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Investment without democracy: Ruling-party institutionalization and credible commitment in autocracies

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ABSTRACT

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What explains private investment in autocracies, where institutions that discourage expropriation in democracies are absent? We argue that institutionalized ruling parties allow autocrats to make credible commitments to investors. Such parties promote investment by solving collective-action problems among a designated group, who invest with the expectation that the autocrat will not attempt their expropriation. We derive conditions under which autocrats want to create such parties, and we predict that private investment and governance will be stronger in their presence. We illustrate the model by examining the institutionalization of the Chinese Communist Party. *Journal of Comparative Economics xxx (xx) (2011) xxx–xxx*. Department of Political Science, University of Wisconsin–Madison, 110 North Hall, Madison, WI 53706, United States; The World Bank, Development Research Group, 1818 H Street, NW, Washington, DC 20433, United States.

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1. Introduction

Between 1990 and 2004, there was no statistically significant difference in private investment between democracies and non-democracies (controlling or not for income per capita). In 2004, for example, private investment in both groups of countries averaged 15% of GDP, with 25% of non-democracies exhibiting more private investment and faster growth than 75% of all democracies.² These figures seem to challenge the conventional wisdom that institutions that constrain rulers, especially the checks and balances that characterize democracies, are necessary to stimulate investment and consequently growth.

However, just as democracies vary substantially in the degree to which competitive elections and other institutions discourage rulers from engaging in expropriatory behavior, so do institutions in non-democracies vary in the extent to which they prevent power from being concentrated in the hands of a single individual or ruling clique. What are those institutions? Why are they adopted in some non-democracies but not others? What effects do they have on economic performance? We address these questions, focusing on a largely overlooked institutional arrangement that promotes investment in non-democracies: ruling-party institutionalization. We argue in particular that this institution allows autocratic rulers to make

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² The private investment data come from World Development Indicators; countries are identified as democracies if they are coded in the Database of Political Institutions (Beck et al., 2001) as having elections in which multiple parties or candidates compete and none receives more than 75% of the vote.

credible commitments by designating a group of individuals who are given the ability to organize collectively and are expected to invest, and by discouraging investment outside of that group.

At the center of our analysis is a commitment problem common to both democratic and non-democratic rulers. Economic agents invest money, time, and effort only with some assurance that the rewards from their investment will not be expropriated. Once investments are made, however, rulers have an incentive to renege on earlier promises not to expropriate.

Two related literatures suggest that democratic institutions that promote collective action by citizens can solve this problem. The first, with origins in the analyses of Barro (1973) and Ferejohn (1986), focuses on how citizens can coordinate in electoral settings to hold democratic leaders accountable. This accountability device is obviously missing in non-democracies. The second, drawing upon the seminal work of North and Weingast (1989) and Greif et al. (1994), more generally shows how collective action can restrain rulers. They and especially Weingast (1997) emphasize the role that democratic institutions play in establishing a consensus about the proper limits of the state, facilitating collective action when those limits are ignored.³

Competitive elections are not held in non-democracies.⁴ Moreover, in the prototypical non-democracy, autocratic rulers take advantage of weak institutions to defuse collective action through “divide-and-rule” tactics (Acemoglu et al., 2004), with negative consequences for property rights and investment (Guriev and Sonin, 2009). Nonetheless, autocratic leaders sometimes encourage the development of institutions that facilitate collective action among a particular group as a way of credibly promising not to expropriate that group’s members. An important case is the institutionalized ruling party. Members of such parties form a protected class by virtue of their ability to rebel against an overbearing ruler. Consequently, institutionalized ruling parties can promote “investment without democracy.” Prominent historical examples of this strategy include the institutionalization of the Partido Revolucionario Institucional (PRI) in Mexico and the Chinese Communist Party under Deng, though the phenomenon is much more general.⁵

We argue formally that mechanisms that promote transparency within the party create this capacity for rebellion. Our approach follows Chwe (2001), among others, in stressing the informational foundations of collective action. We provide some support for this assumption in a case study of the Chinese Communist Party, where we show that circumscribed access to information plays a central role in regulation of popular protest. However, our framework is consistent with alternative formalizations of the means by which autocrats manipulate collective action to their advantage (e.g., as described in Lorentzen, 2007), so long as those mechanisms serve to protect party members but not outsiders.

In our model, mechanisms that promote collective action are necessary, but not sufficient, to restrain ruler expropriation. Leaders subjected to collective action are often able to retain some of the fruits of their expropriatory behavior. If these rents are sufficiently large, e.g., because many citizens have made expropriable investments, then expropriation occurs even if it is sure to trigger collective action. The threat of collective action therefore deters expropriation only if the number of potentially expropriable individuals is great enough to pose a threat to the ruler, yet small enough that the gains from expropriation are less than the costs to the ruler of collective action. An attribute of institutionalized ruling parties is that they satisfy this condition by restricting the size of the party and establishing a focal point that cadres should be primarily responsible for investment.

Our case study of the Chinese Communist Party illustrates these arguments. In the period immediately after Mao, Communist Party leaders significantly modified party institutions and the size of the party to give themselves the ability to commit credibly to party cadres, who in turn were critical to the increased investment that drove Chinese growth.

The arguments here differ in several important ways from those in a rapidly growing literature on the political economy of dictatorship. The focus on ruling-party institutionalization as a commitment device shifts attention away from institutions that allow elites to make credible promises to an excluded majority, as in Acemoglu and Robinson (2006) and Desai et al. (2009), toward those that make intra-elite bargains credible. This emphasis echoes Bueno de Mesquita and Root (2000), Bueno de Mesquita et al. (2003), Haber (2006), Besley and Kudamatsu (2007), and Padró i Miquel (2007), who analyze the choices of an autocrat potentially constrained by a “selectorate” whose capacity for collective action is assumed. Within this literature, Guriev and Sonin (2009) share our explicit focus on expropriation and investment; in their model, the degree to which the ruler is constrained is a choice variable of the selectorate (i.e., the oligarchs).

In contrast to these contributions, the presence and size of the selectorate are endogenous in our model; we ask when an autocrat would choose to designate such a group and how large it would be. This shift in emphasis is important in that rulers are often able to shape the selectorate to their advantage, a point illustrated by the examples of the “Curley effect” in Boston in the early twentieth century (Glaeser and Shleifer, 2005) and Stalin’s purges in the 1930s (Gregory et al., 2006), as well as in our discussion of China, below. Our work thus builds on earlier analyses that show why self-interested rulers might encourage the development of institutions that facilitate collective action, but that do not describe the conditions under which those institutions are more or less encompassing.

³ Fearon (2006) argues that regular elections themselves serve as a focal point in democracies, such that a ruler’s decision to bypass electoral control provokes collective action among the citizenry.

⁴ Autocracies do often hold controlled elections, but these serve different purposes than the competitive elections of democracies. For analysis, see Magaloni (2006), Simpson (2006), and Cox (2009).

⁵ The situation we describe has echoes in Braguinsky and Myerson (2007, ’s) analysis of “oligarchic property rights,” which they define as an environment “where certain kinds of property are protected only for a limited group of people who have privileged relationships with local political leaders” (p. 677).

Gandhi and Przeworski (2006) and Wright (2007) also ask when non-democratic rulers might create institutions as credible constraints on autocratic rule; we model the particular mechanisms by which such institutions actually constrain leaders. Similarly, Acemoglu et al. (2007) endogenize the creation of a group (the military) that can overthrow the ruler, but in their model the value of this group to the autocrat is to suppress internal opposition rather than to encourage investment. Egorov et al. (2009) focus on the role of autocratic institutions in improving government performance through the monitoring of bureaucrats. In contrast, in an extension of our model (provided in the appendix and discussed briefly below), we stress the role of institutionalized ruling parties in assuring bureaucrats that they will be compensated for their effort.⁶

Our contribution is closest in spirit to Myerson (2008), who considers the problem of credibly rewarding supporters. Like us, he emphasizes the role of information among those supporters as key to making rewards credible. His focus, however, is on encouraging the participation of “captains” in a contest for power, rather than eliciting investment. Similarly, Boix and Svobik (2008) model institutionalized power-sharing as mechanisms that provide the ruling coalition with information about the total benefits over which the ruler has control, and they show that institutionalization increases the durability of autocratic regimes. We build on these papers by demonstrating that autocrats do not always prefer to institutionalize and by deriving predictions for when and the extent to which they do so.

Other contributions share our emphasis on authoritarian parties. Wintrobe (2000), for example, shows how parties can be used to generate loyalty among some citizens, arguing that this may be more important for “totalitarian,” i.e., power-maximizing, than “tinpot,” i.e., wealth-maximizing, dictators. We demonstrate that parties may actually be useful for wealth maximization. Based on the experience of the Partido Revolucionario Institucional (PRI) in Mexico, both Haber et al. (2003) and Magaloni (2006) emphasize the historical determination of ruling parties in non-democracies, showing how their role in guaranteeing the security of property rights for a narrow elite may be a by-product of ruler strategies for retaining power. Without discounting the importance of historical factors, our analysis stresses instead the choice that rulers have with respect to the degree of institutionalization. This emphasis helps to explain, e.g., the difference between Mexico under Porfirio Díaz and under the PRI, or the change in the Chinese Communist Party from Mao to Deng. Lazarev (2007) does endogenize party rule, developing an optimal promotion contract to show how recruitment into activist positions within the party can be used to encourage bureaucratic effort. The extension of our model to bureaucratic incentives clarifies the role of institutionalized ruling parties in making such contracts credible. Finally, Geddes (2009) demonstrates that dictators who create parties are less vulnerable to coup attempts, a finding consistent with our theoretical result that contestation does not occur on the equilibrium path when parties are institutionalized.

In the following section, we present the formal analysis that responds to this question. We then illustrate our arguments with a case study of the Chinese Communist Party. We conclude with implications of this work for future research on economic performance in non-democracies.

2. Model and analysis

We can accept only the division into unofficial information (for the Comintern Executive only) and official information (for everybody). Vladimir Lenin (1921)⁷

The formal model in this section demonstrates the economic consequences of ruling-party institutionalization, identifies the conditions under which autocrats might try to create such parties, shows how encompassing such parties can be, and explains why not all attempts to create institutionalized ruling parties are successful.

2.1. Environment

Consider a model with two sets of players: an autocrat (an abstraction that incorporates ruling cliques), and n identical investors, indexed by i . At the beginning of the game, the autocrat publicly chooses some subset of investors to be party “cadres,” where s is the number of investors who are chosen to be cadres. Investors who are not chosen to be cadres are “outsiders.” As discussed below, the creation of a cadre class helps investors to overcome collective-action problems by making expropriation common knowledge within the class, and it can serve as a focal point that helps investors to coordinate expectations about each others’ actions.

Following the choice of s by the autocrat, each investor i chooses an investment level $e_i \in \{0, \hat{e}, \bar{e}\}$. As we will see, there are three possible equilibrium outcomes following a decision to invest (the investor is expropriated and does not contest, the investor is expropriated and contests, the investor is not [fully] expropriated and therefore does not contest), implying the need for three distinct effort levels. Further below (in Footnote 9), we show that the assumption of a discrete investment space can be interpreted as the outcome of maximizing behavior by investors, given a continuous effort space and certain parameter restrictions.

⁶ Egorov et al. (2009) endogenize monitoring capacity by giving the autocrat a discrete choice to allow a free press. Although the purpose of information transmission is different in our setup, our model can be read as a partial generalization of their framework, since in our setting the autocrat can allow information transmission among any subset of the population of investors.

⁷ Quoted in Egorov et al. (2009).

Investment choices are observed by the autocrat; whether they are observed by other investors is immaterial to the equilibrium outcome of the game. An investment of $e_i = 0$ provides a payoff of zero to both the investor and the autocrat. In contrast, an investment of $e_i = \hat{e}$ produces a benefit to the investor of \hat{g} and to the autocrat of \hat{h} . One useful interpretation of \hat{h} is that investment raises the marginal return to labor and, therefore, wages; such wage spillovers may relax an unmodeled political constraint if the autocrat's power is conditioned on guaranteeing a certain level of well-being to owners of labor. Similarly, an investment of $e_i = \bar{e}$ produces a benefit to the investor of \bar{g} and to the autocrat of \bar{h} . An investment of $e_i = 0$ is costless, whereas investments of \hat{e} or \bar{e} cost investors \hat{c} and \bar{c} , respectively. We assume $\bar{g} > \hat{g} > 0$, $\bar{h} > \hat{h} > 0$, $\bar{c} > \hat{c} > 0$, and $\bar{g} - \bar{c} > \hat{g} - \hat{c} > 0$. Thus, the efficient level of investment is \bar{e} . We denote the number of cadres and outsiders who choose $e \neq 0$ by v_c and v_{-c} , respectively, and we define $v \equiv v_c + v_{-c}$.

Following investment choices, the autocrat decides for each investor i who has chosen $e_i \neq 0$ whether to expropriate the investor of \tilde{g} , where $\tilde{g} < \hat{g} < \bar{g}$ and \tilde{g} is exogenous. The amount expropriated is assumed the same for large and small investments for analytical convenience: we can thus restrict attention to the number of cadres and outsiders who are expropriated. At the expense of substantial additional notation, this assumption can be relaxed without affecting our qualitative results.⁸ Expropriation of any cadre is observed by all cadres, but not by outsiders. This assumption builds on a substantial literature stressing the informational foundations of collective action and is illustrated below in our case study of the institutionalization of the Chinese Communist Party. In contrast, expropriation of any outside investor is observed only by that investor, reflecting the typical practice of expropriation in autocratic states. Observers cannot tell whether claims of back taxes are an expropriatory confiscation of assets or a legitimate response to tax evasion; they cannot distinguish between an arbitrary loss of control rights over quasi-private enterprises and the routine reassignment of government officials. We denote the number of cadres and outsiders who are expropriated by x_c and x_{-c} , respectively, and we define $x \equiv x_c + x_{-c}$.

Investors who are expropriated may choose to contest the expropriation, where $p_i = 1$ indicates contestation and $p_i = 0$ indicates acquiescence. To capture the idea that contesting autocratic rule is safer when joined by others, i.e., that there is "strength in numbers," individuals are assumed to bear a cost of contestation $d > 0$ if the number of *all* investors (cadres and outsiders) who choose $p_i = 1$ is less than or equal to k , and a cost of zero if more than k investors choose $p_i = 1$, where $k > 1$ is a parameter of the model. If they contest, investors recoup proportion $1 - q$ of the \tilde{g} seized by the autocrat, where $q > 0$. However, contestation destroys proportion $1 - m$ of the investor's gross private benefit, so that depending on whether $e_i = \hat{e}$ or $e_i = \bar{e}$ is chosen, an expropriated investor's net private benefit after contestation is $m(\hat{g} - q\tilde{g})$ or $m(\bar{g} - q\tilde{g})$; the autocrat retains $m q \tilde{g}$. We assume $d > m(1 - q)\tilde{g}$, so that an expropriated investor chooses to contest, $p_i = 1$, if and only if he expects more than k investors to contest expropriation.

We assume in particular that expropriated cadres simultaneously and independently choose whether to contest, following which expropriated outsiders do the same, having observed the number of cadres who contested. This timing assumption ensures that cadres have an incentive to respond to an unexpectedly high level of expropriation—contestation allows cadres to signal their expropriation to outsiders whose participation may be necessary to overcome the threshold k , but who do not observe that expropriation directly—and plausibly captures the means by which information about treatment of party officials is transmitted to the general public.

Fig. 1 illustrates the information structure of the model, using a stylized example with two investors to illustrate the different information available to outsiders and cadres. Each panel illustrates the subgame beginning with the autocrat's expropriation decision, where A represents the autocrat, 1 represents the first investor, and 2 represents the second investor. The autocrat's action is given as expropriation (E) or not (N) of the first and second investor, respectively; each expropriated investor chooses to contest (C) or not (N). In the top panel, both investors are outsiders, each of whom observes his own expropriation but not that of the other investor, following which all expropriated outsiders simultaneously choose to contest or not. In the bottom panel, both investors are cadres, each of whom observes the autocrat's expropriation of the other before deciding (if expropriated) whether to contest. As is standard, we represent the simultaneity of the investors' actions, if both are expropriated, by depicting investor 2 as moving after investor 1, not having observed investor 1's action.

We make three further assumptions to focus on a region of the parameter space where investment and expropriation choices are non-trivial. First, we restrict attention to the case where $\bar{g} > \bar{g} - \bar{c}$, which implies $\bar{g} > \hat{g} - \hat{c}$. This says that the losses from expropriation are sufficiently large that investors prefer $e_i = 0$ if they expect expropriation with certainty but do not anticipate sufficient contestation by other investors to justify $p_i = 1$. Second, we impose the condition

$$m(\hat{g} - q\tilde{g}) - \hat{c} > \max[0, m(\bar{g} - q\tilde{g}) - \bar{c}], \quad (1)$$

which implies that investors choose moderate effort $e_i = \hat{e}$ if they expect expropriation and sufficient contestation by other investors to justify $p_i = 1$.⁹ Third, we assume that $m q n > k$, which says that the autocrat's share of expropriated assets in the

⁸ In particular, we can assume that large investments are more expropriable than small ones, so long as the expropriability of large investments is not so great that cadres no longer have an incentive to choose high effort ($e_i = \bar{e}$) in the party equilibria that we describe below (i.e., so long as $\bar{g} - m q \tilde{g} - \bar{c} > \hat{g} - m q \tilde{g} - \hat{c}$, where \tilde{g} is the expropriable proportion of large investments and \hat{g} is now the expropriable proportion of small investments).

⁹ This condition, together with the assumption above that $\bar{g} - \bar{c} > \hat{g} - \hat{c} > 0$, suggests the following interpretation of the discrete investment choice: each investor chooses $e \in [0, \infty)$, where \bar{e} maximizes $g(e) - c(e)$ and \hat{e} maximizes $m g(e) - c(e)$.

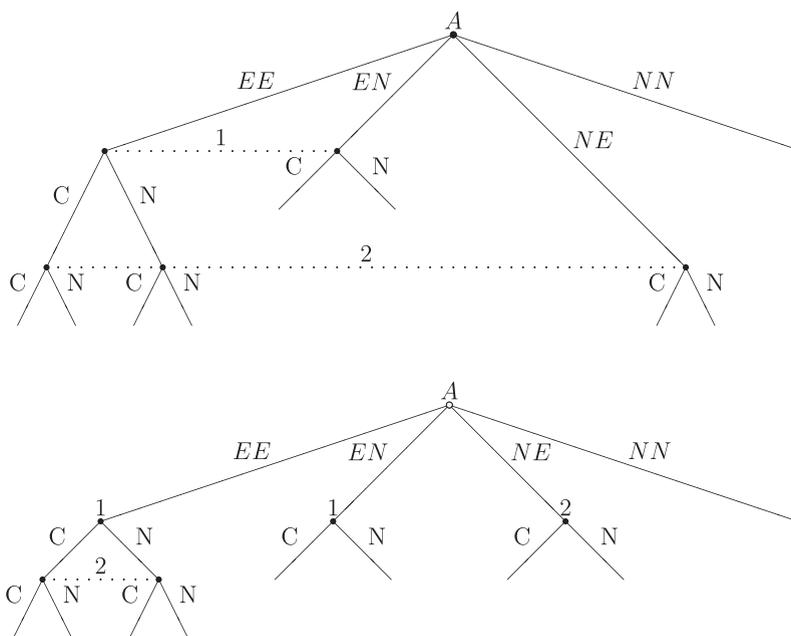


Fig. 1. The information structure of the model. Each panel illustrates the subgame beginning with the autocrat's expropriation decision in a stylized model with two investors. In the top panel, both investors are outsiders; in the bottom, both are cadres.

event of contestation is sufficiently high that if all n investors choose $e_i \neq 0$, then the autocrat prefers to expropriate all investors, even though that leads to contestation, rather than to expropriate just enough (k) investors that contestation is avoided.

The last assumption captures the idea that there are limits to the vulnerability of non-democratic rulers to collective action, as is the case when autocrats protect assets in offshore accounts and escape rebellion by fleeing to a third country. This simply sharpens the tension that investors face: if too many invest, the ruler always prefers to expropriate. Absent this assumption, ruling parties could be as large as the pool of potential investors, contra what is observed in practice.¹⁰

All elements of the game are common knowledge. Summarizing, the timing of events is:

1. *Party choice:* The autocrat publicly chooses s investors to be party cadres.
2. *Investment:* Each investor chooses $e_i \in \{0, \hat{e}, \bar{e}\}$.
3. *Expropriation:* For each investor who has chosen $e_i \neq 0$, the autocrat chooses whether to expropriate the investor of \bar{g} , where \bar{g} is exogenous. The expropriation of cadres is observed by all cadres; the expropriation of any outside investor is observed only by that investor.
4. *Contestation:* Expropriated cadres publicly choose $p_i \in \{0, 1\}$, after which expropriated outsiders choose $p_i \in \{0, 1\}$.

In the discussion to follow, we use the term *expropriation game* to refer to the subgame that follows particular party and investment choices, and we use x_c^* , x_{-c}^* , and x^* to denote the equilibrium expropriation of cadres, non-cadres, and all citizens, respectively, in this subgame. For notational convenience, we rely on context to indicate whether other variables represent equilibrium choices.

We begin by defining the equilibrium concept and deriving optimal behavior in the expropriation game. Following that, we prove the existence first of “non-party equilibria” and then of “party equilibria.” In non-party equilibria, the investment behavior of cadres and outsiders is identical, regardless of party choice by the autocrat, demonstrating that attempts to create institutionalized ruling parties may be unsuccessful if they do not change investors' expectations about what other investors will do. In party equilibria, in contrast, cadres and outsiders differ in their investment behavior. We derive the party size that is optimal for the autocrat in such equilibria. Further, we establish conditions under which the autocrat prefers ruling-party institutionalization to non-party equilibria. We compare investment levels in the non-party and party equilibria, and we discuss other implications of the model. Finally, we briefly show that the model can be recast as a game between the autocrat and bureaucrats, where institutionalized ruling parties make credible the autocrat's promise to provide bonuses in return for bureaucratic effort.

¹⁰ Autocrats might also limit the size of institutionalized ruling parties for other reasons. For example, it may be easier for members of a large party to act collectively against a leader, such that k falls in s for collective action initiated by party members. To the extent this is the case, our results establish an upper bound on the size of institutionalized ruling parties.

2.2. Preliminaries

Optimal party choice and investment behavior depend on expectations of what will happen in the expropriation game, but for many investment choices the expropriation game has multiple equilibria. Contestation is optimal for expropriated investors only if they expect more than k other investors to contest; these expectations depend in turn on beliefs about how many other investors have been expropriated. Because cadres do not observe the expropriation of outsiders, and outsiders observe only whether their own individual investments have been expropriated, multiple beliefs about expropriation choices are possible off the equilibrium path (i.e., for observations of expropriation inconsistent with the autocrat's equilibrium strategy). In addition, even if all expropriated investors believe that more than k other investors have been expropriated, it is optimal to contest expropriation only if they expect enough other expropriated investors to also do so.

To simplify matters, we therefore focus on a subset of sequential equilibria (Kreps and Wilson, 1982) that restricts actions and beliefs in the expropriation game. In essence, we stack the deck in favor of ruling-party institutionalization by assuming that the autocrat can successfully manipulate collective action. That autocrats may nonetheless prefer not to institutionalize party rule, or may fail to institutionalize even when they want to, is one of the key insights of this paper.

Definition 1. An *equilibrium* is a strategy profile

$$\sigma = (s, (e_i(s))_{i \in I}, x_c, x_{-c}, (p_i(x_c))_{i \in C}, (p_i(p^c))_{i \in O}),$$

(where I , C , and O refer to the set of all investors, expropriated cadres, and expropriated outsiders, respectively) and a set of beliefs μ such that:

1. The autocrat selects x_c cadres and x_{-c} outsiders at random to expropriate.
2. If $x_c \neq x_c^*$ (i.e., for observations of x_c off the equilibrium path), cadres believe with probability one that $x_{-c} = x_{-c}^*$.
3. Each expropriated cadre chooses $p_i = 1$ if and only if $x_c > k - x_{-c}^*$. If $x_{-c}^* > 0$, each expropriated outsider i chooses $p_i = 1$ if and only if $p^c > k - x_{-c}^*$, where p^c is the number of cadres who chose $p_i = 1$.
4. The assessment (σ, μ) is sequentially rational and consistent.

Condition 4 is the definition of sequential equilibrium. Condition 1 simplifies the analysis so that we need only specify beliefs about how many cadres and outsiders have been expropriated and not their identity. (Note in particular that Condition 1 implies that if $x_{-c}^* > 0$, then for any outsiders who have chosen $e_i \neq 0$, all observations of expropriation are on the equilibrium path: because any investor who has chosen $e_i \neq 0$ is expropriated with positive probability when $x_{-c} = x_{-c}^*$, their expropriation is consistent with the belief that the autocrat has chosen $x_{-c} = x_{-c}^*$, regardless of the actual x_{-c} chosen.)

Condition 2 says that cadres do not change their beliefs about the expropriation of outsiders if they observe an x_c different than they expect. This condition is “neutral” in the sense that it requires that cadres adjust their beliefs neither upward nor downward about the level of expropriation of outsiders (which they do not observe) in response to an unexpectedly high or low level of expropriation of cadres. As we discuss just below (in Footnote 11, our results are robust to alternative formulations in which, for example, cadres' beliefs about the expropriation of outsiders are adjusted upward in response to an unexpectedly large expropriation of insiders).

Condition 3 focuses on equilibria in which expropriated investors coordinate on contestation when that is optimal, on and off the equilibrium path. To see that this behavior is sequentially rational, consider the choices of cadres and outsiders:

- Given Condition 2 and the equilibrium strategies of outsiders, any cadre expects that if more than $k - x_{-c}^*$ cadres choose $p_i = 1$, then x_{-c}^* outsiders will choose $p_i = 1$. Consequently, it is a mutual best response for all expropriated cadres to choose $p_i = 1$ if and only if $x_c > k - x_{-c}^*$.
- Restrict attention to the case where $x_{-c}^* > 0$. Given Condition 1, any expropriated outsider believes that $x_{-c} = x_{-c}^*$. Consequently, it is a mutual best response for all expropriated outsiders to choose $p_i = 1$ if and only if $p^c > k - x_{-c}^*$.

Definition 1 does not pin down the contestation choice of expropriated outsiders off the equilibrium path when $x_{-c}^* = 0$ (i.e., when the autocrat unexpectedly expropriates some outsider). We return to this case in the proof to Lemma 1.¹¹

Given the definition of equilibrium, in certain cases the autocrat can credibly commit not to expropriate all party cadres: expropriation of cadres is observed by other cadres, so that cadres might react to an unexpectedly high level of expropriation by joining in collective action (here and often in the discussion below, we use the term “collective action” to refer to the case where expropriated investors coordinate on $p_i = 1$). However, because the expropriation of outsiders is only privately observed, the autocrat can deviate from some x^* such that not all non-cadres who have invested are expropriated, $x_{-c}^* < v_{-c}$, to some x such that $x_c = x_c^*$ and $x_{-c} > x_{-c}^*$ without changing investors' contestation behavior. As a consequence, in any equilibrium of the expropriation game the autocrat expropriates all outsiders.

¹¹ Condition 2 may be somewhat relaxed without affecting our main results. To see this, note that the behavior in Condition 3 would still be sequentially rational if insiders believed that *more* than x_{-c}^* outsiders had been expropriated. In addition, for $x_c > x_c^*$, this behavior would still be sequentially rational if insiders believed that *fewer* than x_{-c}^* outsiders had been expropriated (i.e., that the autocrat has substituted insider for outsider expropriation, relative to his equilibrium strategy), so long as the adjustment downward in this belief is no larger in magnitude than the deviation in expropriation of insiders.

Lemma 1. *In any equilibrium of the expropriation game, the autocrat expropriates all outsider investors.*

Proof. Assume otherwise, i.e., assume that there is an equilibrium x^* such that $x_{-c}^* < v_{-c}$. Consider the following three mutually exclusive and exhaustive cases:

1. $x_{-c}^* \neq 0$ and $x^* \leq k$: By Definition 1, each expropriated cadre chooses $p_i = 0$, so that $p^c = 0$. By Definition 1, each expropriated outsider therefore also chooses $p_i = 0$. The autocrat therefore gains $x^* \bar{g}$ from expropriation. Now consider a deviation to some x such that $x_c = x_c^*$ and $x_{-c} > x_{-c}^*$. Because x_c is unchanged, by Definition 1 all expropriated investors choose $p_i = 0$ as before. Thus, the autocrat gains $x \bar{g} > x^* \bar{g}$ from expropriation, so that this is a profitable deviation.
2. $x_{-c}^* \neq 0$ and $x^* > k$: By Definition 1, each expropriated cadre chooses $p_i = 1$, so that $p^c = x_c^*$. By Definition 1, each expropriated outsider therefore also chooses $p_i = 1$. The autocrat therefore gains $m q x^* \bar{g}$ from expropriation. Now consider a deviation to some x such that $x_c = x_c^*$ and $x_{-c} > x_{-c}^*$. Because x_c is unchanged, by Definition 1 all expropriated investors choose $p_i = 1$ as before. Thus, the autocrat gains $m q x \bar{g} > m q x^* \bar{g}$ from expropriation, so that this is a profitable deviation.
3. $x_{-c}^* = 0$: By Definition 1, each expropriated cadre chooses $p_i = 1$ if and only if $x_c^* > k$, yielding gains from expropriation of $x_c^* \bar{g}$ if cadres do not contest and $m q x_c^* \bar{g}$ if they do. Now consider a deviation to some x such that $x_c = x_c^*$ and $x_{-c} > 0$. Because x_c is unchanged, by Definition 1 expropriated cadres choose p_i as before, yielding gains from expropriation of cadres as in equilibrium. To show that this is a profitable deviation, we therefore need only show that there are positive gains from expropriation of outsiders. Let π be the proportion of expropriated outsiders who choose $p_i = 0$. Then the gain from expropriation of outsiders is $\pi x_{-c} \bar{g} + (1 - \pi) m q x_{-c} \bar{g} > 0$. Thus, this is a profitable deviation. \square

Although stark, Lemma 1 captures the general intuition that autocrats have greater incentive to expropriate outsiders than insiders.¹² If the autocrat refrains from expropriation of all investors, it must therefore be because he refrains from expropriation of all cadres. Such restraint can only be optimal for the autocrat if, first, the number of *all* investors who have chosen $e_i \neq 0$ and could be expropriated is greater than the threshold required for collective action, and second, the number of *outside* investors who have chosen $e_i \neq 0$ —and who will, by Lemma 1 be expropriated—is sufficiently low that the autocrat can prevent collective action if he refrains from expropriating some cadre investors. As the following lemma establishes, this condition implies autocrat restraint so long as what the autocrat retains in the event of expropriation of all investors and collective action ($m q v \bar{g}$) is small relative to what he retains by expropriating just enough investors to avoid provoking collective action ($k \bar{g}$).

Lemma 2. *The equilibrium of the expropriation game is as follows:*

1. if $v \leq k$, then the autocrat expropriates all investors, and all investors choose $p_i = 0$.
2. if $v_{-c} > k$, then the autocrat expropriates all investors, and all investors choose $p_i = 1$.
3. if $v > k$ and $v_{-c} \leq k$, then:
 - (a) if $v < \frac{k}{m q}$ the autocrat expropriates all outsiders and $k - v_{-c}$ cadres, and all investors choose $p_i = 0$;
 - (b) if $v > \frac{k}{m q}$ then the autocrat expropriates all investors, and all investors choose $p_i = 1$; and
 - (c) if $v = \frac{k}{m q}$ then either the autocrat expropriates all outsiders and $k - v_{-c}$ cadres, and all investors choose $p_i = 0$, or the autocrat expropriates all investors, and all investors choose $p_i = 1$.

Proof. Consider each case in turn:

1. Because $v \leq k$, for any level of expropriation investors choose $p_i = 0$. Consequently, the autocrat's best response is to expropriate all investors.
2. By Lemma 1, in any equilibrium the autocrat expropriates all outsiders, so by Condition 3 of Definition 1 all expropriated investors choose $p_i = 1$ regardless of x_c . Thus, the autocrat's optimal choice is to expropriate all cadres as well as all outsider investors.
3. First note that there is no equilibrium in which $x^* < k$ or $k < x^* < v$. In the first case, where the number of expropriated investors is strictly less than the threshold at which expropriated investors choose to contest, the autocrat can increase x without triggering collective action. In the second case, where the level of expropriation is large enough to trigger collective action but less than the total number of investors who have chosen $e_i \neq 0$, the autocrat can increase the gains from expropriation by choosing a higher x . Thus, in any equilibrium either $x^* = k$, which given Lemma 1 implies $(x_c^*, x_{-c}^*) = (k - v_{-c}, v_{-c})$, or $x^* = v$. Consider each possibility in turn:

¹² The proof to Lemma 1 relies on the unobservability of arbitrarily small deviations from the expected level of expropriation. The assumption that the expropriation of outsiders is generally unobserved is a modeling convenience to drive this logic—we do not need large deviations to go unobserved for the proof to go through. Substantively, arbitrarily small deviations could be carried out by a trusted palace staff without involving the larger party machinery that may be involved in the bulk of expropriation.

- (a) $(x_c^*, x_{-c}^*) = (k - v_{-c}, v_{-c})$, which implies that all expropriated investors choose $p_i = 0$ and the autocrat receives a payoff of $k\bar{g}$. By an argument analogous to that just above, the best possible deviation is to $x = v$, which implies that all expropriated investors choose $p_i = 1$ (by Definition 1, cadres contest because $x_c > k - x_{-c}^*$, so that $p^c > k - x_{-c}^*$, prompting outsiders to contest) and the autocrat receives a payoff of $mqv\bar{g}$. This deviation is not profitable if $k\bar{g} \geqslant mqv\bar{g}$, or $v \leqslant \frac{k}{mq}$.
- (b) $x^* = v$, which implies that all expropriated investors choose $p_i = 1$ and the autocrat receives a payoff of $mqv\bar{g}$. The best possible deviation is to $(x_c, x_{-c}) = (k - v_{-c}, v_{-c})$, which implies that all expropriated investors choose $p_i = 0$ (by Definition 1, cadres do not contest because $x_c = k - x_{-c}^*$, so that $p^c \leqslant k - x_{-c}^*$, prompting outsiders not to contest) and the autocrat receives a payoff of $k\bar{g}$. This deviation is not profitable if $v \geqslant \frac{k}{mq}$. \square

Together, Lemmas 1 and 2 illustrate the self-enforcing nature of institutions that facilitate information transition among party insiders. Were the autocrat to remove such institutions, then “cadres” would know that they have become “outsiders” and would be expropriated. This in turn would provoke collective action if the number of investors who chose $e_i \neq 0$ were sufficiently large. As we show below, disbanding these institutions is not optimal for the autocrat in the “party equilibria” in which the autocrat creates the formal institutions of an institutionalized ruling party and investors respond to this choice. Paradoxically, the only way the autocrat can prevent collective action is by maintaining the institutions that facilitate it among cadres.

2.3. Non-party equilibria

The equilibrium behavior in the expropriation game specified in Lemma 2 determines the payoff to an investor, conditional on his own investment choice and those of other investors. For any investor, the optimal investment choice depends on how many other cadres and outsiders he expects will choose $e_i \neq 0$. Here we demonstrate that the autocrat’s party choice need not coordinate these expectations. In the “non-party equilibria” that we describe, party members enjoy access to information that facilitates collective action, but ruling-party institutionalization nevertheless falls short because of the absence of appropriate expectations regarding who should and should not invest. The creation of formal party institutions is therefore insufficient for ruling-party institutionalization, offering an explanation for why attempts to create such parties may sometimes fail.

Our first proposition establishes that there are “full coordination failure” equilibria, in which each investor chooses $e_i = 0$, expecting all other investors to do so. In this equilibrium, each investor anticipates that deviation to some $e_i \neq 0$ would result in his expropriation and, with no other investors having chosen $e_i \neq 0$, that contestation would be prohibitively costly.

Proposition 1. *There exist equilibria in which all investors choose $e_i = 0$, regardless of the party chosen by the autocrat.*

Proof. In any such equilibrium, each investor receives a payoff of zero. By Lemma 2, a deviation by any investor i to some $e_i \neq 0$ results in that investor’s expropriation, with the investor choosing $p_i = 0$. Thus, deviating to $e_i = \hat{e}$ gives a payoff of $-\hat{c} < 0$, and deviating to $e_i = \bar{e}$ gives a payoff of $-\bar{c} < 0$. \square

In Proposition 1, fear of expropriation prevents any investment. The following proposition demonstrates that there are also equilibria in which all investors undertake moderate investment; they confront unvarying expropriation, but they enjoy sufficient strength in numbers to contest that expropriation.

Proposition 2. *There exist equilibria in which all investors choose $e_i = \hat{e}$, the autocrat expropriates all investors, and all investors choose $p_i = 1$, regardless of the party chosen by the autocrat.*

Proof. To show that such equilibria exist for any choice of party by the autocrat, consider the following two cases:

1. The autocrat names a party of size $s < n - k$. Then $v_{-c} > k$, and by Lemma 2 the autocrat expropriates all investors and all investors choose $p_i = 1$. The payoff to any investor is then $m(\hat{g} - q\hat{g}) - \hat{c}$. In contrast, if any investor i deviated to $e_i = 0$, he would receive a payoff of zero, which by assumption is less than $m(\hat{g} - q\hat{g}) - \hat{c}$. Further, if any investor i deviated to $e_i = \bar{e}$, then the autocrat would still expropriate all investors and the investor would choose $p_i = 1$, giving a payoff of $m(\bar{g} - q\bar{g}) - \bar{c}$, which by assumption is less than $m(\hat{g} - q\hat{g}) - \hat{c}$.
2. The autocrat names a party of size $s \geqslant n - k$. Then $v > k$ and $v_{-c} \leqslant k$, and by Lemma 2 it is an equilibrium of the expropriation game for the autocrat to expropriate all investors, and for all investors i to choose $p_i = 1$, if $mqn > k$, which is an assumption of the model. Then by the argument in the previous case, no investor has an incentive to deviate to some $e_i \neq \hat{e}$. \square

Below we show that the attractiveness to the autocrat of party institutionalization may depend on whether the “default” level of investment is that in Proposition 1 or Proposition 2.

In contrast, there are no equilibria in which all investors choose the highest level of investment, $e_i = \bar{e}$. By assumption, the cost of \bar{e} is justified only if an investor expects not to be expropriated (more precisely, expects to be expropriated with sufficiently low probability). But it is optimal for the autocrat to expropriate all investors if they all choose $e_i \neq 0$, even though this leads to contestation.

Proposition 3. *There are no equilibria in which all investors choose $e_i = \bar{e}$.*

Proof. By an argument analogous to that in Proposition 2, if all investors choose $e_i = \bar{e}$ the autocrat expropriates all investors and all investors choose $p_i = 1$, giving a payoff to any investor of $m(\bar{g} - q\bar{g}) - \bar{c}$. But then any investor could profitably deviate to $e_i = \hat{e}$ and receive a payoff of $m(\hat{g} - q\hat{g}) - \hat{c}$, which by assumption is greater than $m(\bar{g} - q\bar{g}) - \bar{c}$. \square

2.4. Party equilibria

Propositions 1 and 2 describe equilibria in which parties are not fully institutionalized, in the sense that they fail to focus the expectations of investors about who should and should not invest. Without institutionalization, moderate but not high investment is possible, as in Proposition 2, where the expectation that expropriation will be contested is sufficient to justify $e = \hat{e}$ but not $e = \bar{e}$ for all investors. Other equilibria exist, however, in which the division of the investor population into a privileged and non-privileged class establishes a focal point, such that cadres choose high investment $e_i = \bar{e}$ and outsiders choose $e_i = 0$. In these “party equilibria,” the autocrat’s promise not to expropriate cadres is made credible by the decision of outsiders not to invest.

In constructing equilibria in which the autocrat’s party choice focuses investor expectations, we must also specify what investors would do if the autocrat chooses a party (i.e., s) different than anticipated, as this determines the optimality of the autocrat’s equilibrium party choice. In considering this play off the equilibrium path, we consider two polar cases, corresponding to the non-party equilibria of Propositions 1 and 2: all investors choose $e_i = 0$, or all investors choose moderate investment $e_i = \hat{e}$. In the first case, the autocrat is trivially better off with an institutionalized ruling party than without. Nonetheless, institutionalized ruling parties cannot be arbitrarily large. Rather, both on and off the equilibrium path, any party equilibrium must satisfy an “expropriation constraint”: following Lemma 2, the autocrat must prefer expropriation of k (randomly selected) investors without collective action to expropriation of all investors and collective action. This implies in particular that parties must be sufficiently small for expropriation of all cadres (off the equilibrium path, $k - 1$ cadres and one outsider) to be unattractive.

Given the absence of other characteristics that distinguish investors from each other, the partitioning of investors into a privileged and non-privileged class can establish a focal point that determines investor behavior for any party size that satisfies the expropriation constraint. So long as the party serves to coordinate behavior in the desired fashion, the autocrat always prefers that the party be as large as possible, as he benefits from additional investment even when his gains from expropriation are capped (i.e., because $\bar{h} > 0$). We therefore focus on equilibria with the largest party (and hence greatest investment) that satisfies the expropriation constraint.

Proposition 4. *Fix $k = \kappa n$, where $\kappa > 0$. For n sufficiently large, there exists an equilibrium in which*

1. *the autocrat chooses a party of size $s = \bar{s}$, where \bar{s} is the largest integer y such that $y + 1 \leq \frac{k}{mq}$;*
2. *cadres choose $e_i = \bar{e}$ if $s = \bar{s}$, and $e_i = 0$ otherwise; and*
3. *outsiders choose $e_i = 0$ regardless of s .*

On the equilibrium path, the autocrat expropriates k of \bar{s} cadres and all expropriated cadres choose $p_i = 0$.

Proof. The optimality of investment behavior off the equilibrium path, i.e., for observations of $s \neq \bar{s}$, follows the proof to Proposition 1. To show that investment behavior is rational on the equilibrium path, consider cadres and outsiders in turn:

1. Given the strategies in the proposition, $v = \bar{s} > k$, $v_{-c} = 0 < k$, and $v = \bar{s} < \frac{k}{mq}$. Thus, by Lemma 2 it is an equilibrium of the expropriation game for the autocrat to expropriate k of \bar{s} cadres and for all cadres to choose $p_i = 0$. The payoff for cadres in equilibrium is $\bar{g} - \frac{k}{\bar{s}}\bar{g} - \bar{c}$. This is greater than the payoff from deviating to $e_i = \hat{e}$, which is $\hat{g} - \frac{k}{\bar{s}}\hat{g} - \hat{c}$, given $\bar{g} - \bar{c} > \hat{g} - \hat{c}$, which is an assumption of the model. The payoff from $e_i = \hat{e}$ in turn is greater than zero (the payoff from $e_i = 0$) for n and thus k sufficiently large (which implies $\bar{s} \approx \frac{k}{mq}$), given that $m(\bar{g} - q\bar{g}) - \bar{c} > 0$, which is an assumption of the model.
2. The payoff to any outsider in equilibrium is zero. If instead some outsider i deviated by choosing $e_i \neq 0$, then $v = \bar{s} > k$, $v_{-c} = 1 < k$, and $v = \bar{s} + 1 \leq \frac{k}{mq}$. Then by Lemma 2 it would be an equilibrium of the expropriation game for the autocrat to expropriate $k - 1$ cadres and the deviating outsider, and for all investors to choose $p_i = 0$. The payoff from deviation in this case is thus $-\hat{c}$ (if the deviation is to $e_i = \hat{e}$) or $-\bar{c}$ (if the deviation is to $e_i = \bar{e}$), both of which are less than zero. \square

In this equilibrium, parties are larger when collective action is difficult (k is large), costly (m is small), and effective (q is small). With respect to k , anecdotal evidence suggests that in some autocracies ruling parties have indeed been smaller during periods when the regime was particularly vulnerable to collective action by comparatively few individuals. In China, for example, plans to permit members of the private sector to enter the Communist Party were shelved following the demonstrations at Tiananmen Square, and not resurrected until Jiang Zemin announced in July 2001 that private entrepreneurs would be allowed to join the party (Huang, 2003, pp. 130–31). Similarly, the Czechoslovak Communist Party shrank drastically following the Warsaw Pact intervention in 1968 (Gawdiak, 1989), while the ebbs and flows of party membership under Stalin seem to have followed the perception of threats against the regime (Gregory et al., 2006).¹³

A small mq , on the other hand, raises the cost to the autocrat of collective action, and so increases the credibility of his promise not to expropriate cadres. In particular, m might be smaller in economies that are more capital-intensive: political instability poses a greater threat to the complex economic relations of capitalist economies than to the relatively simple relations of agrarian economies.

The next proposition assumes that all investors respond to an unexpected choice of s by choosing $e_i = \hat{e}$ rather than $e_i = 0$. In this case, for the autocrat to want to create an institutionalized ruling party, the payoff to the autocrat from expropriation of k (randomly selected) cadres, each of whom chooses $e_i = \bar{e}$ and none of whom contest expropriation, must be greater than expropriation of all investors, each of whom chooses $e_i = \hat{e}$ and all of whom contest expropriation.

Proposition 5. Fix $k = \kappa n$, where $\kappa > 0$. For n sufficiently large, if

$$\frac{\kappa}{mq} \bar{h} - \hat{h} > (mq - \kappa) \tilde{g},$$

then there exists an equilibrium in which

1. the autocrat chooses a party of size $s = \bar{s}$, where \bar{s} is the largest integer y such that $y + 1 \leq \frac{k}{mq}$;
2. cadres choose $e_i = \bar{e}$ if $s = \bar{s}$, and $e_i = \hat{e}$ otherwise; and
3. outsiders choose $e_i = 0$ if $s = \bar{s}$, and $e_i = \hat{e}$ otherwise.

On the equilibrium path, the autocrat expropriates k of \bar{s} cadres and all expropriated cadres choose $p_i = 0$.

Proof. The optimality of investment behavior follows the proof to Proposition 4. To see that $s = \bar{s}$ is optimal for the autocrat, observe that in equilibrium the autocrat's payoff is

$$k\tilde{g} + \bar{s}\hat{h}, \tag{2}$$

where the first term is the gains from expropriation of k cadres, and the second is the benefit to the autocrat of high investment by all \bar{s} cadres. In contrast, if the autocrat deviates to some $s \neq \bar{s}$, then all investors choose $e_i = \hat{e}$, the autocrat expropriates all investors, and all investors choose $p_i = 1$, for a payoff to the autocrat of

$$nmq\tilde{g} + n\hat{h}. \tag{3}$$

Expression (2) is greater than Expression (3) if

$$k\tilde{g} + \bar{s}\hat{h} > nmq\tilde{g} + n\hat{h}. \tag{4}$$

For n and thus k sufficiently large, $\bar{s} \approx \frac{k}{mq}$, which together with $k = \kappa n$ implies that we can rewrite Condition (4) as

$$\kappa n\tilde{g} + \frac{\kappa n}{mq} \bar{h} > nmq\tilde{g} + n\hat{h}.$$

Dividing through by n and rearranging gives the premise of the proposition. \square

Proposition 5 yields predictions about when leaders might be inclined to allow ruling-party institutionalization. The premise of the proposition has an intuitive interpretation: the benefit to the autocrat of high investment must be large relative to the sacrificed gains from expropriation to justify building a party that protects cadres from expropriation. Consider first the autocrat's benefit from high investment: when is this benefit large, so that the autocrat has an incentive to institutionalize party rule? Recalling our earlier interpretation of \bar{h} and \hat{h} as the political impact of wage spillovers, we might expect \bar{h} to be large relative to \hat{h} when increasing wages through investment is the least costly way of maintaining popular support. In particular, autocrats whose ability to suppress popular uprisings is less, or who cannot rely on foreign aid and resource rents to guarantee popular support, may be more inclined to try to create institutionalized ruling parties. Proposition 5 thus provides theoretical support for Geddes' (2009) finding that autocrats who gain power through coups (and who may therefore

¹³ Although the latter examples do not neatly fit our baseline model of party institutionalization as a way of promoting private investment, they are consistent with the idea that institutionalization may also function as a way of encouraging bureaucratic effort, an extension to the model that we provide in the appendix and sketch below. This alternative formulation produces identical comparative statics with respect to party size.

have greater control of the military apparatus in the event of a popular uprising) are less likely to create political parties. This effect is magnified to the extent that *large* institutionalized ruling parties can be created, which is the case when collective action is difficult (κ is large), costly (m is small), and effective (q is small). In particular, social fractionalization may affect citizens' ability to overcome their collective-action problems, a point to which we return in the empirical section below. The same conditions guarantee that the autocrat does not sacrifice too much by partially expropriating cadres rather than expropriating all investors.

Now consider the factors that determine gains from expropriation, which when large discourage ruling-party institutionalization. The opportunity cost to the autocrat of protecting cadres from expropriation is greater when the share of the private benefit that is potentially expropriable (\bar{g}) is large. Because resource extraction is particularly easy for state authorities to monitor, institutionalized ruling parties may therefore be less likely in resource-rich states. More generally, economic structure may affect the incentives to create institutionalized ruling parties, as certain economic sectors, including services and small business, are particularly hard to tax and expropriate (e.g., Gehlbach, 2006).¹⁴ Further, expropriation may be more difficult when investors are exporters who can more easily send profits abroad. To the extent that this is the case, globalization may encourage the development of institutionalized ruling parties in nondemocratic states.

2.5. Discussion

Together, Propositions 4 and 5 suggest that investment should in general be higher in the presence of institutionalized ruling parties, as Gehlbach and Keefer (2009) have found.¹⁵ To see this, consider two types of countries. In the first type, corresponding to Propositions 1 and 4, no one invests in the absence of ruling-party institutionalization; institutionalization then unambiguously increases investment. In the second type, corresponding to Propositions 2 and 5, a broad group of investors invests at a low level in the absence of institutionalization; institutionalization then reduces the number of individuals who invest while increasing the level at which those remaining do so. The second effect dominates the first so long as the benefits of investment to the investor and autocrat are roughly proportional to each other, i.e., so long as $\hat{g} \approx fh$ and $\bar{g} \approx fh$, where $f > 0$. To see this, assume that these relationships hold precisely. Then the premise of Proposition 5, $\frac{\kappa}{mq} \hat{h} - \hat{h} \geq (mq - \kappa)\bar{g}$, implies $\frac{\kappa}{mq} \bar{g} - \hat{g} > \frac{(mq - \kappa)}{f} \bar{g} > 0$, which says that investment with institutionalization ($\frac{\kappa}{mq} \bar{g}$) is greater than investment without (\hat{g}).

This discussion suggests a joint interpretation of Propositions 4 and 5. Proposition 4 predicts that autocrats will always try to institutionalize party rule if they govern a country stuck in a “no-investment” trap: doing so unambiguously increases the ruler's payoff. Proposition 5, in turn, predicts that autocrats may try to institutionalize party rule if they govern a country that is somewhat effective in attracting investment, but only if the benefit of doing so (extra investment) outweighs the cost (foregone expropriation). Both types of countries exist in the world, and together the two propositions help us to understand the differing incentives in each type.

It is useful to compare the condition in Proposition 5 for autocrats to create institutionalized ruling parties with the conditions for democratization identified, e.g., by Boix (2003) and Acemoglu and Robinson (2006). A key prediction of such models is that democracy is more likely when economic structure and globalization limit the incentives of the previous excluded majority to tax elite assets, i.e., when elites are harder to “expropriate.” In our model, an autocrat similarly decides whether to create an institution (an institutionalized ruling party) that “expands the franchise.” As we have shown, however, this decision is more likely when individuals *outside* of the ruling class are harder to expropriate, as then the opportunity cost of creating such institutions is smaller. The rationale for creating an institutionalized ruling party is also different than for democratization: autocrats use institutionalized ruling parties to elicit investment or bureaucratic effort rather than to avert revolution. Finally, the institutional arrangements that solve credibility problems in the democratization literature are distinct from those we analyze: the former emphasize electoral institutions, whereas we focus on institutions that mitigate collective-action problems among a more limited group of citizens.

The model here is “static,” in the sense that actions are taken only once, and thus abstracts from the consequences of capital accumulation on autocratic behavior. At some level, this issue is implicit in all models of self-enforcing property-rights protection: pressure to expropriate increases as capital accumulates. Our theoretical framework demonstrates the potential consequences of this dynamic for property-rights protection in autocracies: in a fully dynamic model, the largest party that satisfies the expropriation constraint (the requirement that the autocrat prefer partial expropriation of cadres and no collective action to expropriation of all cadres and collective action) would be smaller, the less that capital depreciates from one period to the next. To the extent that depreciation rates differ across sectors, this further underscores the role that economic structure may play in determining ruling-party institutionalization.

It is important, finally, to emphasize that our focus on a specific obstacle to collective action, information, captures key elements of autocratic behavior from which other analyses abstract. As the earlier quote from Lenin illustrates, the manipulation of information available to party insiders and outsiders is a crucial means by which autocrats both facilitate and prevent collective action. The Chinese case, which we discuss below, provides a further demonstration of this. At the same time,

¹⁴ Consistent with this hypothesized relationship, the value-added of services as a fraction of GDP is significantly, positively associated among non-democratic episodes with the proxy for ruling-party institutionalization that we discuss below, a correlation that is not explained by differences in income per capita.

¹⁵ They assume that ruling parties that are older than the tenure of the incumbent leader are more institutionalized than those that are not; private investment is much higher, controlling for competing explanations, under older ruling parties.

autocrats may also manipulate collective action through other mechanisms. To the extent that those mechanisms serve to protect party cadres but not others, as in Lemmas 1 and 2, our key arguments should hold.

Similarly, we might retain the informational perspective but assume that each investor receives a private signal about the threshold k at which collective action becomes optimal. Such a “global games” approach (Carlsson and van Damme, 1993; Morris and Shin, 2003) would be complicated by our partitioning of the population into cadres and outsiders (each of whom may contribute to overcoming the threshold k but who face different collective-action problems), as well as by the multiplicity of decisions made by investors (investment and contestation, each of which may reveal information about k). Nonetheless, Lemma 1 would continue to hold—as in the proof above, the autocrat could always deviate to a higher expropriation of outsiders without changing investors’ contestation behavior—suggesting that other results in the paper may also generalize.¹⁶

2.6. Credible bonus schemes

Just as non-democracies vary substantially with respect to private investment, so also do they vary with respect to bureaucratic performance. Ruling-party institutionalization may help to explain these differences. In the appendix, we show that the model can be extended to incorporate incentives in bureaucracies. Here, we sketch that extension.

Formally, consider a population of bureaucrats, analogous to the investors of the baseline model. At the beginning of the game, the autocrat names a bonus $b \in [0, \infty)$, which he promises to provide in return for effort $e_i \neq 0$. Implicitly, this formulation captures an environment in which the autocrat observes whether or not a bureaucrat has exerted effort, but not whether he has exerted “moderate” ($e_i = \hat{e}$) or “high” ($e_i = \bar{e}$) effort. The autocrat may renege on his promise to provide the bonus in return for $e_i \neq 0$, though that decision is contestable as in the baseline model. Effort is costly, but it provides a private rent to the bureaucrat that partially offsets that cost; contestation destroys some of that rent.

For a bureaucrat to exert high effort, a participation constraint must be satisfied (so that the bureaucrat prefers $e_i \neq 0$ to $e_i = 0$), as well as an incentive-compatibility constraint (so that the bureaucrat prefers $e_i = \bar{e}$ to $e_i = \hat{e}$). Contestation (i.e., choosing $p_i = 1$ following expropriation) helps to satisfy the participation constraint by forcing the autocrat to provide the promised bonus. However, because contestation is costly, and in particular because it destroys some of the private rent from effort, the incentive-compatibility constraint is violated in equilibria (such as the non-party equilibrium of Proposition 2) where investors contest expropriation. Thus, when contestation is anticipated, bureaucrats never provide high effort. Institutionalized ruling parties induce high effort among cadres by satisfying the participation constraint without violating the incentive-compatibility constraint. The routinization of rewards—secured by the threat but not practice of collective action, as in Propositions 4 and 5—provides cadres with the assurance that they will be compensated for their effort without having to fight for that compensation. With that assurance, they and only they exert maximal effort.

This extension complements the baseline model, as bureaucratic effort is essential for private investment. Outside of the stylized world in which rulers and governments are the same, rulers must rely on government officials to implement their decisions. If those decisions include greater private investment, then rulers must rely on officials to provide public goods, refrain from corruption, and otherwise create conditions to attract that investment. The extension of the model to credible bonus schemes points to ruling party institutionalization as a key vehicle through which rulers could persuade officials to exert such effort.

More generally, autocratic rulers may have an incentive to promote various kinds of bureaucratic performance. Our model can thus help explain why even regimes antagonistic to private investment can survive for decades if party rule can be institutionalized. Ideological considerations, for example, discouraged Soviet authorities from pursuing private investment and addressing various incentive problems inherent to socialism, ultimately leading to stagnation in the Soviet economy. Nonetheless, party institutionalization after Stalin was used to pursue other objectives that contributed to regime stability.

3. Party institutionalization and growth in China

Our analysis predicts that non-democracies should exhibit higher levels of private investment and bureaucratic effort when ruling parties are institutionalized. In this section, we illustrate the role of party institutionalization in a non-democracy where the surge in private investment was especially notable, post-Mao China. Though we obviously do not claim to offer a complete understanding of the China growth miracle, the Chinese case illustrates several of the specific mechanisms of institutionalization described in the foregoing analysis, and it shows that party institutionalization was an integral aspect of the economic reforms undertaken in the post-Mao era. In particular, in parallel with the famous economic reforms China undertook, the Chinese Communist Party under Deng Xiaoping substantially improved the ability of cadres to act collectively, with measures that included greater transparency in leader-cadre interactions and efforts to coordinate expectations among cadres and outsiders regarding investment. These institutional changes encouraged cadres to invest, for example, in township and village enterprises (TVEs) under their control without fear that the resulting profits would be taxed away or otherwise expropriated.

¹⁶ Bueno de Mesquita (2010) shows that the equilibrium uniqueness that characterizes global games disappears when there is uncertainty about the level of discontent (our setting). Global games of political regime change include Persson and Tabellini (2009), Boix and Svobik (2008), and Edmond (2008).

From 1952–1980, average individual incomes in China increased by less than 2.5% per year; growth tripled in the years that followed (Shirk, 1993, p. 28). The proximate cause of Chinese success was a sea change in economic policies that allowed private production in agriculture and industry where, before, private activity was entirely forbidden. Farm households were allowed to be the residual claimants of production on their collectively owned plots; to invest profits in farm machinery, trucks, industrial equipment; and to engage in private marketing and manufacturing. Collectively-owned township and village enterprises could be leased to individuals and groups (Shirk, 1993, p. 38). Rural investment loomed large: private firms in the rural sector accounted for 19% of total fixed asset investment in the 1980s and TVEs, another 13% (Huang, 2008). The central government also decentralized the administration of foreign trade and investment, allowing localities to deal directly with foreign interests. When combined with continued enforcement of the “plan track,” this expansive liberalization of the “market track” boosted investment and growth while minimizing losses to existing participants: economic reform was Pareto-improving (Lau et al., 2000).

Much of the unprecedented investment and growth was driven initially by decisions of local officials, who were the residual claimants of TVE profits and so correspond to the private investors in our model. As Oi (1999, p. 25), observes, TVEs were usually contracted out by town and village governments to private managers, but local governments and the party officials who ran them retained control of personnel, investments, and product lines. Whiting (2006a, p. 204), writes: “Indeed, township officials themselves approved the number of employees and the total wage bill of each enterprise.” They had legal control of TVE assets, including the ability to influence directly management decisions to borrow, to invest, and to issue dividends. They could influence as well whether the dividends flowed to local government coffers, to managers, to employees, or to themselves and family members.

Why, though, did cadres use retained earnings and loans from state-owned banks to make investments in TVEs rather than distribute them in the form of earnings to local workers, or as dividends to benefit themselves, family members, or the local population? They enjoyed no formal institutional guarantees that higher-level governments would not dramatically increase taxes on the future fruits of these investments or that the plan would not be ratcheted up in response to increased market sales; nor did they have any formal guarantees that they themselves would continue to be the residual claimants on TVE profits. As Lau et al. (2000, p. 142), note, “Without credible commitment, either the property of Pareto improvement is lost or economic agents would have diminished incentives to participate in the market track.”

One influential set of explanations center points to a variant of federalism as the explanation for TVE investment (e.g., Che and Qian, 1998a,b; Qian and Weingast, 1996; Montinola et al., 1995). The central government encouraged local governments to invest in TVEs by implementing fiscal reforms in 1980 that allowed them to keep all revenues above a pre-set amount. It then reduced risks of expropriation (higher taxes) by transferring to local officials the responsibility for financing and providing local public goods. Che and Qian (1998a,b) argue that these two reforms, in tandem, were credible because local, provincial, and central governments had similar incentives with regard to the provision of local public goods such as roads and—especially—the maintenance of order. Consequently, the central government had little incentive to raise taxes opportunistically. This strategy could not have worked with private investors because they did not have the same interests as local governments with respect to local public goods.

Two developments suggest that these reforms do not fully explain the credibility puzzle in China.¹⁷ First, there has actually been significant conflict between local and central governments regarding local public good provision. If the governments’ interests were aligned with respect to spending on public goods, the central government would not have needed to specify promotion and bonus criteria that required local officials to provide them. Even in the early 1980s, though, these agreements emphasized the provision of education and the maintenance of social order.¹⁸ Second, the fiscal reforms of the 1980s did not last long: they were reversed in the early 1990s when it became clear that they sharply reduced central-government revenues (Wong, 1992).

Ruling-party institutionalization offers an alternative explanation for these cadre investments. Under Mao—when China grew slowly—there were large obstacles to collective action and the party offered no protection from depredations by party leaders. “Mao Zedong attempted to sustain his revolutionary charisma and stem the trend of institutionalization... by launching mass campaigns such as the Great Leap Forward and the Cultural Revolution” (Shirk, 1993, p. 8). In terms of our theoretical perspective, Mao actively discouraged coordination among party members, in part by maintaining tight controls on the circulation of information inside the party. Those who appeared to be focal points of coordination were suppressed, and two of Mao’s “chosen successors” died politics-related deaths (Whiting, 2006a, p. 11). During the Cultural Revolution, Mao, in a variant of the divide-and-rule strategy that others analyze (e.g., Acemoglu et al., 2004; Guriev and Sonin, 2009), used the Red Guards, whom he directly controlled and which lay outside the party hierarchy, to attack his opponents within the party. Many thousands of party officials were transferred to lower-level jobs, sent to the countryside for re-education, or imprisoned during the Cultural Revolution (e.g., Shirk, 1993, p. 15).

After Mao’s death, Deng Xiaoping undertook numerous actions to build institutions within the Chinese Communist Party. One was abolishing the Red Guard, reversing the policy of divide-and-rule. Another, consistent with our analysis, was to increase transparency regarding leader-cadre interactions, in part through personnel reforms in 1980 that shifted promotion

¹⁷ Cai and Treisman (2006) also revisit the role of decentralization in China’s economic success.

¹⁸ Conflicts between local and central government interests have had especially high visibility since the 1990s. For example, local officials have increased social disorder by selling off collectively-owned land without fully compensating farmers for their usufruct rights, and by allowing local firms to ignore environmental restrictions.

and cadre evaluation to systems “governed by rules, clear lines of authority. These were implemented through collective decision-making institutions within the party, replacing the concentration of power and patriarchal rule that had characterized China under Mao” (Shirk, 1993, p. 9). Mao had explicitly opposed intra-party institutionalization of this kind. In addition, consistent with our model, greater attention was paid to finding the optimal party size. Under Deng, the Party eliminated lifetime tenure and instituted mandatory retirement for almost 20 million cadres (Manion, 1992, p. 11).

A clear effect of these reforms was to increase information among party cadres about their collective treatment by the party leadership, the prerequisite for collective action on which we focus in Section 2. (In terms of our model, under Mao “cadres” had little capacity for collective action—specifically, little access to information—and therefore are better understood as “outsiders.”) The process of cadre evaluation became observable by other party members, though not by the general public. As part of the regular evaluation process, colleagues of cadres are consulted through a process of “democratic appraisal” (*minzhu pingyi*) (Edin, 2003). At the same time, oversight of and participation in the process of cadre evaluation by the relevant people’s congress “facilitates the flow of information about cadre performance within the CCP hierarchy” (Whiting, 2006b). This process establishes easily observed benchmarks for how cadres can expect to be treated, making arbitrary treatment of some cadres easier for other cadres to detect.¹⁹ Moreover, these benchmarks have been explicitly related to investment and growth. By 1983, the Organization Department had implemented concrete and tangible criteria in cadre evaluations. These ranged from gross output and investment in the early years to finer measures of economic growth and social stability in the 1990s (Whiting, 2006a, p. 3).

Concurrently with these changes in cadre management, the process by which “internal news” was distributed among party officials also changed. Exiled journalist He Qinglian (Qinglian, 2004) reports that the Xinhua News Agency’s “Second Editorial Office” produces daily and weekly news reports that are distributed only to key party officials. Under Mao, the most sensitive of these, the “domestic situation final proofs,” were available only to the central leadership.²⁰ During the 1980s, circulation of these documents expanded to include provincial leaders. Other less sensitive reports were also increasingly available to party leaders at all levels. As with the cadre reforms, these changes had the effect of providing information that could facilitate collective action to a narrow—but increasingly large—elite.

Propositions 1 and 2 in the previous section demonstrate that institutions that promote intra-party transparency are necessary but not sufficient to generate high levels of investment by insiders. In addition, the ruling party must create expectations that establish high investment as a focal point for cadres, but not for non-cadres, as in Propositions 4 and 5. The party leadership established this focal point by adopting formal rules that clearly limited the legal rights attached to non-cadre private investments and explicitly subordinated them to those of cadre-directed (TVE) investments (Oi, 1999).

This explanation of the Chinese economic miracle of the 1980s, like earlier research, stresses information and institutions, but with important differences. Qian and Weingast (1996), for example, point out that by refraining from collecting information about local government revenues, the central government could more plausibly commit not to expropriate them. In this story, opacity increases credibility, whereas in our analysis, transparency (among party cadres) is key. In addition, our perspective points to the synergistic role of policy and institutional change: policy change (allowing decentralized or private investment) would not have succeeded without measures that reduced coordination costs inside the Chinese Communist Party. However, those institutional changes were insufficient to increase investment without a corresponding change in policy that created the expectation that cadres would be treated differently than outsiders.

By the mid-1990s, non-TVE private investment was much more important. Direct party connections, though still important for some types of private enterprises, are now by no means necessary (Nee and Oppen, 2007). Indirect connections (e.g., personal relationships with party officials) remain important, however. While we do not model these effects, a natural extension of our model would be to show that indirect relationships might generate more private investment in autocracies with institutionalized ruling parties. In China, the personal relationships of outsiders with insiders, a traditional mode of private investment in autocracies, can generate far more investment than in regimes without institutionalized ruling parties, as the number of insiders who are insulated from predatory behavior is far higher.²¹

Throughout the post-Mao period, a notable aspect of Chinese economic success has been the extraordinary ability of the government to implement public policies, including those that govern the regulation of firms. The extension of the model to bureaucratic effort in Section 2.6 provides a foundation for future analyses of this phenomenon. It is well-known that Chinese officials (mayors, governors) are rewarded by the leadership for income and employment growth in their areas, and therefore for attracting investment, domestic or foreign (e.g., Keefer, 2007). Ruling-party institutionalization helps to make these promises credible. Failure to provide bonuses would violate commitments to cadres and could trigger dissent; foreign investors therefore feel secure in their investments because protection of property rights is rewarded through bonuses.

¹⁹ Such procedures may also extend to the illegal acquisition of rents by party members: as Manion (2004) observes, party discipline trumps criminal law for cadres accused of corruption.

²⁰ Similarly, Remington (1989) documents that the Soviet news agency TASS produced “colored TASS” news reports that were provided only to high-level officials.

²¹ Foreign director investors should have the greatest difficulty forging such personal relationships and overcoming outsider status. Indeed, contrary to general impressions, net foreign direct investment in China since 1980 has been relatively low, averaging 2.5% of GDP, compared to 3.2% for all non-democracies and 3.3% for all countries. The anomalous experience in China is confined to the six-year period from 1993–1998, when FDI averaged 5.1% of GDP; over the same period domestic private investment ranged from 8.0% to 11.2% of GDP. The jump in FDI was likely due to specific incentives offered to foreign investors. In any case, FDI had returned to 2.8% by 2003, at which point domestic private investment was 18.9% of GDP.

4. Conclusions

The analysis and evidence presented here point to ruling-party institutionalization as a solution to problems of credible commitment in autocracies. Autocracies that institutionalize a ruling party can attract high levels of investment by a designated group without creating the democratic institutions that would jeopardize autocratic rule. Nonetheless, the conditions under which leaders of non-democracies accede to the institutionalization of a large ruling party need not, in general, be met. Moreover, even when it is in the autocrat's interest to facilitate the collective action of party insiders to persuade them to invest, these institutions alone do not guarantee that party cadres will be protected. The designation of a party nomenklatura must also establish the norm that investment is primarily the responsibility of this narrow group, thus reducing the autocrat's temptation to expropriate all investors, cadres included.

Our discussion of China's effort to attract private investment in the 1980s, in which ruling-party institutionalization played a critical role, illustrates many features of our theoretical perspective. At the same time, the Chinese case highlights important considerations not captured by our stylized model. For example, protected members of the party may have incentives to treat outsiders as a common pool from which they over-predate at the expense of the party as a whole. This seems to have been a paramount concern in China, where increased investment has gone hand-in-hand with efforts by local officials to increase their rents. To some extent, as the extension to the model we outline in Section 2.6 demonstrates, such shirking by party members can be addressed through the same party institutions that promote investment. At the same time, there may be a tension between the two roles played by institutionalized ruling parties: if the leadership pursues internal corruption too vigorously, it runs the risk of excessively cutting the rents of party insiders, undermining the perception that they will not be treated arbitrarily by the leadership. An extended model might consider this tradeoff.

Our analysis might also be extended to incorporate the role of economic and other shocks. Much of the literature emphasizes the role that shocks play in transitions between non-democracy and democracy, but they are likely as well to affect decisions about the appropriate degree of institutionalization within non-democracies.²² Any such extension is likely to yield ambiguous results, as shocks may simultaneously increase the risk of coups by party insiders and of revolution by outsiders. The model here suggests that these may have contradictory influences: increased coup risk discourages autocrats from facilitating collective action, while the threat of revolution increases the political benefit of institutionalization.

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Appendix A

Just as non-democracies vary substantially with respect to private investment, so also do they vary with respect to bureaucratic performance. The extension to the model outlined in Section 2.6 suggests that ruling-party institutionalization helps to explain these differences. In the extension, which we provide in full here, bureaucrats exert effort only if they expect the autocrat to carry through on his promise to provide compensation in return for such effort. As in the baseline model, institutionalized ruling parties help to make these promises credible, though only for party cadres.

Formally, consider a population of bureaucrats, analogous to the investors of the baseline model. At the beginning of the game, the autocrat names a bonus $b \in [0, \infty)$, which he promises to provide in return for effort $e_i \neq 0$. Implicitly, this formulation captures an environment in which the autocrat observes whether or not a bureaucrat has exerted effort, but not whether he has exerted “moderate” ($e_i = \hat{e}$) or “high” ($e_i = \bar{e}$) effort. Effort is costly as before, and produces a private rent of \hat{r} and \bar{r} for effort choices of $e_i = \hat{e}$ and $e_i = \bar{e}$, respectively, where $\hat{r} < \bar{r}$.

The autocrat may renege on his promise to provide the bonus in return for $e_i \neq 0$, a decision analogous to the expropriation decision of the model of the previous section. As before, this decision is contestable, with proportion $1 - m$ of both the bonus and private rent destroyed if the bureaucrat chooses $p_i = 1$; proportion q and $1 - q$ of the remaining bonus going to the autocrat and bureaucrat, respectively; and a cost of participation d arbitrarily large if the number of bureaucrats who choose $p_i = 1$ is less than or equal to k , with zero cost otherwise. Thus, we may define $\hat{g} \equiv b$, $\hat{g} \equiv \hat{r} + b$, and $\bar{g} \equiv \bar{r} + b$. We also assume $\hat{r} - \hat{c} < \bar{r} - \bar{c} < 0$, so that if the bonus is not credible all bureaucrats choose $e_i = 0$, and $m\hat{r} - \hat{c} > m\bar{r} - \bar{c}$, which implies that enough of the private rent is destroyed in the process of contestation that bureaucrats prefer moderate to high effort if they anticipate choosing $p_i = 1$.

²² Przeworski et al. (2000, p. 112), find empirically that short-term crises are irrelevant for authoritarian survival, but that long-term crises matter. Magaloni (2006) argues that fiscal crisis under Miguel de Madrid made it difficult to maintain transfers to PRI loyalists, leading to a drop in support.

Given these assumptions, **Propositions 1 and 3** of the previous section go through as before: for any party (and bonus) choice by the autocrat, there is a “coordination-failure” equilibrium, where all bureaucrats choose $e_i = 0$, and there is no equilibrium in which all bureaucrats choose $e_i = \bar{e}$. **Proposition 2** holds so long as the autocrat has chosen a bonus b large enough that bureaucrats prefer $e_i = \hat{e}$ to $e_i = 0$, i.e., so long as

$$m[\hat{r} + (1 - q)b] - \hat{c} \geq 0.$$

If the autocrat anticipates that all bureaucrats will behave as in **Proposition 2** for any b that satisfies this condition, then he chooses the b that satisfies the condition with equality. Denoting this bonus as \hat{b} , we may derive $\hat{b} = \frac{\hat{c} - m\hat{r}}{m(1 - q)}$. Intuitively, the bonus that induces moderate effort is higher when the cost of that effort is large and when the associated private rents are small. In addition, the autocrat must promise a larger bonus—must put more money on the table—when fighting for that bonus is costly (m is small) and relatively ineffective for the bureaucrat (q is large).

In addition, there exist equilibria with equilibrium-path behavior as in **Propositions 4 and 5**, where institutionalized ruling parties focus the expectations of bureaucrats, cadres exert high effort, and outsiders exert no effort. Interestingly, the bonus necessary to induce high effort by cadres in such equilibria is less than that necessary to induce moderate effort by bureaucrats in non-party equilibria: not only is the bonus more credible, so that less need be promised, but the private rents from high effort offset the increased cost of such effort. To see this, let \bar{b} be the bonus b such that for all $b \geq \bar{b}$ cadres weakly prefer $e_i = \bar{e}$ to $e_i = 0$, i.e.,

$$\bar{r} + (1 - mq)\bar{b} - \bar{c} = 0,$$

where we recall that mq is the probability in equilibrium that any cadre is “expropriated” as n approaches infinity. Solving for \bar{b} gives

$$\bar{b} = \frac{\bar{c} - \bar{r}}{(1 - mq)} < \frac{\hat{c} - m\hat{r}}{m(1 - q)} = \hat{b}.$$

Consequently, if the autocrat chooses b to leave cadres indifferent between exerting high and no effort, then the only behavior that is optimal off the equilibrium path has all cadres choosing $e_i = 0$, as in **Proposition 4**.

Nonetheless, as in the baseline model, the optimality of institutionalized party rule may depend on whether the autocrat prefers high effort by a small group of cadres to moderate effort by all bureaucrats, as by choosing $b \geq \hat{b}$ the autocrat may be able to induce $e_i = \hat{e}$ by all bureaucrats. The autocrat prefers the best party equilibrium (with $s = \bar{s}$ and $b = \bar{b}$) to the best non-party equilibrium (with $b = \hat{b}$) so long as

$$\frac{\kappa}{mq} [\bar{h} - (1 - mq)\bar{b}] > \hat{h} - (1 - mq)\hat{b},$$

where we recall that when all bureaucrats choose $p_i = 1$, the autocrat retains proportion mq of the bonus that he promised. Analogously to the baseline model, institutionalized ruling parties are more attractive to the autocrat when the benefit of high bureaucratic effort is relatively large.

In contrast to the baseline model, however, where the autocrat sacrifices some gains from expropriation by building an institutionalized ruling party, the cost of inducing effort is always less in the party equilibrium:

$$\frac{\kappa}{mq} (1 - mq)\bar{b} < (1 - mq)\hat{b}.$$

Not only is the bonus offered to bureaucrats less in the party equilibrium, but the number of individuals to which it is paid is smaller, as only cadres exert effort. The optimality of institutionalized party rule thus reduces to whether the benefits of such rule—high effort among cadres, smaller bonuses—are sufficient to compensate for the fact that only cadres exert effort. As in the baseline model, this is more likely the case when there are sizeable barriers to collective action (i.e., when κ is large), as then autocrat may build a larger party.

The formulation here suggests a useful interpretation of the model. For a bureaucrat to exert high effort, a participation constraint must be satisfied (so that the bureaucrat prefers $e_i \neq 0$ to $e_i = 0$), as well as an incentive-compatibility constraint (so that the bureaucrat prefers $e_i = \bar{e}$ to $e_i = \hat{e}$). Collective action helps to satisfy the participation constraint by forcing the autocrat to provide the promised bonus. However, because collective action is costly, and in particular because it destroys some of the private rent from effort, the incentive-compatibility constraint is violated in non-party equilibria. Institutionalized ruling parties induce high levels of effort among cadres by satisfying the participation constraint without violating the incentive-compatibility constraint. The routinization of rewards provides cadres with the assurance that they will be compensated for their effort without having to fight for that compensation. With that assurance, they and only they exert maximal effort.

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