selectorate with minimal size of ϕ.

There are two important assumptions behind these rules of game. First, we abstract from voting processes because we are not focusing on mechanisms for aggregating heterogenous individual preferences but on how to hold office holders accountable. Also in Besley and Kudamatsu 2007 the role of voting is only to capture the specific group of citizens' ability to hold on power after the incumbent is changed, but not to model the process of how the new leader is chosen. Second, differently from Bueno de Mesquita *et al.* 2003, we assume that the minimal selectorate size[8] is stationary, possibly because there are no structural change in the policy process. We assume that the appointed leader randomly picks up the members of the new selectorate from the pool of the whole population. So if the selectorate changes the incumbent leader, he then would have a probability of ϕ to be included in the new coalition.

The single period utility function of the representative member (S) of the selectorate in period $t \in \{1, 2\}$ is

$$U^S(e_t, \theta_t) = \begin{cases} \Delta + \frac{X}{\phi} & \text{if } e_t = \theta_t \\ \frac{X}{\phi} & \text{if } e_t \neq \theta_t \end{cases}$$

The utility function of the congruent politician (C) coincide with the selectorate's utility, so that:

$$U^C(e_t, \theta_t) = U^S(e_t, \sigma_t, \theta_t)$$

The utility function of the noncongruent politician (N) is

$$U^N(e_t, \theta_t) = \begin{cases} \Delta + \frac{X}{\phi} & \text{if } e_t = \theta_t \\ r_t + \frac{X}{\phi} & \text{if } e_t \neq \theta_t \end{cases}$$

If the leader is removed from office, next period she receives a zero payoff.

Finally, both players maximize the discounted sum of their expected utility in two periods, where $\beta < 1$ is the discount factor.

The timing of the model is as follows:

1. Nature determines (θ_1, r_1) and the type of the leader $T_1 \in \{C, N\}$. These three random variables are stochastically independent and their realization is private information of the leader.

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[8] Remember that in their terminology what we call the selectorate is the winning coalition.
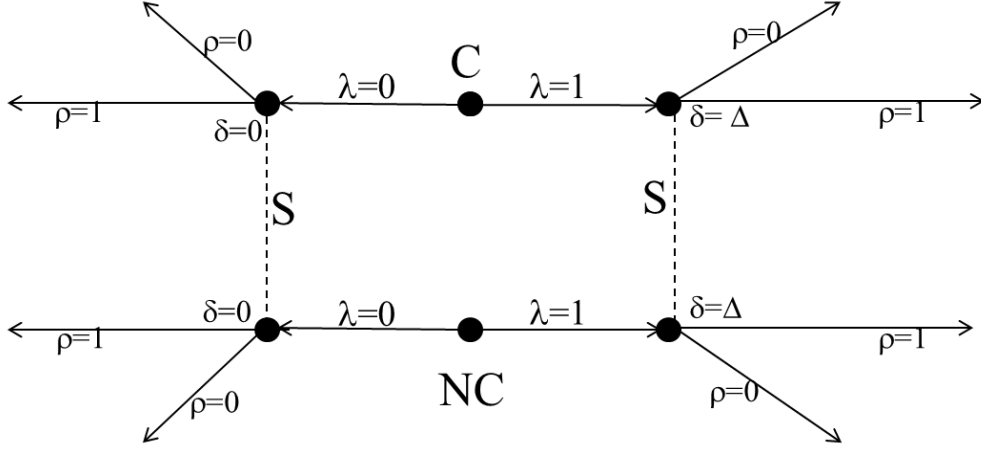
FIG. 1 The two players model

2. The leader chooses the policy e_1 and period one payoffs are realized.

3. The selectorate observes his payoff $\delta \in \{0, \Delta\}$ and thus the policy chosen by the leader but not her type.

4. The selectorate decides whether to retain the incumbent leader, given his information.

5. If the incumbent leader is ousted from office, a new challenger from the selectorate will enter office and she will be congruent with probability π. The new challenger will form her own coalition and members of the selectorate who deposed the incumbent leader would have a probability ϕ to be included in the new coalition.

6. Nature determines (θ_2, r_2).

7. The period two leader chooses e_2 and period two payoffs are realized.

Let $\lambda^T(\theta_1, r_1)$ be the probability that, in the first period, the type T leader implements action $e_1 = \theta_1$, given the state of the world θ_1 and the rent r_1, and let $\rho(\delta)$ be probability that the selectorate retains the incumbent leader, given that in the first period he obtained a payoff equal to $\delta \in \{0, \Delta\}$.

Here there is the game tree corresponding to the first stage of the model:

The symbols used are summarized in the following table:

Symbol	Definition
	PLAYERS
L	incumbent leader
S	selectorate
$T \in \{C, N\}$	type of the incumbent leader with $\Pr\{T = C\} = \pi$
	EXOGENOUS VARIABLES
$\theta \in \{0, 1\}$	state of nature
$\delta \in \{0, \Delta\}$	payoff from the general interest policy
$r \sim G(r)$	random private rent the leader can extract, with cdf $G(r)$ and expected value $\overline{r}$
β	discount factor
X	exogenous revenue of the society
$\phi \in [0, 1]$	size of the selectorate
	ENDOGENOUS VARIABLES
$\lambda^T(\theta, r)$	probability that the type T leader implements a congruent policy
$\rho(\delta)$	probability that the selectorate retains the leader after observing $\delta \in \{0, \Delta\}$
	PAYOFFS
$U^C(\lambda, \rho \vert \theta, r)$	the single period utility function of the congruent leader
$U^N(\lambda, \rho \vert \theta, r)$	the single period utility function of the noncongruent leader
$U^S(\lambda, \rho)$	the single period utility function of the selectorate
V^S	expected continuation payoff of the selectorate

3. EQUILIBRIA OF THE TWO PLAYERS' MODEL

We use Perfect Bayesian equilibrium (hence PBE) as equilibrium concept to analyze this model. The detailed caluclations are reported in the Appendix, here we just consider the results and the comments on them.

We should distinguish to cases according to the size of the selectorate

Case 1. Suppose $\frac{(1-\phi)}{\phi} X \geq \pi \Delta$ which implies $\phi \leq \frac{X}{X + \Delta \pi} =: \Phi(X, \pi, \Delta)$.

In this case the selectorate will choose to retain the incumbent leader even if he is certain that she is not congruent since the probability of being in a new appointed selectorate next period is too small. In this situation, the selectorate is completely loyal to the leader being afraid of loosing his privileges and therefore supports the leader no matter what kind of general interest policy choice she had made. The

noncongruent leader, knowing that she could always obtain support, will choose the action that maximize her short term utility, that is for any r_1, $\lambda^N(\theta_1, r_1) = 0$.

PROPOSITION 1. *When $\phi \leq \frac{X}{X+\pi\Delta} =: \Phi(X, \pi, \Delta)$, there exists a separating Perfect Bayesian equilibrium where*

$$\lambda^C(\theta_1, r_1) = 1, \ \lambda^N(\theta_1, r_1) = 0, \ \rho(0) = 1, \ \rho(\Delta) = 1^9.$$

This means that the leader would pursue her own interest and this notwithstanding she will retain the power.

In this equilibrium the government is kleptocratic and the bad autocrat behaves as a "stationary bandit" who can syphon off private rent without fearing being removed from power. This is the case if the size of the selectorate ϕ is sufficiently small. Why small selectorate can lead to loyalty notwithstanding leader's behavior? Suppose the selectorate defect the leader by switching allegiance to a challenger, then the challenger has the opportunity to form a new selectorate. But the defector cannot be certain that he will be included in the new selectorate, for the challenger will only draw ϕ members from the population. In other words, when ϕ is small, the selectorate is captured by the leader since there is a risk associated with defection which involves the chance of exclusion from the privileges of being in the selectorate. As the size of the selectorate becomes smaller, the challenger is less likely to need the support of any particular individual when forming her new selectorate. Therefore, the smaller the size of ϕ, the riskier defecting. "The risk of exclusion from a challenger's long-term winning coalition drives loyalty to the current leader. Not surprisingly, leaders have tried to choose followers with the greatest risk of exclusion because they are the most loyal" (Bueno de Mesquita et al. 2003, P66). This point could explain why ancient Chinese emperors came to rely on eunuchs. The eunuchs were absolutely loyal to the emperor, because they were not accepted by the rest of the society; the emperor, therefore, was their sole support. We can also find the same kind of evidence during the Chinese Culture Revolution. During this era, Mao Zedong had absolute power in China. He only relied on small selectorate such as the Gang of Four and CCP General Secretary Hua Guofeng who were unconditionally loyal to him. Although Mao had made many serious wrong decisions, this small selectorate never had the incentive to

remove Mao. This was because their hold on power was dependent on Mao. After Mao's death, the Gang of Four was arrested and Hua Guofeng was removed from his position of General Secretary.

Now consider $\Phi(X, \pi, \Delta)$ as a function of X, π and Δ.

Note that $\frac{\partial \Phi(X,\pi,\Delta)}{\partial X} > 0$, i.e. higher values of X increases the set of selectorate's size such that the selectorate always support the incumbent. Thus if the exogenous wealth of the society that can be privately appropriate by the selectorate and the leader is salient, then the selectorate do not want to remove the leader. That is why we can see natural resource curse in some kleptocratic polities, where the governments do not care about developing the economy, focusing instead on ravening the resources.

The probability of the incumbent being congruent, π, also plays a role, since $\frac{\partial \Phi(X,\pi,\Delta)}{\partial \pi} < 0$ and in particular $\lim_{\pi \to 0} \Phi(X, \pi, \Delta) = 1$: the smaller the probability of a congruent leader, the less restrictive is the condition on the selectorate size. If the challenger is expected to be as bad as the incumbent, the selectorate would not risk a probably ineffective change of the leader.

Finally $\frac{\partial \Phi(X,\pi,\Delta)}{\partial \Delta} < 0$ and in particular $\lim_{\Delta \to 0} \Phi(X, \pi, \Delta) = 1$: therefore the less effective is a congruent policy, the less restrictive is the condition on the selectorate size. As before with the probability of selecting a congruent leader, if the type of the challenger is expected to matter in almost an irrelevant way, then the selectorate would not risk a probably ineffective change of the leader.

Case 2 Suppose $\frac{(1-\phi)}{\phi} X \leq \pi \Delta$ which implies $\phi \geq \frac{X}{X+\pi\Delta} =: \Phi(X, \pi, \Delta)$.

In this case the selectorate might choose to change the incumbent leader when he is certain that she is not congruent.

PROPOSITION 2. *When $\phi \geq \frac{X}{X+\pi\Delta}$, there exists a semi-pooling Perfect Bayesian equilibrium*

$$\lambda^C(\theta_1, r_1) = 1, \quad \lambda^N(\theta_1, r_1) = \begin{array}{ll} 1 & r_1 \leq \Delta + \beta(\overline{r} + \frac{X}{\phi}) =: R(\Delta, \beta, \overline{r}, X, \phi) \\ \in [0,1] & r_1 = \Delta + \beta(\overline{r} + \frac{X}{\phi}) =: R(\Delta, \beta, \overline{r}, X, \phi) \\ 0 & r_1 \geq \Delta + \beta(\overline{r} + \frac{X}{\phi}) =: R(\Delta, \beta, \overline{r}, X, \phi) \end{array}, \quad \rho(0) = 0, \quad \rho(\Delta) = 1^{10}.$$

This means that even the non congruent leader might pursue the general interest because of her accountability towards the selectorate, depending on the realization of her private rent.

When the size of the selectorate is big enough, the selectorate has the incentive to remove the non congruent incumbent.

But since the rent she can extract in the first period can be very high given her discount factor, the non congruent incumbent might still choose to grab the rent even if she anticipates her removal next period. In this equilibrium, the bad autocrat might behave as a roving bandit, whose aim of holding office is to steal the country's wealth, then leave. Therefore, we will call the equilibrium path when $r_1 \geq \Delta + \beta(\overline{r} + \frac{X}{\phi}) =: R(\Delta, \beta, \overline{r}, X, \phi)$ the "Roving Bandit Equilibrium" (RBE).

On the other hand when $r_1 \leq \Delta + \beta(\overline{r} + \frac{X}{\phi}) =: R(\Delta, \beta, \overline{r}, X, \phi)$, successful autocracy arises. Although not democratic, the government chooses correct policies because of the leader's accountability towards the selectorate.

Note that to sustain such Efficient Equilibrium (EE) path, expected payoffs from holding office must be greater than today's personal rents, as then the incumbent leader has more to lose from being removed from office. This EE happens with the complementary probability of having a RBE, i.e. $G(R(\Delta, \beta, \overline{r}, X, \phi)) = 1 - H(R(\Delta, \beta, \overline{r}, X, \phi))$.

Actually, autocracies often witness huge private rent syphoned off by the leader. Mohammed Suharto, Ferdinand Marcos and Mobutu Sese Seko ripped off up to $50bn from the impoverished people of Indonesia, the Philippines and Zaire. Alberto Fujimori, estimated to have gathered up to $600m during 1990-2000 as president of Peru, fled to Japan in 2000 amidst the corruption scandal[11].

As seen, a RBE happens with probability $1 - G(R(\Delta, \beta, \overline{r}, X, \phi)) =: H(R(\Delta, \beta, \overline{r}, X, \phi))$ and it is interesting to consider how this probability changes with our parameters. Note that $\frac{\partial H}{\partial R} < 0$, therefore the calculation of the effects of our parameters on the probability of a RBE is easy.

First, note that $\frac{\partial H(R(\Delta, \beta, \overline{r}, X, \phi))}{\partial \Delta} < 0$, therefore the more effective is a congruent policy, the less likely is a RBE since it is more difficult to have a high realization of the private benefits such that the leader grab the rent and run away.

Second, $\frac{\partial H(R(\Delta, \beta, \overline{r}, X, \phi))}{\partial \beta} < 0$, therefore the less myopic is a leader, the less likely is a RBE since the future expected benefit of holding power have more weight and thus the leader needs to have a particularly high realization of today private benefits to induce her to grab the rent and run away.

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[11] See for example http://www.guardian.co.uk/world/2004/mar/26/indonesia.philippines.

Third, $\frac{\partial H(R(\Delta,\beta,\overline{r},X,\phi))}{\partial \overline{r}} < 0$, therefore the higher the expected value of private benefits, the less likely is a RBE since the future expected benefit of holding power are higher and thus the leader needs to have a particularly high realization of today private benefits to induce her to grab the rent and run away.

Fourth, $\frac{\partial H(R(\Delta,\beta,\overline{r},X,\phi))}{\partial X} < 0$, i.e. higher values of X decreases the probability of a RBE: as before the future expected benefit of holding power are higher and thus the leader needs to have a particularly high realization of today private benefits to induce her to grab the rent and run away.

Finally $\frac{\partial H(R(\Delta,\beta,\overline{r},X,\phi))}{\partial \phi} > 0$, i.e. a bigger size of the selectorate increases the probability of a RBE since the future expected benefit of holding power are smaller and thus the leader does not need a particularly high realization of today private benefits to induce her to grab the rent and run away. In particular, note that the expected payoffs from holding office, which motivate the noncongruent leader to choose the growth-enhancing policy in the first period mimicking the behavior of the congruent leader, consist of two components. The first is the expected payoffs from implementing the general interest policy $\Delta + \beta\overline{r}$. The other is the rent from redistribution $\beta\frac{X}{\phi}$, which implies that the size of the selectorate is not the bigger the better. Big size of the selectorate dilutes the patronage every member in the selectorate can get, and this might reduce the incentives for the noncongruent leader to pick growth-enhancing policy. On the other hand, the size of the selectorate cannot be too small, otherwise there is no accountability of the leader and thus no restraints on her behavior so that she will pursue her own personal interest even in the first period.

3.1. The Characteristics of the Possible Political Regimes and the Selectorate Size

In this simple model, the set of possible equilibria as a function of the selectorate size and of the probability of first period private benefit can be summed up as follows:

	$1 - G\left(\Delta + \beta(\overline{r} + \frac{X}{\phi})\right)$	$G\left(\Delta + \beta(\overline{r} + \frac{X}{\phi})\right)$
$\phi \geq \frac{X}{X + \pi\Delta}$	Roving Bandit Equilibrium	Efficient Equilibrium
$\phi \leq \frac{X}{X + \pi\Delta}$	Kleptocratic Equilibrium	Kleptocratic Equilibrium

Using previouis observations, we can sum up the effects of the different parameters on the likelihood of the different equilibria when $\phi < 1$:

	Kleptocratic Equilibrium	Roving Bandit Equilibrium	Efficient Equilibrium
$\uparrow \phi$	$\downarrow$	$\uparrow$	$\downarrow\uparrow=?$
$\uparrow \pi$	$\downarrow$	$\uparrow$	$\uparrow$
$\uparrow X$	$\uparrow$	$\downarrow$	$\downarrow\uparrow=?$
$\uparrow \Delta$	$\downarrow$	$\downarrow\uparrow=?$	$\uparrow$
$\uparrow \beta$	$\longleftrightarrow$	$\downarrow$	$\uparrow$
$\uparrow \overline{r}$	$\longleftrightarrow$	$\downarrow$	$\uparrow$
$\uparrow r_1$	$\longleftrightarrow$	$\uparrow$	$\downarrow$

Consider the Effficent Equilibrium (EE) regime and focus on the size of the selectorate ϕ as restricted by the two inequalities $\phi \geq \frac{X}{X+\pi\Delta}$ and $r_1 \leq \Delta + \beta(\overline{r} + \frac{X}{\phi})$. Note that if $r_1 \leq \Delta + \beta\overline{r}$, the second inequality is trivially satisfied for any ϕ as the first component of the expected benefits from holding office — the payoffs from the general interest policy — is already greater than the personal rent the noncongruent leader can extract. In this case it is rational for the noncongruent leader to pursue public interest in the first period. moreover note that by assumption $G(\Delta) = 0$, therefore the previous inequality means $r_1 \leq \beta\overline{r}$. On the other hand, if $r_1 > \beta\overline{r}$, the second inequality implies the following upper bound on the size of the selectorate

$$\phi \leq \beta\frac{X}{r_1 - \Delta - \beta\overline{r}}. \tag{1}$$

This condition shows that in case the expected gains from the general interest policy is not high enough compared to the realization of today's personal rents, the other component of the expected benefits from holding office — the payoffs from redistribution to the selectorate — becomes salient for the noncongruent leader to decide whether to pursue public interest. And as the amount the leader gets from redistribution decreases with ϕ, a too big selectorate reduces the incentives from pursuing public interest. Hence in order to induce the noncongruent leader to mimic the behavior of the congruent leader in the first period, the size of the selectorate can not be too big. Then, there is an EE if the size of the selectorate

is intermediate, i.e. if

$$\phi \in \left[\frac{X}{X + \pi\Delta}, \beta \frac{X}{r_1 - \Delta - \beta\overline{r}} \right]. \tag{2}$$

Clearly, this interval is not empty if and only if

$$\beta \geq \frac{r_1 - \Delta}{\pi\Delta + X + \overline{r}}, \tag{3}$$

i.e. if the leader is not too myopic and if the realization of the rent in the first period r_1 is not too big.

Consider an autocracy, i.e. when $\phi < 1$, then the previous observations show when we can expect politicians to adopt good policies to promote economic growth in absence of regularized election.

First, we need the size of the selectorate, ϕ, to be not too small. Small selectorate cannot create real checks to the leader's behavior, since the smaller the size of the selectorate, the more loyal members in the selectorate become to the incumbent leader. This is because smaller ϕ associates with higher risk of exclusion from the successor's coalition, so members in the selectorate will fear that after removing the incumbent they might lose their privileges. This suggests that successful autocracies will tend to be those with strong big selectorate who can commit to removing bad leaders. In addition, the smaller the probability of congruent leader, π, and the greater the exogenous wealth of the society, X, the greater the minimum size of the selectorate needed to get good general policies.

Second, the size of the selectorate is not be the bigger the better. An increase in ϕ means that the leader's share of future rewards is diluted since the overall number of people who receive rewards has increased. In this case, if the incumbent leader is myopic (small β) and got a high rent in the first period (big r_1), she would choose the non congruent behavior.

Now these properties of autocracies with democracy, which in our simple setting means ϕ equals to 1. Obviously, the lower bound on the selectorate size is always satisfied, i.e. the voters are always able to create real checks on the behavior of the incumbent politician no matter what the prior probability of congruent leader, π, and the exogenous wealth of the society, X, are.

This means that in democracy the institution matters, while in autocracy the quality of the people who rule the regime matters. In democracy, if the incumbent politician has been detected to conduct non congruent activities, then the citizens

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can use their votes to change the politician. However, in autocracy the institutions to restrain the politician's behavior are weak, hence if the selectorate cannot create real checks to the leader, then the people may only count on good luck to have congruent politicians to rule their country.

However, in democracy the noncongruent incumbent politician will implement the good general interest policy if and only if

$$r_1 \leq \Delta + \beta(\overline{r} + X) \tag{4}$$

i.e.

$$\beta \geq \frac{r_1 - \Delta}{\overline{r} + X}. \tag{5}$$

Therefore in democracy the crucial point is to avoid myopic leaders: actually, it is well known that one of the most serious problems in democratic countries can be the lack of incentives to implement farsighted policies.

To sum up consider the likelihood of getting the different political regimes in democracy compared with autocracy:

	AUTOCRACY				DEMOCRACY		
	KE	RBE	EE		KE	RBE	EE
$\uparrow \phi$	$\downarrow$	$\uparrow$	$\downarrow\uparrow=?$	$\uparrow \phi$	$\nexists$	$\longleftrightarrow$	$\longleftrightarrow$
$\uparrow \pi$	$\downarrow$	$\uparrow$	$\uparrow$	$\uparrow \pi$	$\nexists$	$\longleftrightarrow$	$\longleftrightarrow$
$\uparrow X$	$\uparrow$	$\downarrow$	$\downarrow\uparrow=?$	$\uparrow X$	$\nexists$	$\downarrow$	$\uparrow$
$\uparrow \Delta$	$\downarrow$	$\downarrow\uparrow=?$	$\uparrow$	$\uparrow \Delta$	$\nexists$	$\downarrow$	$\uparrow$
$\uparrow \beta$	$\longleftrightarrow$	$\downarrow$	$\uparrow$	$\uparrow \beta$	$\nexists$	$\downarrow$	$\uparrow$
$\uparrow\overline{r}$	$\longleftrightarrow$	$\downarrow$	$\uparrow$	$\uparrow\overline{r}$	$\nexists$	$\downarrow$	$\uparrow$
$\uparrow r_1$	$\longleftrightarrow$	$\uparrow$	$\downarrow$	$\uparrow r_1$	$\nexists$	$\uparrow$	$\downarrow$

A final aspect we should note is that although successful autocracies can promote economic growth as well as democracies, they will do a poorer job to maintain social equality. Since political power is monopolized by the leader and the selectorate, the fruit from economic growth is mainly enjoyed by them, as the selectorate get all the redistribution. In democracy, the selectorate encompasses all the citizens, the wealth of the society is thus distributed to every member in country. This implication is consistent with the claim that democracies lesson economic inequality (Bollen and Jackman 1985).

4. CHINA AND THE MODEL

According to our theory, a successful autocracy such as contemporary China should fit with proposition 2, where the leader would pursue the general interest because of her accountability towards the selectorate when the size of the selectorate is intermediate.

Comparing politics in China before and after the reform, it is easy to show that there has been a significant expansion of the size of the selectorate. Under Mao, when China grew slowly and the politics was characterized by increasing despotism. "He (Mao) trusted primarily those in his inner circle — his administrative secretaries ... ; personal guards under Wang Dongxing; his physician; a few close associates, relatives and mistresses". "He set his entourage to spying on each other, and he had the last word even on the diagnoses and treatment of medical problems that other leading officials developed. Mao dictated, for example, the timing of operations on Zhou Enlai's cancer in the early 1970s" (Lieberthal 2004, p.208-209). As our model predicts, when the selectorate is extremely small we can hardly expect the leader to adopt good general interest policies. Although Mao Zedong might not have aimed to use his power to pursue personal wealth, he did abuse it without the checks from the selectorate. After Mao's death, Deng Xiaoping undertook numerous actions to accelerate the long delayed process of institutionalization within the Chinese Communist Party (CCP). He saw the accountability failure in Chinese political system in the Mao's era and tried to rebuild a political system with effective checks on the paramount leader and where politicians were accountable to the CCP. Deng laid out a political agenda which proposed a system governed by rules, clear lines of authority, and collective decision-making institutions to replace the overconcentration of power and patriarchal rule that had characterized China under Mao. He recommended abolishing the life tenure in leading posts, to promote young and middle-aged cadres, to ensure necessary degree of decentralization, and even to distinguish between the responsibilities of the Party and the government[12]. Therefore there had been a significant expansion of the size of the selectorate, from a small coterie of revolutionary elders and top

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[12] Deng's speech on August 18, 1980. *On the Reform of the System of Party and State Leadership.* Selected Works of Deng Xiaoping, 302-25

military leaders to a larger coalition including younger generation of CCP leaders and members of the Central Committee. Although important economic decisions were still made in the politburo and party elders were still active, people had reasons to expect that the collective institutions of the party, particularly the Central Committee, soon would play a larger role. Led by Hu Yaobang and Zhao Ziyang, reformists in the party wished to further expand inner-party democracy and thus leader's accountability. For instance, reforms at the Twelfth Party Congress in 1982 and Thirteenth Party Congress in 1987 were aimed at democratizing delegate selection to the Central Committee and the separation of the party and government (Shirk 1993, p79, Rosen 1988). As the size of the selectorate grows, we expect an increased role of the selectorate in shaping the policy outcomes and in constraining the leader's behavior. This was exactly the case in China since the Reform. A significant example of the role of selectorate as a disciplining device to the leader was the removal of Hua Guofeng and his replacement by Deng Xiaoping. This decision was made by the selectorate inside the Politburo, because the Politburo members were not satisfied with Hua's attempt to continue Mao's policies (Lieberthal 2004, p. 125-7). In the 1980s, the need to promote economic growth overwhelmed the demand of political struggle which was the guideline in Mao's era. Partly, this was because the Chinese people including the elite inside the Party had suffered a lot from the 10-year Cultural Revolution. Therefore after Hua Guofeng proposed the ideological guideline of "Two whatevers"[13] in a working conference of the Central Committee in 1977, supporters of Deng Xiaoping decided to force him to hand over power gradually (Lieberthal 2004, p. 125-7). Should Hua Guofeng not put forward "Two whatevers" but abandoning Mao's policies instead, he would have not lose his position as the top leader. Gaining more weight in constraining the leader's behavior, the selectorate at that time was eager to have a leader who could rescue the regime from collapsing and who could deliver material rewards to a population that had become bitterly disillusioned at the end of the Maoist era. Another significant example happened when conservative CCP leaders Chen Yun and Yao Yilin tried to recentralize China's fiscal

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[13]The "Two whatevers" refers to the statement that "We will resolutely uphold whatever policy decisions Chairman Mao made, and unswervingly follow whatever instructions Chairman Mao gave". People's Daily February 7, 1977.

system after 1989. In the work conferences preceding both Fifth Plenum of the Thirteenth Central Committee in November 1989 and the Seventeenth Plenum in December 1990, the provincial and municipal officials in the Central Committee objected to the recentralization proposals. As a result of this opposition, the Central Committee had to be postponed, and when they finally met, it acted to retain fiscal decentralization, thereby reversing the original recommendation of the leaders (Lam 1989; Shirk 1993).

Another interesting point worth to mention is that not only the size but also the composition of the selectorate keeps evolving during the reform process, the revolutionary elders and military leaders shrinking while local officials increasing. The following two figures illustrate the shrinking size of the Long March–experience elders and People's Liberation Army (PLA) officers in the Central Committee. Figure 1 shows that Long Marchers enjoyed a brief revival with Deng's rehabilitation in the late 70s and early 80s, but retirement policies enacted by Deng and Chen, in addition to illness and death, produced extremely sharp drops in both the number and share of Long Marchers in the Central Committee in the 80s. Therefore the Long Marchers' influence over politics gradually ends in the 90s (Shih, Shan and Liu 2008). Moreover Figure 2 demonstrates the decline of military officers in the Central Committee in Deng's reform comparing to the sharp increase during the Culture Revolution. Accompanying the decline of military officials is the increase of local officials who become the largest bloc in the Central Committee, about 43% in 1987 (Shirk 1993). How composition of the selectorate affects the policy outcomes is not part of our model but it is an interesting direction for future research.

As a result of the significant improvement in elite politics, with the role of the selectorate as a disciplining device more effective as compared to dictatorship under Mao, the central government became more accountable and could commit itself to promote economic growth. We also notice that initially, reform ideas did not extend much beyond "giving farmers a chance to catch their breath" or "expanding enterprise autonomy." And, inevitably, initial reforms were "without a blue print", characterized by experimentation, or "groping for stepping stones to cross the river" (Naughton 2005). That is to say, it would be biased to attribute

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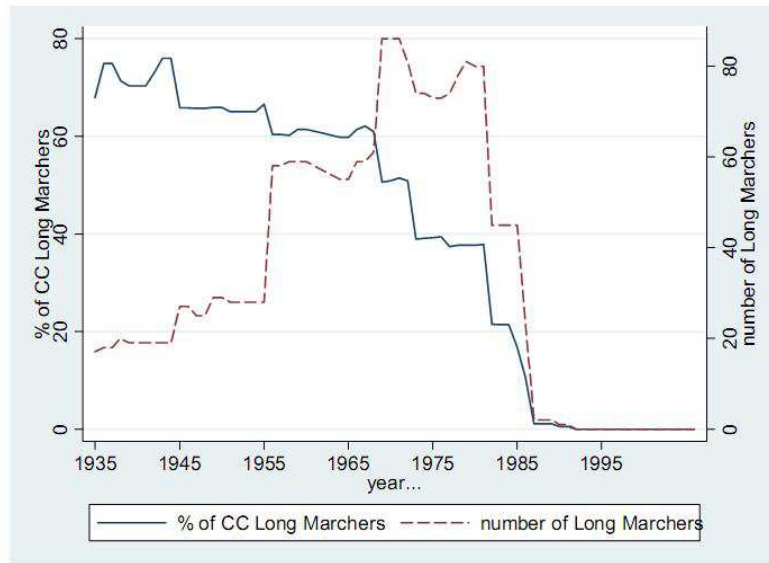
FIG. 2 Percentage of CC Members with Long March experience and the Number of Long Marchers (Shih, Shan and Liu 2010)
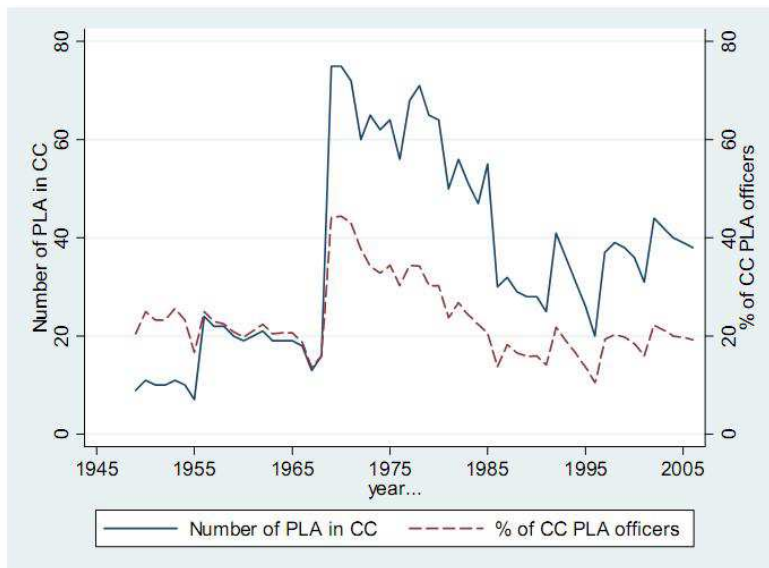
FIG. 3 The Number of Serving PLA Officers in the CC and their Share of CC Membership (%) (Shih, Shan and Liu 2010)

all the success of Chinese economic reform to the economic policies adopted by the central leadership. But at the same time, we cannot deny that without the reforms in the political system after the Cultural Revolution, the economic reform may not survive.

Our model also shows that as long as the size of the selectorate is not too small, the selectorate will be able to restrain the incumbent leader from opportunistic behavior inducing growth-enhancing policies, but this will not be an improvement for all the members in the society, because the leader will only distribute the fruit of the reform to the selectorate as the exchange for their loyalty and support. Successful autocracy is an equilibrium where the leader is accountable to the selectorate but not to all citizens, i.e. there is "reciprocal accountability" between the leader and selectorate. We propose some further evidences of how "reciprocal accountability" between the leader and selectorate drives policy making during the reform process.

First, central ministries and state-owned sectors hold powerful positions inside the party and have vested interests in the central-planned economic system, so dual-track price system was introduced in the first decade of the reform to compensate their private benefits from the prereform system. The dual-track price system although had brought some improvements (Lau, Qian and Roland 1997), created spaces for rent seeking. Enterprises and government officials who controlled the quotas could easily get rich by selling their quotas to other enterprises and individuals. At the end of 1980s, guan-dao, or official profiteering, became a popular phrase, creating deep public resentment.

Second, the military is one of the fundamental pillars of the Chinese political structure whose support is very important for the central leaders. Although the military's influence was weaken under Deng compared to its pervasive influence in Mao's era, their interests are still of high consideration to the top leaders. A bigger defense budget is the common way to ensure their loyalty. The reported expenditure for national defense is 355.49 billion Chinese Yuan in 2007, almost 21 times larger than 1978's figure of 16.78 billion Chinese Yuan (NBS 2008). Besides there were many business operations run by the military, the police and even the courts for the 1980s and much of the 1990s (Yang 2004).

Third, local governments, another important group inside the party, benefit

more from decentralization and economic reform. The motivation behind decentralization promoted by Deng Xiaoping and the reformists in the party could be partly due to "reciprocal accountability" consideration, because they want to get the support from local officials to overcome the resistance of central bureaucrats toward reforms (Shirk 1993). As a result, Township and Village Enterprises (TVEs) boomed during the first phase of the reform and became the place where local officials can extract and hide their rents.

Last but not the least, the biased social welfare provision in China also has reflected the preferential treatment to the important constituents for the CCP. In urban China social benefits provision is consistently privileged over the rural, with those in government employment or working in state-owned enterprises enjoy types of support that are not available to those working in other sectors of the economy, especially in the informal sector that is home to increasing numbers of migrant labors (Saich 2008, p18). These key groups in urban areas were seen as crucial to the industrialization drive and as important constituents for the CCP, so they received more benefits than those groups from the rural areas.

Up to this point, we can cautiously believe that our basic model fits with China quite well, at least for the reform progress in the 1980s. Nonetheless we also notice that the logic of "reciprocal accountability" could turn China into clientelism as commonly found among autocratic countries. At the end of 1980s, rampant corruption combined with high inflation finally drove people into the street in the spring of the annus mirabilis 1989. After the Tiananmen Incident, the CCP had faced the biggest challenge ever since the Culture Revolution, challenges from both domestic and abroad. At the beginning of the 1990s, pessimism prevailed over the future of the economic reform. Scholars suggested that corruption in China was becoming systemic; some even placed China right in the league of most corrupted countries in Southeast Asia. One representative opinion was that the people who enjoyed the vested interests were CCP insiders, so this made further changes to the system very difficult (eg. Murphy, Shleifer and Vishny 1992).

But the following reform processes of China proved this prediction partially wrong. Dual-track prices began to converge in the early 1990s; economic activities by the army and government branches were divested; oversized bureaucratic organizations were streamlined; State-Owned Enterprises (SOEs) and TVEs owned by

local governments were privatized; reinforcement of anticorruption was adopted. Another shift in the reform policy was from decentralization towards remaking a strong central government (Yang, 2004). Moreover updated articles in political science, tend to call the current Hu Jintao's regime "Populist Authoritarianism"(Tony Saich, 2009) in the sense that "policy has become more people-centered with populist gestures combined with attempts to tighten control over state and society in the name of preserving social stability as the key foundation for continued economic growth". The above facts suggest that the CCP was not held back by its own selectorate. Instead, it had the resolution to eliminate the privileges enjoyed by its own insiders (Yao, 2009). Notice that the most remarkable records of the reform were achieved in the late 1990s and the 2000s but not in the first part of the reform. This inconsistency between the real world and the predictions of existing theory motivates us to add a third player — the citizens — into the basic model. This will be the motivation for a future paper where citizens will play a crucial strategic role to improve leaders' accountability.

5. CONCLUSION

This paper explores part of the institutional basis of China's fast economic growth in the reform era. It also attempts to discover the differences between successful and unsuccessful autocracies in terms of the forces that shape accountability in the absence of regularized elections. We build a simple model played between the leader and the selectorate, and we find that the selectorate will be able to discipline the leader if they are not too dependent on her, i.e. in terms of reciprocal accountability. Although economic development can be achieved, it is characterized by social inequality, since the leader is only accountable to the vested interests in the society. This model can partially explain China's experience. The reciprocal accountability between the top leader and the selectorate leads to policies catering only the interests of the groups holding powerful positions inside the party but hurt economic growth in the long-run. Nevertheless, the CCP seems do not hold back by vested interests, the governance improved and the policies become more people centered. The change of CCP's ruling pattern might be due to the pressure outside the regime — the threat of revolution by citizens. The CCP

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adopted policies to promote economic growth, because they believe high growth rate would cover other social problems and, improvements in living standards can divert people's demand of democracy. High economic growth helps to generate social stability, and social stability in turn provide China a peaceful environment to develop its economy. This idea will be formally developed in another paper.

Bollen A. Kenneth. Political Democracy: Conceptual and Measurement Traps. *Studies in International Development,* 25: 7-24, 1990.

6. APPENDIX

This Appendix report all the detailed calculations required to find all the pure strategy Perfect Bayesian equilibria of our model. One preliminary remark on pure strategies is due: we will consider only pure strategies, but since the noncongruent leader's choice will depend on the realization of her random private rent not observed by the selectorate, from the point of view of the selectorate the leader's choice will be random dependending on the cdf of the leader's rent $G(r)$.

Moreover, in the propositions we will omitt the specification of the beliefs that support the equilibrium strategy profile, since they have been explicitly derived in the proof of the results.

6.1. Preliminary Remarks On The Choices Of The Leader

In the first period the congruent leader has the strictly dominant action of choosing the congruent policy, so only the noncongruent type is actually a strategic player as leader. In the second final period, both types of the incumbent leader will choose to implement the policy according to their short term preferences. This implies that in period two a congruent incumbent will choose $e_2 = \theta_2$, while a noncongruent politician will choose $e_2 = 1 - \theta_2$.

6.2. Best Responses and Beliefs of the Selectorate

Working backward we derive the conditions under which the selectorate will choose to retain the incumbent leader i.e. $\rho(\delta) = 1$ or subvert her authority i.e. $\rho(\delta) = 0$. This choice depends on his observation $\delta \in \{0, \Delta\}$ since this would provide some information on the type of the leader and thus on her future policy choices, since the selectorate will choose to support the incumbent leader if and only if the expected continuation payoff from retaining the incumbent is greater than the expected continuation payoff from subverting her.

Let $V^S(\rho(\delta) = 0)$ be the expected continuation payoff for the selectorate if they subvert the incumbent leader. Clearly this payoff does not depend on the previous observation δ, since the leader has been changed. Therefore for any $\delta \in \{0, \Delta\}$,

$$V^S(\rho(\delta) = 0) = \pi \times \Delta + (1 - \pi) \times 0 + \phi \times \frac{X}{\phi} + (1 - \phi) \times 0 = \pi \Delta + X. \qquad (6)$$

As the type of the newly picked up leader is unknown, she will produce Δ with probability π and 0 otherwise. Moreover both types of the leader will distribute all the social revenue to the selectorate, but the members of the selectorate who ousted the leader, with probability ϕ will be included in the successor's selectorate getting the patronage $\frac{X}{\phi}$ in the second period.

Let $V^S(\rho(\delta) = 1)$ be the expected continuation payoff for the selectorate if they support the incumbent leader. Clearly in this case the payoff does depend on the previous observation δ, since the leader has not been changed and δ might convey some information on the type of the leader. Therefore for any $\delta \in \{0, \Delta\}$,

$$V^S(\rho(\delta) = 1) = P(C|\delta)(\Delta + \frac{X}{\phi}) + (1 - P(C|\delta))\frac{X}{\phi} = P(C|\delta)\Delta + \frac{X}{\phi} \tag{7}$$

where $P(C|\delta)$ is the selectorate's posterior belief on the incumbent leader being congruent given that in the first period from the general interest policy he got a payoff $\delta \in \{0, \Delta\}$.

Sequential rationality implies that after $\delta \in \{0, \Delta\}$ the selectorate will retain the incumbent leader if and only if:

$$V^S(\rho(\delta) = 1) \geq V^S(\rho(\delta) = 0), \tag{8}$$

which implies,

$$P(C|\delta)\Delta + \frac{(1 - \phi)}{\phi}X \geq \pi\Delta. \tag{9}$$

As usual, $P(C|\delta)$ is derived using Bayes rule:

$$
\begin{aligned}
P(C|\delta &= \Delta) = \frac{P(C)P(\delta = \Delta|C)}{P(C)P(\delta = \Delta|C) + P(N)P(\delta = \Delta|N)} = \\
&= \frac{\pi \times \lambda^C(\theta_1, r_1)}{\pi \times \lambda^C(\theta_1, r_1) + (1 - \pi) \times \lambda^N(\theta_1, r_1)} = \\
&= \frac{\pi \times 1}{\pi \times 1 + (1 - \pi) \times \lambda^N(\theta_1, r_1)}
\end{aligned} \tag{10}
$$

$$
\begin{aligned}
P(C|\delta &= 0) = \frac{P(C)P(\delta = 0|C)}{P(C)P(\delta = 0|C) + P(N)P(\delta = 0|N)} = \\
&= \frac{\pi \times \left(1 - \lambda^C(\theta_1, r_1)\right)}{\pi \times \left(1 - \lambda^C(\theta_1, r_1)\right) + (1 - \pi) \times \left(1 - \lambda^N(\theta_1, r_1)\right)} = \\
&= \frac{\pi \times 0}{\pi \times 0 + (1 - \pi) \times \left(1 - \lambda^N(\theta_1, r_1)\right)}
\end{aligned} \tag{11}
$$

Remark 1. The Selectorate will support the incumbent Leader if and only if (9) holds.

6.3.   The choices of the leader and of the selectorate

Suppose the two types of the leader choose different actions. Since by construction the congruent type always chooses the congruent policy, this means $\lambda^C(\theta_1, r_1) = 1$ and $\lambda^N(\theta_1, r_1) = 0$. Therefore

$$P(C|\delta = \Delta) = \frac{\pi \times 1}{\pi \times 1 + (1 - \pi) \times 0} = 1 \tag{12}$$

and

$$P(C|\delta = 0) = \frac{\pi \times 0}{\pi \times 0 + (1 - \pi) \times 1} = 0 \tag{13}$$

Consider the selectorate. If $\delta = \Delta$, then $V^S(\rho(\delta) = 1) \geq V^S(\rho(\delta) = 0)$ is equivalent to

$$\Delta + \frac{(1 - \phi)}{\phi} X \geq \pi \Delta, \tag{14}$$

which is always satisfied. Therefore after observing $\delta = \Delta$ the selectorate will choose to retain the incumbent leader being certain that she is congruent.

If $\delta = 0$, then $V^S(\rho(\delta) = 1) \geq V^S(\rho(\delta) = 0)$ is equivalent to

$$\frac{(1 - \phi)}{\phi} X \geq \pi \Delta, \tag{15}$$

which might be satisfied depending on the exogenous parameters.

6.3.1.   Case 1.   Suppose $\frac{(1-\phi)}{\phi} X \geq \pi \Delta$ which implies $\phi \leq \frac{X}{X + \Delta \pi} =: \Phi(X, \pi, \Delta)$.

In this case the selectorate will choose to retain the incumbent leader even if he is certain that she is not congruent since the probability of being in a new appointed selectorate next period is too small. In this situation, the selectorate is completely loyal to the leader being afraid of loosing his privileges and therefore supports the leader no matter what kind of general interest policy choice she had made. The noncongruent leader, knowing that she could always obtain support, will choose the action that maximize her short term utility, that is for any r_1, $\lambda^N(\theta_1, r_1) = 0$.

PROPOSITION 3. *When $\phi \leq \frac{X}{X + \pi \Delta} =: \Phi(X, \pi, \Delta)$, there exists a separating Perfect Bayesian equilibrium where*

$$\lambda^C(\theta_1, r_1) = 1, \ \lambda^N(\theta_1, r_1) = 0, \ \rho(0) = 1, \ \rho(\Delta) = 1.$$

This means that the leader would pursue her own interest and this notwithstanding she will retain the power.

6.3.2. Case 2 Suppose $\frac{(1-\phi)}{\phi} X \leq \pi\Delta$ which implies $\phi \geq \frac{X}{X+\pi\Delta} =: \Phi(X, \pi, \Delta)$.

In this case if $\delta = 0$, the selectorate will choose to change the incumbent leader being certain that she is not congruent.

In this scenario, to find out the behavior of the non congruent incumbent leader, we need to compare her payoffs when she switch from non congruent to congruent actions behaving as if she is the congruent type. Thanks to this switching behavior, she might be able to stay in power depending on the selectorate beliefs.

Let $EU^N(\lambda = 1)$ be the non congruent leader's expected utility she get switching to a growth-enhancing action in period one, i.e. when $\lambda^N(\theta_1, r_1) = 1$

$$EU^N(\lambda = 1) = \Delta + \frac{X}{\phi} + \beta(\overline{r} + \frac{X}{\phi}). \tag{16}$$

And let $EU^N(\lambda = 0)$ be the non congruent leader's expected utility from choosing a non congruent action in period one i.e. when $\lambda^N(\theta_1, r_1) = 0$

$$EU^N(\lambda = 0) = r_1 + \frac{X}{\phi}. \tag{17}$$

The non congruent leader will choose $\lambda^N(\theta_1, r_1) = 0$ if and only if:

$$EU^N(\lambda = 1) \leq EU^N(\lambda = 0) \tag{18}$$

that is,

$$r_1 \geq \Delta + \beta(\overline{r} + \frac{X}{\phi}) =: R(\Delta, \beta, \overline{r}, X, \phi) \tag{19}$$

Therefore when $\phi \geq \frac{X}{X+\pi\Delta}$, the the non congruent leader's sequentially rational actions are

$$\lambda^N(\theta_1, r_1) = \begin{cases} 1 & r_1 \leq \Delta + \beta(\overline{r} + \frac{X}{\phi}) =: R(\Delta, \beta, \overline{r}, X, \phi) \\ \in [0, 1] & r_1 = \Delta + \beta(\overline{r} + \frac{X}{\phi}) =: R(\Delta, \beta, \overline{r}, X, \phi) \\ 0 & r_1 \geq \Delta + \beta(\overline{r} + \frac{X}{\phi}) =: R(\Delta, \beta, \overline{r}, X, \phi) \end{cases} .$$

This means that since the first period rent has had a significant high realization, the non congruent leader would pursue her own interest, however because of this she will be overthrown from power.

Therefore on the equilibrium path we get the following beliefs

$$P(C|\delta = \Delta) = \frac{\pi \times 1}{\pi \times 1 + (1-\pi) \times G(\Delta + \beta(\bar{r} + \frac{X}{\phi}))} =: \Pi(\Delta + \beta(\bar{r} + \frac{X}{\phi})) > \pi; \qquad (20)$$

while out of equilibrium we get

$$P(C|\delta = 0) = \frac{\pi \times 0}{\pi \times 0 + (1-\pi) \times \left(1 - G(\Delta + \beta(\bar{r} + \frac{X}{\phi}))\right)} = 0. \qquad (21)$$

Sequential rationality implies that the selectorate will retain the incumbent leader if and only if:

$$V^S(\rho(\delta) = 1) \geq V^S(\rho(\delta) = 0) \qquad (22)$$

i.e.

$$P(C|\delta)\Delta + \frac{(1-\phi)}{\phi}X \geq \pi\Delta. \qquad (23)$$

When $\delta = \Delta$, this implies

$$\Pi\Delta + \frac{(1-\phi)}{\phi}X \geq \pi\Delta \qquad (24)$$

which is always satisfied. Therefore, $\rho(\Delta) = 1$.

When $\delta = 0$, this implies

$$\frac{(1-\phi)}{\phi}X \geq \pi\Delta. \qquad (25)$$

To sustain the non congruent leader choices as an equilibrium, we need to have that the selectorate is loyal to the leader only when the general interest policy choice she had made is congruent, otherwise the non congruent leader has an obvious incentive to switch to a non congruent policy. Then $\rho(0) = 0$ if and only if

$$\phi \geq \frac{X}{X + \pi\Delta} \qquad (26)$$

PROPOSITION 4. *When $\phi \geq \frac{X}{X+\pi\Delta}$, there exists a semi-pooling Perfect Bayesian equilibrium*

$$\lambda^C(\theta_1, r_1) = 1, \quad \lambda^N(\theta_1, r_1) = \begin{array}{ll} 1 & r_1 \leq \Delta + \beta(\bar{r} + \frac{X}{\phi}) =: R(\Delta, \beta, \bar{r}, X, \phi) \\ \in [0,1] & r_1 = \Delta + \beta(\bar{r} + \frac{X}{\phi}) =: R(\Delta, \beta, \bar{r}, X, \phi) \\ 0 & r_1 \geq \Delta + \beta(\bar{r} + \frac{X}{\phi}) =: R(\Delta, \beta, \bar{r}, X, \phi) \end{array}, \quad \rho(0) = 0, \quad \rho(\Delta) = 1.$$

This means that even the non congruent leader might pursue the general interest because of her accountability towards the selectorate, depending on the realization of her private rent.