Public Monuments as
Loyalty Signals in Authoritarian States*

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Abstract

Monuments are traditionally understood as tools of communicating information about society and politics downward, from elites to citizens. They are seen as instruments for the state to tell an official narrative of its history or to promote the national identity. We posit that monuments may also serve another purpose for the elite: they can be costly signals that the elite may employ in order to signal political information among themselves or to their superiors. Monuments may incur considerable political costs, for some of the elite because publicly advocating for a narrative may hinder their ambitions for changing allegiances if it requires repudiating that narrative. We present a signaling game in which an agent may use costly signals to show loyalty to a leader who is uncertain of the agents' preferences. We focus on two signals: loyalty-signaling monuments and electoral signals. Our theory predicts that loyalty-signaling monuments should be more likely to occur as the national political environment becomes more consolidated and in places where an electoral loyalty signal is less feasible. We rely on data from the Post-Communist Monuments Project to test the predictions of our formal model in post-Soviet Russia and find empirical support for both of these predictions.

1   Introduction

In August 1991, with the Soviet Union unravelling following a failed hardline coup, a large group of protestors assembled before the KGB headquarters in Lubyanka Square. There they proceeded to tear down a massive bronze statue of Feliks Dzerzhinsky, the founding director of the Cheka (predecessor to the KGB) which was responsible for the deaths and

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disappearances of thousands of people during the early years of the Soviet Union. The bronze Dzerzhinsky was unceremoniously placed in a Moscow field, along with numerous other monuments to communist leaders who had been removed from their pedestals. The removal of the monument from Lubyanka by citizens—an unthinkable act even a few months before—became a powerful symbol of the decline of the political hegemony of the Communist Party of the Soviet Union.

Later, Moscow mayor Yuri Luzhkov suggested that the removal of the statue was not as spontaneous as it appeared. According to Luzhkov, when the crowd was unable to pull the monument down, a high ranking city official with a megaphone appeared and informed the crowd that three cranes were on the way. "[T]he decision to remove the monument has already been made!" the official announced (Forest and Johnson, 2002). Despite the presence of a popular protest, the removal of the statue proceeded with the explicit approval—and the possibly the instigation—of local elites. Almost twenty-five years later, some local elites began to push for the restoration of Dzerzhinsky's monument on the plaza: a proposed referendum on the restoration of the monument was approved by the Moscow city legislature in June 2015.

How can the Dzerzhinsky monument's journey from Lubyanka square to a field mockingly known as 'the museum of totalitarian art,' and (possibly) back be explained? More broadly, what functions do monuments perform in authoritarian and hybrid regimes? Monuments have long been studied in fields other than political science as a means of establishing official narratives of the past, expressions of group identity, and public memory. In other words, they are traditionally understood as tools of communicating information about society and politics downward, from elites to citizens. In our view, this is only a partial picture. We argue that while monuments do indeed perform these roles, they are at the same time—or even first and foremost—a means by which elites send signals to each other and to their superiors. Understood from this perspective, the restoration of Dzerzhinsky in central Moscow would

not represent an attempt by elites to return to the Soviet past by inculcating a positive view of the Cheka in Muscovites. Rather, it may represent an attempt by the local authorities to demonstrate their loyalty to a particular clan of Kremlin elites—alumni of the security services who fill influential posts in the government, including the office of the president (Rivera and Rivera, 2014; Illarionov, 2009).

Our approach contributes to the study of authoritarian and hybrid regimes, since our theory holds that monument-making reflects patterns of elite politics that are usually difficult to observe. In effect, monument-making can be a form of preference-falsification among elites, where public signals of loyalty obscure private preferences for change (Kuran, 1997). We also complement the broader study of monuments, which is usually conducted in an interpretive manner in other disciplines, by applying the strategic logic and comparative methodology familiar in political science.

2   Public monuments in authoritarian states: creating public memory, signaling loyalty?

Scholarly attention to public monuments has been most prominent in the disciplines of geography, history, art and architecture. In these fields, monuments are generally studied in a humanistic way; researchers often study one or a few monuments in detail, engaging in contextually rich exegesis of the meanings associated with their subjects. In this tradition, a monument is often treated as a sort of text (Dwyer and Alderman, 2008), which may have a certain meaning intended by its 'authors,' and various interpretations by 'readers'. In a political context, monuments are understood as efforts to define the public space, create public memory and shared identity, establish legitimizing myths about the nation or the state, to build national identity, or to commemorate past societal traumas. Our analysis complements these existing literatures on public monuments by considering monument-building from a strategic perspective: when and why do elites engage in such activities? While monu-

ments certainly have symbolic meanings that help shape collective memory and identity, we emphasize the role of political elites and their decision to engage in such memory-making. This approach draws from the literature on formal models of signaling, and contributes to the literatures on authoritarian institutions, monuments and public memory.

Public memory in authoritarian contexts

"Modern states often establish themselves as guardians of the past and, through their monuments [and other cultural markers]...try to order and delimit the individual memories of their many citizens. New regimes pursue this effort most urgently" (Gordon, 2001). This observation succinctly captures the role of public monuments in helping to build collective identities around an ostensibly shared history, culture, or set of ideas. This idea is commonly found in constructivist accounts of nationalism, which hold that national identities are largely crafted by elites who draw on symbolically important ideas, events, or individuals to promote a common identity (Anderson, 2006; Kaufman, 2001).

The role of monuments in helping construct these shared identities has rarely been investigated by political scientists, but is the subject of an extensive body of work in geography and other fields. Monuments help define an official narrative of the state and its history, and may enshrine dominant ethnic or gender roles in the public space (Till, 2003). Monuments and memorials are places "specifically designed to impart certain elements of the past, and, by definition, forget others" (Hoelscher and Alderman, 2004). These public objects make their version of history; or the shared community-appear legitimate, ordinary, and part of the natural order of things (Azaryahu, 1996; Foote, 2003). They have this influence because of their official imprimatur, the financial and political resources required to create them, and their apparent permanence (Dwyer and Alderman, 2008). Monuments can be sites for public performances, such as speeches, marches, festivals, and so on, which entrench and transmit a particular narrative (Hoelscher and Alderman, 2004; Hoelscher, 2003; Cresswell,

1996). Monuments reflect, but also help reproduce dominant social ideals (Harvey, 1979)).

As such, it is no surprise that elites in authoritarian states seek to use public monuments to legitimize the incumbent regime. Attempts to use monuments to legitimize authoritarian control are starkly visible in colonial systems. The Voortrekker monument in Pretoria, South Africa, honors the expansion of Afrikaner settlers into the South African interior. The monument depicts the settlers as heroic bearers of civilization, while indigenous people are depicted as chaotic and undisciplined (Delmont, 1993). The monument itself became a symbolically significant site for Afrikaner nationalists, and helped promote a national identity based on apartheid (Crampton, 2001). A similar process can be observed in Kenya, where colonial-era monuments in Nairobi honor British monarchs, colonial Kenya's participation in the two world wars, and European settlers. These settler monuments, in particular, were part of an attempt to assert a national identity based on conquest of African land by European settlers (Larsen, 2012).

Using monuments to promote a regime-sponsored identity is not limited to colonial states, however. Communist Party elites in the Soviet Union sought to build a Soviet identity by emphasizing common ideals and historical heroes, and by emphasizing the shared sacrifices and victories of World War II (Forest and Johnson, 2002; Forest, Johnson and Till, 2004). Following the collapse of the Soviet Union, those newly independent states that remained under authoritarian control sought to use monuments to build new, post-Soviet identities that favored the new elites. Often a nationalist identity has replaced the Soviet one, in an attempt to legitimize newly empowered local elites. In the capital of Uzbekistan, for example, elites removed monuments to Lenin and Marx, and established monuments to medieval heroes claimed to be the political and cultural progenitors of the Uzbek nation (Bell, 1999). A similar process took place in Kazakhstan (Danzer, 2009). In a cross-national study of post-communist monuments, Forest and Johnson (2011) find that the state is more actively engaged in monument-making in authoritarian regimes than in democracies.

Elites, signaling, and authoritarian power-sharing

There is a long scholarly literature on the role that monuments can play in building common identities and official narratives. When drawing on this literature to understand public monuments' role in authoritarian countries, it is common to think of them as tools by which elites communicate information downward to citizens—monuments help establish the official version of the national identity and the myths that legitimize the state. We propose that monuments can simultaneously perform a different function: as part of ongoing communication among authoritarian elites, monuments can send a signal of loyalty upward to high-level leaders. This understanding situates the study of monuments in the literature on authoritarian politics and institutions.

Though much of the literature on authoritarian politics and institutions focuses on the the mechanisms by which elites stave off threats from the public at large (Acemoglu and Robinson, 2001; Boix, 2003), intrigues among the elite are actually far more dangerous to incumbent leaders. As Svolik (2009, 2012) explores, more than two-thirds of dictators who lost power between 1945 and 2002 were removed by insiders, rather than as a result of popular pressure. An authoritarian leader relies on elite allies to remain in power; however, this reliance means the leader is subject to the risk that his supporters may remove him from his office. This risk gives the leader an incentive to eliminate possible rivals from his inner circle, a threat which only the possibility of a coup deters. Authoritarian politics, when the dictator's power is not fully consolidated (as during Stalin's rule in the Soviet Union, or Saddam Hussein's in Iraq), is characterized by a precarious balance of power, uncertain loyalties, and the possibility that leadership disputes will be resolved by force.

A growing body of work examines how various institutions may help ease authoritarian power-sharing. Authoritarian legislatures allow incumbents to award seats in the legislature to important factions in society, who gain access to patronage resources and possibly policy influence in exchange for their loyalty (Gandhi and Przeworski, 2006). The dictator may

simply pay off allies with private benefits, hoping that such private rewards are more appealing than the uncertain outcome of a coup plot (Bueno de Mesquita et al., 2003). An authoritarian leader may rely on repression to keep opponents in line, granting power and privilege to the military in exchange for its loyalty. However, this approach—robbing civilian elites to pay the generals—increases the risk that the military itself may intervene to secure (or enhance) its privileges (Svolik, 2012). Magaloni (2008) shows that ruling parties in authoritarian regimes make power-sharing between the dictator and his allies easier, while loyal opposition parties create an insurance policy of sorts for allies who may find themselves out of the dictator's favor and in search of a new power base.

Authoritarian politics has been shown to be as much about negotiation within the elite as it is about keeping the masses out of politics; both problems for an authoritarian leader are characterized by the threat of violence and by considerable uncertainty about individuals' loyalties. Much of the existing literature has focused on how a dictator may solve the problem of court intrigues by making credible commitments not to abuse his supporters. Our project considers the same question from the opposite angle. Whether loyal or not, authoritarian elites want to avoid being purged from the ruling group—how can these elites send a credible signal of their loyalty to the leader? Crucially, elections can be used to identify those elites who are best able to deliver votes for the leader or ruling party and reward them (Brownlee, 2007; Blaydes, 2010; Lust-Okar, 2006; Malesky and Schuler, 2010; Reuter and Robertson, 2015). Election results in authoritarian regimes may help legitimize the regime or deter rivals, but they also serve as loyalty signals. If an authoritarian agent can deliver a big margin of victory for the ruling party, the associated expenditure or resources and public nature of the results serves as an indication of the agent's loyalty to the incumbent regime. We argue that monuments may serve as a supplement to the electoral signal, when agents are unlikely to produce a sufficiently large margin of victory.

The fundamental problem elites must overcome in authoritarian regimes is that profes-

sions of loyalty, unless they carry some cost, are a form of cheap talk. The leader cannot easily ascertain the truthfulness of such a profession by a general or an oligarch, but must still decide whether or not to keep such an 'ally' in a position of power. Under such conditions, truthful communication is difficult, if not impossible (Crawford and Sobel, 1982). However, in some cases, sending a signal may itself be costly for the sender; in such cases information can be credibly transmitted, if the signal is less costly for some individuals than for others. In the classic example from Spence (1973), additional education serves as a costly signal of the inherent quality of job applicants. States bargaining with each other over some issue may try to signal their resolve by paying costs only a strong state could bear (e.g. mobilizing troops), or by generating domestic costs the government will have to pay if it backs down at the negotiating table (Fearon, 1997; Slantchev, 2005). In the domestic context, Gordon and Hafer (2005) argue that firms that are capable of making large (that is, costly) political donations signal deep pockets and the ability to challenge regulatory decisions; consequently, regulatory agencies monitor these companies more lightly.

We argue that monument-building offers an opportunity for elites to send a costly signal of their loyalty to the regime. The construction of a monument costs resources that might be used in other ways (including personal enrichment for elites), and requires an investment of political resources to determine the subject, design, and location of the structure. To the extent that monuments affect public memory and collective identity, monument construction also represents a costly investment by elites in the official narrative of the regime, which may make it more difficult for elites to repudiate that narrative in the future.

3 A model of monuments as signals

We examine a situation where a political leader (L) tries to sift out political agents (A) who are not loyal to her. Each agent represents a particular territory and wishes to continue

holding office. The agent may use costly signals to demonstrate, or feign, his loyalty.

The game

The model begins with a draw by Nature, which determines whether A is loyal ($\tau = 1$) with probability p, or disloyal ($\tau = 0$) with probability $1 - p$. L does not observe τ.

The agent has an array of $N + 1$ actions available. These include sending no costly signal ($x = 0$) which incurs no cost, and N costly signals ($x = 1, \ldots, x = N$). Let $x = i$ mean the agent has picked the action i. A critical assumption here is that the cost of signaling is higher for disloyal agents. Appendix A shows how these costs may be produced endogenously in the model.

Costly signal i has a cost of $c_i + \delta_i(1 - \tau)$, where δ is the cost difference between loyal and disloyal agents ($\forall i > 0 \delta_i > 0$). We assume that the ordering of the costs of signals for the two types of agents are the same, and without loss of generality, assume that the order goes from $x = 0$ to $x = N$, i.e.,

$$c_0 = 0 < c_1 < \cdots < c_N,$$

which also means

$$c_0 = 0 < c_1 + \delta_1 < \cdots < c_N + \delta_N,$$

After observing the signal, the leader decides whether to keep the agent or dismiss him. She receives a benefit ψ for keeping a loyal agent, and pays a cost ϕ for keeping a disloyal agent. These parameters are meant to capture the benefit of retaining loyal cadres in the event of a leadership challenge. The agent, for example, may control some stock of resources that are beneficial for the incumbent if used in her support, but damaging if used to support a rival.

If the agent is retained, he receives the benefit associated with his office (r). If he is

replaced, the agent's payoff is $-k$, which can take any value. This payoff can be seen as the agents' outside option. This value may be positive and comparable to r in the context of a democracy, where multiple opposition parties or civil society groups are available, but negative in nondemocratic contexts where dismissal from the ruling party severely curtails one's career options.

Equilibria of the game

The game has a multiplicity of possible Perfect Bayesian Equilibria, but a large number of the equilibria rely on implausible out-of-equilibrium beliefs. To refine the set of equilibria of the game, we only report the equilibria that satisfy the intuitive criterion (Cho and Kreps, 1987). This rules out implausible out-of-equilibrium beliefs.

The model, at the most, has one separating equilibrium. In a separating equilibrium, the disloyal agent cannot send costly signals, because the cost of the signal is going to be wasted with certainty, so the disloyal agent always chooses $x = 0$. The loyal agent should be sending a costly signal $x = i > 0$ that is expensive enough that prohibits disloyal agents, but cheap enough to be profitable. This means $x = i$ should satisfy

$$
\begin{cases}
c_i & \leq r + k \\
c_i + \delta_i & > r + k
\end{cases}
\tag{1}
$$

Suppose these two conditions are also satisfied for $x = j < i$. Now consider the leader when the agent is supposed to play the separating equilibrium with $x = i$ but instead sends $x = j$. Since $x = j$ is dominated for the disloyal agent, according to the intuitive criterion, the only reasonable belief for L after observing $x = j$ is $\tau = 1$. This means that the loyal agent can profitably deviate from $x = i$. Therefore, a separating equilibrium is only possible for the smallest i (that is, the cheapest costly signal) that satisfies (1).

For each possible action $x = i$ available to the agent, there can be pooling equilibria where both types of agents always choose $x = i$. Because of pooling, the leader's information regarding τ is not updated. She may always dismiss the agent, always retain the agent, or use a mixed strategy. Notice that if she is always dismissing the agent after observing $x = i$, the agent can obtain the same outcome without having to pay the signaling cost, so 'always dismiss' can only happen in equilibrium if $x = 0$, and $p\psi \leq (1-p)\phi$. If the agent is retained, there is no reason for the agent to deviate because deviating to $x = i - 1$ (if $i > 0$) would mean that the agent is in fact disloyal according to the intuitive criterion, and there is no reason for the agent to deviate to a costlier signal. The leader should have $p\psi \geq (1-p)\phi$ to find retaining the agent the best reply.[1]

Finally, there are possible semi-separating equilibria where the loyal agent sends $x = i$, the disloyal agent uses a mixed strategy between $x = j$ and $x = i$ ($j < i$), and the leader dismisses the agents who send $x = j$ and uses a mixed strategy to retain or dismiss agents who send $x = i$. Let σ denote the probability with which the disloyal agent sends $x = i$ and let π denote the probability that the leader reward an agent after the agent sends $x = i$. It must be the case that $j = 0$, because when $x = j$ is sent, the leader will know that $\tau = 0$ with certainty, therefore, if there is any cost paid for that signal, it is wasted. The loyal agent also should not have any incentives to deviate to a costlier signal, even though that signal would guarantee his job. This means that if $i < N$, we should have $r - c_{i+1} > \pi r - (1 - \pi)k - c_i$, which implies

$$c_{i+1} > (1 - \pi)(r + k). \tag{2}$$

The disloyal agent should have equal payoffs from sending $x = 0$ and $x = i$, so $c_i + \delta_i = \pi(r+k)$

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[1]If the razor sharp condition of $p\psi = (1-p)\phi$ is met, the leader may mix between retaining and dismissing the agent.

which requires $c_i + \delta_i < r + k$ and implies

$$\pi = \frac{c_i + \delta_i}{r + k}. \tag{3}$$

The leader also should be indifferent between keeping or dismissing the agent after observing $x = i$. This means

$$\mathrm{pr}(\tau = 1 | x = 1)\psi - \mathrm{pr}(\tau = 0 | x = 1)\phi = 0 \tag{4}$$

and, using Bayes' law, yields

$$\sigma = \frac{p\psi}{(1 - p)\phi} \tag{5}$$

It is noteworthy that there may exist more than a single semi-separating equilibrium, if there is more than one costly signal that satisfies (2) and $c_i + \delta_i < r + k$.

Empirical implications

In the game presented here, the agent is assumed to have a palette of signals. These signals and their ordering are, of course, different from one context to the other. One possible costly, public signal is the public monument, the focus of the present work. Since we are studying post-communist Russia—an electoral authoritarian regime—we also include an electoral signal, in which the agent delivers a large margin of victory for the incumbent in his territory. So, for practical reasons, we limit the following discussions and analyses to a model with $N = 2$.

What is the ordering of the two costly signals and which equilibria should we expect? Clearly, the payoffs, both for the leader and the agent, depend on the context and, most importantly, on the type of the political institutions.

The comparison between signal costs and $r + k$ is a critical condition that determines which equilibria exist in the game. For example, if a signal $x = i$ is so costly as to satisfy

$c_i > r + k$, meaning that even the loyal agent would prefer to be dismissed rather than send that signal, we can see that the $x = i$ signal is never going to be used in any equilibrium.

In democratic regimes the cost of being found "disloyal" is negligible compared to a dictatorships, and rule of law reduces the value of holding office by limiting opportunities for corruption. As a result, we would expect to see separating equilibria in democratic states and pooling equilibria in highly dictatorial regimes in a cross-national study. In other words, in democracies, people are more or less free to reveal their political preferences, and they do so regularly, whereas in dictatorial regimes, revealing one's preference in opposition to the leader may endanger a political operative's career (or life).

We expect that hybrid regimes, which exhibit degrees of competitiveness between those of consolidated democracies and absolute dictatorships, should exhibit neither separating behavior (where agents' types are fully revealed) nor pooling behavior (where agents all act in exactly the same way). In terms of costs, also, $r + k$ is somewhere between where we expect it for perfect democracies and dictatorships. They provide an interesting test case for our theory, as a result. Therefore, in this pilot study, we test the implications of the semi-separating equilibrium. The leader receives some information from observing the signal, but remains uncertain certain about the type of agent she is facing.

Focusing on the semi-separating equilibrium, we can obtain a range of comparative static predictions. We are interested in when costly signals are sent and when they are not and from (5) we obtain

$$\frac{\partial \sigma}{\partial p} = \frac{\psi \phi}{(\phi - p\phi)^2} > 0$$
$$\frac{\partial \sigma}{\partial \phi} < 0.$$

So σ, the likelihood that a disloyal agent fakes loyalty by sending the costly signal, is positively correlated with the proportion of agents who are loyal, p, and negatively correlated with the

cost that the leader has to pay for keeping a disloyal agent in office, ϕ. If there is an increase in ϕ, for example if there is a heightened risk of a coup d'état, σ decreases in equilibrium.

Which signal should we expect? We have two signals, the electoral signal ($\mathcal{E}$) and the monument signal ($\mathcal{M}$). Suppose the cost of the monument signal is fixed and satisfies $c_\mathcal{M} + \delta_\mathcal{M} < r + k$ so that it can be part of a semi-separating equilibrium. First, consider the situation when the cost of the electoral signal is lower than the cost of the monument signal. In this situation, we may have equilibria where the electoral signal is employed by the agent. Then, consider the situation when the cost of the electoral signal is higher than the cost of the monument signal. If the difference is large enough so that $c_\mathcal{E} > r + k$, we should not see the electoral signal as a part of any equilibrium. So, in general we expect higher $c_\mathcal{E}$ to be associated with an increase in the monument signal. Delivering an election result that satisfies a leader's demand for loyalty might be challenging in places where opposition parties are relatively active, where media is relatively free, and where civil society is relatively robust. Such conditions make it more difficult for pro-incumbent elites to deliver majority or supermajority results in favor of the ruling party, as opposition groups capture some support from the electorate and greater political openness makes electoral manipulation more challenging.

We are not able to distinguish signals sent by loyal agents from signals sent by disloyal agents. Thus, while σ informs us about the behavior of disloyal agents, we will not be able to observe it in isolation. The variables we may observe is whether or not a signal is sent, i.e., whether or not a monument is built. This can be easily obtained by $\text{pr}(x = \mathcal{M}) = p + (1-p)\sigma$. Therefore, comparative statics for $\text{pr}(x = \mathcal{M})$ and σ have similar signs. As a result, we have the following hypotheses.

Hypothesis 1. *In hybrid regimes, when the leader's power is more consolidated, we should expect more monuments as costly signals of loyalty.*

Hypothesis 2. *In hybrid regimes, as the cost of manipulating elections rises, we should expect more monuments as costly signals of loyalty.*

4   Data and methods

To test these hypotheses, we rely on data drawn from the Post-Communist Monuments Database (Forest and Johnson, 2011). The database tracks monument-making activity (including new, altered, threatened, proposed, and removed monuments) using media reports in post-communist countries from 1989 to 2010. In this study, we utilize data from a single country, Russia, for several reasons. Russia's post-communist political trajectory from the chaotic 1990s to greater centralization under the leadership of Vladimir Putin allows us to study patterns of monument-making as national competitiveness declines. Its internal political and socioeconomic diversity allows us to test our second hypothesis about the types of agents most likely to send loyalty signals. Finally, Russia has the largest number of monuments constructed in the post-communist period. Data for the Russian case is available from 1992 to 2010. We focus only on new monuments that were initiated by public actors, as the expenditure of resources and political capital to create a new monument has greater potential as a loyalty signal than monument proposal, or even monument removal. A total of 174 such monuments are recorded in Russia during the period covered in the dataset.

Not all monuments are necessarily loyalty signals. Some may depict entirely neutral subjects, or even subjects that are subversive for incumbents. Each entry in the monuments database contains information on the content of the monument—what it depicts or whom it honors. To distinguish potential loyalty signals from other monuments, we coded the content of each monument into a series of categories. These categories are: victims of repression, victims of violence, imperial statesmen (e.g. tsars and courtiers), Soviet statesmen, post-

Table 1: New monuments in Russia, 1992-2010

Category	Number of new monuments
Victims of Soviet repression	8
Victims of violence	5
Imperial statesmen	26
Soviet statesmen	9
Post-communist statesmen (conservative)	6
Post-communist statesmen (liberal)	1
Military leaders	9
Security forces	8
Soldiers	21
Cultural, religious, and scientific figures	64

communist statesmen (broken into conservative and liberal categories), military leaders, the security forces, soldiers, and a single category for cultural, religious, or scientific figures.[2] The table below shows the total number of monuments constructed in each category from 1992 to 2010.

What constitutes a loyalty-signaling monument in the 1990s is unclear. The first decade of Russia's independence was highly fractured politically, characterized by competing networks of oligarchs and regional elites (Schroder, 1999; Gaman-Golutvina, 2008; Solnick, 1996; Hale, 2006). However, loyalty-signaling content is easier to identify in the period of the political centralization under Vladimir Putin. Putin is often considered to be the sponsor of a faction of the Russian elite known as the *siloviki* (power-agents, or strongmen). The siloviki hail from the military and security services, and have assumed prominent roles in business (Treisman, 2007) and government (Illarionov, 2009).[3] Putin himself is a former KGB agent, and was director of the KGB's successor agency before becoming prime minister under Yeltsin. Putin's ties to the security services and other 'force structures' are well-known; he was presumed to be the leader of the *siloviki* faction from 2008 to 2012, when Putin governed as prime minister alongside his anointed successor as president, Dmitry Medvedev (Black,

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[2]Examples in this latter category include athletic heroes, literary figures, chemist Dmitry Mendeleev, and the Orthodox Christian saints Cyril and Methodius (who devised the Cyrillic alphabet).

[3]For a more skeptical account of the role of the siloviki, see (Renz, 2006).

2014). Consequently, we consider a monument to be a signal of loyalty when it honors the security services or military leaders. In addition, we consider monuments to conservative post-communist leaders to be loyalty signals.[4]

Adding these three categories together produces our dependent variable, *loyalty*, which records whether or not a loyalty-signaling monument was produced in any region-year. Though monuments to the security services, for example, would obviously not constitute loyalty signals to Putin and his allies until his election in 2000, including observations from the 1990s establishes a baseline for monument-making of these types. Since Russia has had between 89 and 83 regions over this time period, our dataset includes 1691 observations. In the large majority of observations, no loyalty-signaling monuments are built. While this rarity poses challenges for analysis of the data, it does suggest that monument-making constitutes a costly and visible signal of loyalty. Since the loyalty variable is dichotomous, we make use of a logit model.

4.1 Explanatory variables

Our theory suggests that loyalty-signaling monuments should be more likely to occur as the national political environment becomes more consolidated, leading dissatisfied agents attempt to blend in with their more numerous pro-incumbent counterparts. This hypothesis is first tested using the annual Freedom House rating of *political rights* in Russia. This variable can take on values from 1 to 7, moving from most democratic to most authoritarian. In Russia's case, the variable ranges from 3 (a moderately open political environment) to six (very restricted). As an additional measure of the concept of political consolidation, we take advantage of the abolition of Russian gubernatorial elections in 2004. This reform turned governors into presidential appointees, a change which drastically increases the probability

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[4]Figures honored in this category include Putin's mentor Anatoly Sobchak, regional governors supportive of Putin's agenda, and Boris Yeltsin. Yeltsin's inclusion in this category is not due to political conservatism per se, but rather because Yeltsin named Putin as his presidential successor.

that a governor (and his or her subordinates) will be loyal to the incumbent president.

We also predict that certain local conditions are likely to be more conducive to loyalty-signaling monument building. We argue that loyalty signaling via monuments is more likely to occur in places where an electoral loyalty signal is less feasible. Producing a large margin of victory by mobilizing voters or falsifying election results serves as a costly, public signal of loyalty. However, such strong electoral signals are only available in places where local political conditions are highly non-competitive. In more open regions, electoral manipulation and large margins of victory are more difficult to achieve, reducing the ability of local elites to signal loyalty. As such, costly public displays like monument construction become a viable alternative. To test this implication, we make use of expert ratings of regional democratic openness of each of Russia's regions (Petrov and Titkov, 2013). These *democracy score* ratings account for nine different dimensions of democratic openness, including political pluralism, media independence, corruption, the quality of elections, and the strength of civil society.

4.2 Control variables

Since this is one of the first statistical analyses of the predictors of monument construction, known control variable are not well established. We present two approaches to this problem. In our first, we employ a fixed-effects model that includes our two explanatory variables in combination with dummy variables for each region. These region dummies control for variation in unobserved variables across the regions. Under our second approach, we include some common-sense variables that might predict where monuments are built. In our case, it is essential that we control for *Moscow* and *St. Petersburg*, Russia's political and cultural capitals. Dummy variables are used to mark both cities in the dataset. Larger population centers might be common sites for monument-making, due to greater demands on the part of civil society or a desire by elites to influence large numbers of people. We include a measure

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of the *population* of each Russian region in thousands. Wealthier regions might have more resources to devote to public art, so we control for *income*, the average monthly income of each region's citizens in thousands of rubles. *Oil production* measures the quantity of oil and gas produced by each region, in thousands of tons. Oil revenue provides resources that might be used for monument-making, but also increases the value of the region for national and local elites. We also control for Russia's *ethnic republics*, where political machines tend to be highly developed, but are also most effective at generating high margins of victory for United Russia in the Putin period.

5   Results

The following table presents the results from five different models of the construction of loyalty-signaling monuments. The first three are fixed-effects models that employ dummy variables for each of Russia's regions. Models 4 and 5 use the suite of control variables described in the previous section, rather than the regional dummies. Models 1 and 2 rely only on our explanatory variables and regional dummies, for which there is very little missingness; consquently these models makes use of the maximum available data. In Model 1 we use Freedom House's *political rights* as our measure of national political consolidation, while Model 2 uses *elected governors*. We analyze Model 3 as a way to compare the fixed-effects model with a model that makes use of regional control variables: it is the same fixed-effects model as shown in Model 1, but applied to the subset of observations for which the regional control variables are available. Since they rely on the same dataset, Models 3 and 4 can be more directly compared. Model 4 draws on the regional control variables, and uses *political rights*. Finally, Model 5 uses the regional control variables along with *elected governors*. We find strong support for the hypothesis that loyalty-signaling monuments will become more common as the political system consolidates. We find cautious support for the claim that

loyalty-signaling monuments are more common in areas where electoral signaling is more difficult.

Table 2: Predictors of loyalty-signaling monuments

|	Dependent variable:				
	Loyalty				
	(1)	(2)	(3)	(4)	(5)
Political rights	0.983**		1.126**	2.038***	
	(0.324)		(0.425)	(0.712)	
Elected governors		-1.181*			−2.397***
		(0.537)			(0.902)
Democracy score	0.165	0.105	0.125	0.124*	0.117*
	(0.198)	(0.155)	(0.217)	(0.066)	(0.066)
Population				0.0001	0.0002
				(0.0002)	(0.0002)
Income				−0.0001	−0.00003
				(0.0001)	(0.0001)
Oil production				0.006**	0.006**
				(0.003)	(0.003)
Moscow				7.419***	5.259***
				(2.449)	(1.686)
St. Petersburg				4.537***	4.010***
				(1.111)	(1.035)
Ethnic Republic				1.200	1.292
				(0.882)	(0.877)
Constant				−20.254***	−8.527***
				(4.901)	(2.470)
Observations	1,565	1,565	944	944	944
Log Likelihood	−47.76	−52.391	−35.79	−50.871	−53.398
Akaike Inf. Crit.	265.52	274.78	237.58	119.741	124.796
Note:				*p<0.1; **p<0.05; ***p<0.01	

All five models show that loyalty-signaling monuments became increasingly common as Russia's political environment became more centralized, as we predict. Models 1 and 2 show that this is the case when controlling for any time-invariant differences across Russia's

regions (observed or unobserved) using regional dummy variables. They show an effect in the predicted direction for political consolidation measured by Freedom House and measured by the shift from elected to appointed governors, respectively. The coefficients and standard errors for the eighty-nine dummy variables that represent the regions are not produced here for the sake of brevity; however, their inclusion allows us to control for any factors that might lead some regions to be more prolific monument-builders than others. This allows us to focus on within-region factors that might influence loyalty-signaling. In this case, the only such factor we consider is democracy score. Democracy score does not appear significant in any of the first three models. However, fixed-effect regressions like Models 1 through 3 make it difficult to assess the effect of variables that exhibit little within-group variation. Democracy score appears to be one such variable, which varies considerably across regions while remaining relatively static within regions. Figure 1 shows this relationship clearly: in almost all cases, each region's democracy scores are tightly clustered.

Figure 1: Democracy score by region
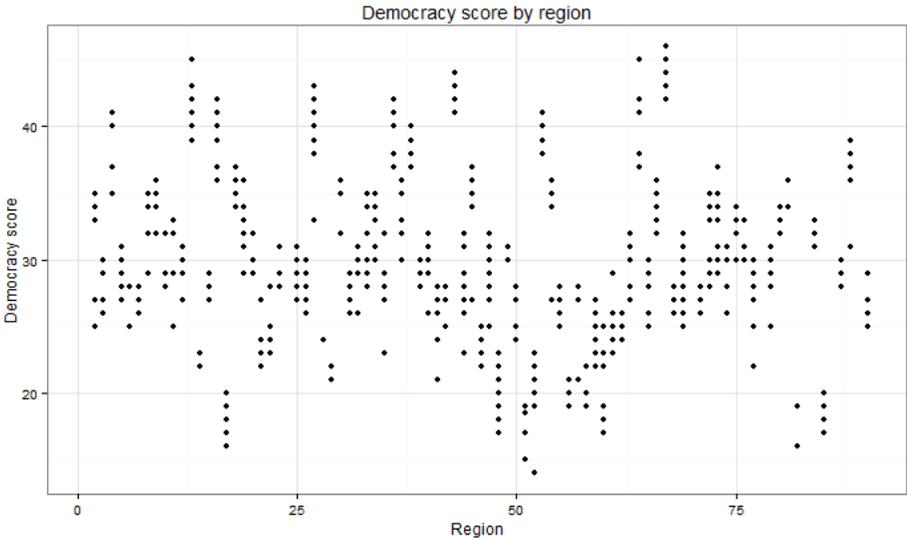
Since this is one of the first attempts to conduct a large-N statistical analysis of monument-building by type, we use Model 3 as a means of testing whether our control variables are

effective. Model 3 uses the same variables as Model 1, but applied to the smaller subset of the data for which all control variables are available. This allows for a more direct comparison between the fixed-effects and cross-sectional models. Model 3 serves mainly as a robustness check for Models 4 and 5, but does show the predicted positive and significant effect for *political rights*. That cross-sectional Models 4 and 5 produce considerably better log-likelihoods and AICs than Model 3 increases confidence that our control variables are appropriate in the Russian case.

Models 4 and 5 remove the fixed-effects dummy variables, allowing us to estimate the effect of democracy score more efficiently. In both cases, democracy score has a positive and significant effect on the construction of loyalty-signaling monuments, as expected. However, removing the region dummy variables to enable a more efficient estimate of democracy score's effect comes at the cost of potential omitted variable bias. There are several reasons to be confident that omitted variable bias does not seriously affect our analysis in Model 3. Most importantly, our subnational comparative research design already holds constant many of the time-invariant factors that might influence monument building (such as the history, overall level of economic development, and political institutional structure of Russia). This design addresses many of the problems that a fixed-effects model is intended to fix. Other important factors that vary across regions and are captured by the region-dummies in in the fixed-effects models, such as ethnic republic status, are controlled for in Model 3. Second, comparison of Model 3 and Model 4 shows that the coefficient for democracy score retains the same sign and nearly identical effect-size across both models. Models 4 and 5 also both support the hypothesis that loyalty signaling by monument is more likely when the political environment is more consolidated, measured by *political rights* and *elected governors*.

Monument-building is a rare action outside of Russia's two 'capitals' of Moscow and St. Petersburg. Both of our explanatory variables have small—but noticeable—substantive effects in a generic region as a result. Figure 2 shows the predicted probability of build-

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ing a loyalty-signaling monument in any given year as a region's democracy score increases (becoming more open), while Figure 3 shows the same predicted probability as Russia's Freedom House score increases (becoming more authoritarian). In both cases, the hypothetical generic region is assumed to be a non-ethnic territory that is neither Moscow or St. Petersburg, governors are assumed to be appointed, and income, population, and oil production are held at their means. Likewise, Russia's Freedom House rating and democracy score are held at their means, when the other variable is allowed to vary.

Figure 2 shows that loyalty-signaling by monument construction outside of Moscow and St. Petersburg is rare in any event, but extremely unlikely to occur when the local political environment makes it easy to generate electoral support for the ruling party. Monument signaling is only expected in the most politically open regions, which show an approximately one-percent chance of building a loyalty monument in a given year. Figure 3 shows a similar pattern with respect to the national political environment (though in the opposite direction). A generic region like the one analyzed here is extremely unlikely to display a loyalty monument during Russia's most democratic period. The predicted probability only rises significantly above zero during Russia's most authoritarian years. The maximum probability of monument-building in such an average region is approximately .02 when Russia's politics are most centralized.

The situation is much different in the capital city, however. Figure 4 shows the predicted probability of a loyalty monument being constructed in Moscow, as Russia's national Freedom House rating changes. Loyalty signaling in the capital is dramatically more likely than in the typical region. When Russia's national politics were relatively open, loyalty monuments are expected in any given year in Moscow with a probability of less than .2, a probability which rises to greater than .75 during Russia's authoritarian period. While monument-building is almost certain to be more common in national capitals than in other parts of the country, it is worth noting that the content of such monuments need not nec-

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Figure 2: Predicted probability of loyalty monument vs. democracy score (generic region)
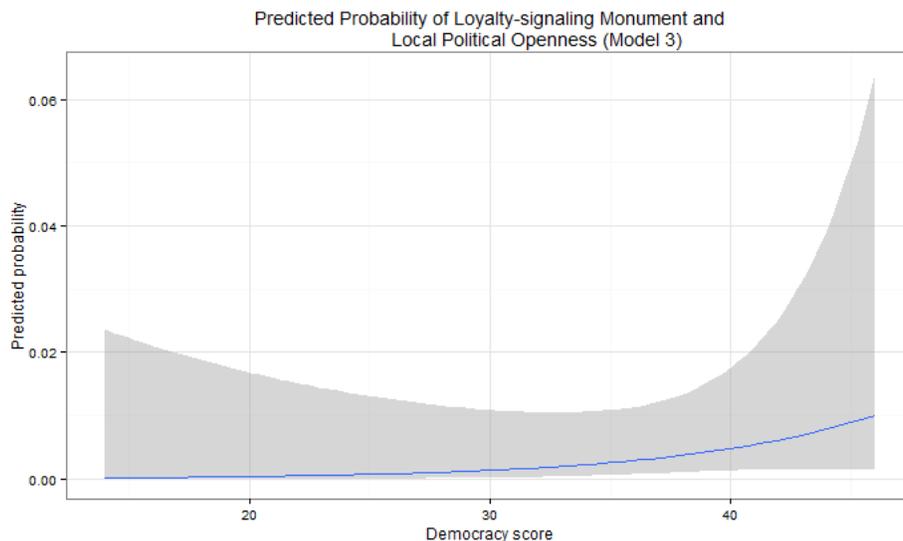

essarily signal loyalty to the incumbent elite. That the content of the city's monuments becomes more loyalist as the country becomes more authoritarian, as we find, is supportive of our theory. Moscow's public architecture is naturally the most visible to the country's elites, and Moscow's democracy score is slightly more open than the average. Consequently it provides an excellent stage for elites seeking to make a costly, and visible, signal of their loyalty.

6 Discussion and conclusion

Our theory predicts, and our results bear out, a finding which may seem counterintuitive. Loyalty signaling increases as the national political environment becomes less open, but signaling via monuments is more common in the most democratic regions. How to reconcile this seemingly contradictory result? First, as the national political environment becomes more consolidated under one leader, elites face a stronger incentive to appear loyal. They

Figure 3: Predicted probability of loyalty monument vs. Freedom House rating (generic region)

Predicted Probability of Loyalty-signaling Monument
and National Political Centralization (Model 4)
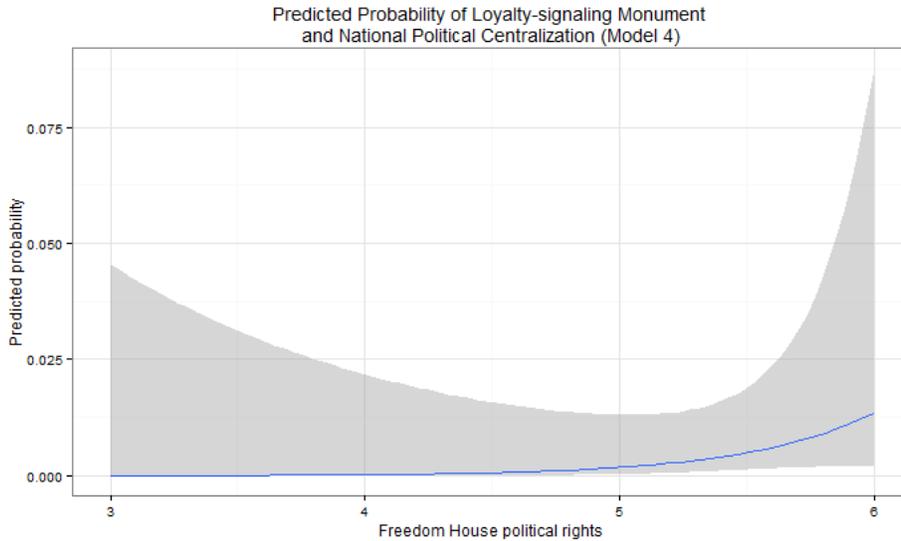
have fewer outside options should they lose favor, as opposition groups are sidelined and insider factions become more unified. As power becomes more consolidated, more elites rationally begin to signal their loyalty to an increasingly powerful leader; those who are unable or unwilling to do so begin to appear more suspicious. As this dynamic progresses—a more powerful leader begets a more unified elite, which in turn prompts more elites to declare their loyalty—even potentially disloyal agents begin to signal their loyalty in an attempt to stay in the game. Those who cannot easily deliver major electoral victories may turn to other costly signals, in an attempt to show their loyalty or to outbid their competitors. This is the role that monuments play.

In an electoral authoritarian country, big electoral victories are signals of loyalty and competence that can advance an agent's career. However, because such countries are not profoundly authoritarian, there can be sizeable variation in political openness as the sub-national level. Some regions, like Russia's Chechnya, are highly centralized and routinely deliver margins of victory for the ruling party in excess of ninety (or even one-hundred)

Figure 4: Predicted probability of loyalty monument vs. democracy score (generic region)

Predicted Probability of Loyalty-signaling Monument
and National Political Centralization, Moscow (Model 4)
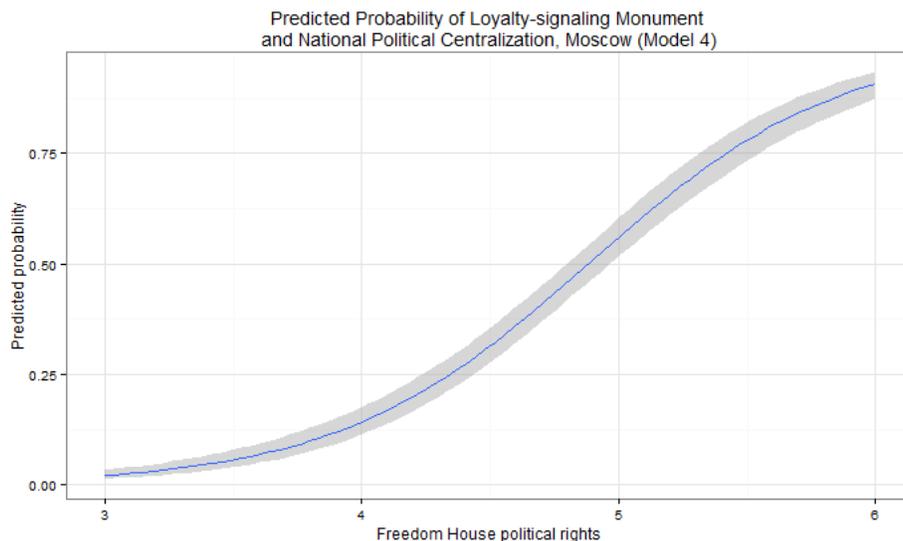
percent. In other regions, opposition groups are much more active and elections much more competitive. Leaders in these competitive regions face the same incentives to demonstrate their loyalty as the national political system becomes more closed. However, they may be unable to deliver the kinds of electoral results that would clearly signal loyalty. In this case, they turn to other costly forms of public signaling.

Monuments are not the only conceivable form such signals may take. Large, regular rallies in the support of the government, for example, could also serve as a costly signal of elites' devotion to the ruling party. However, a new public monument that honors the leader or the leader's faction in government may also serve such a purpose, especially in regions where clientelistic mobilization is difficult to achieve. Monuments require financial investments in design and materials, but also require political investments to determine the content, style, and location of the monument. These investments, and monuments' public nature and relative permanence, make them a worthwhile object of study as non-electoral signals of loyalty.

We have proposed a theory of elite signaling in electoral authoritarian regimes, in which

overall signaling is predicted to increase as society becomes more authoritarian, and signaling via monuments is predicted to occur more frequently in more democratic regions. We conduct a preliminary test of this theory using data on monument construction in post-communist Russia. This research design allows us to hold national political, economic and institutional factors constant, while comparing patterns of loyalty signaling via monuments across Russia's regions over time. We take advantage of Russia's internal diversity and shifting national competitiveness, as the chaotic 1990s gave way to more centralized rule during Vladimir Putin's leadership. This project is the first attempt to use comparative, quantitative methods and political science theory to understand the timing and placement of monument-building, while still remaining sensitive to the monuments' content. We find support for our theory that, in addition to communicating ideas about state and society to citizens, the timing and placement of monuments reflects communication among the elite. In particular, monuments that signal support for the ruling group are more common when power is consolidated, and occur most frequently in places where local elites' loyalty is under question.

Appendix A   Endogenous costs

In the model presented here, we assumed that the differentiated costs for sending loyalty signals and the cost of hiring a bad agent for the leader were determined outside the model. These costs, δ and ϕ can include all the possible costs, including material costs, psychic costs. An important element of these costs may depend on the reputation of the agent. The reason is that a disloyal agent would like to be known to potential challengers as a disloyal agent. If the signaling process is such that from the vantage point of a challenger, an agent seems loyal, this reduces the chance of cooperation between the agent and the challenger. In this appendix, we show how simplified version of the game with only one costly signal and show how the costs can be endogenous. The resulting comparative statics have the same

signs as the comparative statics that result from the model with assumed exogenous costs.

In his ideal world, a disloyal agent would want the leader to think he is loyal and the challenger to know he is truly disloyal. Because the signaling happens in public, his effort in convincing the leader that he is loyal is going to hurt his reputation with the opposition.

We can represent this as

$$\phi = f\big(\mathrm{pr}(\tau = 0 | x = 1), \alpha\big)$$

$$\delta = g\big(\mathrm{pr}(\tau = 0 | x = 0) - \mathrm{pr}(\tau = 0 | x = 1), \beta\big)$$

where α and β are fixed coefficients depending on the environment, f and g differentiable functions with positive derivatives with respect to both of their arguments.

It will be shown that in the semi-separating equilibrium, like before, we have

$$\frac{\partial \sigma}{\partial p} > 0 \tag{6}$$

$$\frac{\partial \sigma}{\partial \alpha} < 0 \tag{7}$$

$$\frac{\partial \pi}{\partial p} > 0. \tag{8}$$

From (4) it follows that σ should satisfy the following constraint:

$$G = (1 - p)\sigma f\big(\mathrm{pr}(\tau = 0 | x = 1), \alpha\big) - p\psi = 0.$$

Substituting $\mathrm{pr}(\tau = 0 | x = 1) = \frac{(1-p)\sigma}{p + (1-p)\sigma}$ we have

$$\frac{\partial G}{\partial \sigma} = (1 - p)f\left(\mathrm{pr}(\tau = 0 | x = 1)\right) + (1 - p)\sigma f_1\left(\mathrm{pr}(\tau = 0 | x = 1)\right)\frac{p(1 - p)}{(p + (1 - p)\sigma)^2},$$

where f_1 is the derivative of f with respect to its first argument. It is clear that $\frac{\partial G}{\partial \sigma} > 0$.

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Similarly, we have

$$\frac{\partial G}{\partial p} = -\sigma f\left(\mathrm{pr}(\tau = 0 | x = 1)\right) + (1 - p)\sigma f_1\left(\mathrm{pr}(\tau = 0 | x = 1)\right) \frac{-\sigma}{(p + (1 - p)\sigma)^2} - g,$$

which gives $\frac{\partial G}{\partial p} < 0$. And finally, we have

$$\frac{\partial G}{\partial \alpha} = (1 - p)\sigma f_2\left(\mathrm{pr}(\tau = 0 | x = 1, \alpha)\right),$$

where f_2 is the derivative of f with respect to β. We see $\frac{\partial G}{\partial \alpha} > 0$. Assuming that a semi-pooling equilibrium exists requires the existence of $\sigma \in (0, 1)$. Using implicit differentiation we find $\frac{\partial \sigma}{\partial p} > 0$ and $\frac{\partial \sigma}{\partial \alpha} < 0$.

In the model with endogenous costs we can obtain π as follows

$$\pi = \frac{c + g\left(\mathrm{pr}(\tau = 0 | x = 0) - \mathrm{pr}(\tau = 0 | x = 1), \beta\right)}{r + k}.$$

Given that $\mathrm{pr}(\tau = 0 | x = 0) - \mathrm{pr}(\tau = 0 | x = 1) = \frac{p}{p + (1 - p)\sigma}$, we have $\frac{\partial \pi}{\partial p} > 0$.

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