

Investment Without Democracy: Ruling-Party Institutionalization and Credible Commitment in Autocracies

Scott Gehlbach

University of Wisconsin, Madison

E-mail: gehlbach@polisci.wisc.edu

Philip Keefer

The World Bank

E-mail: pkeefe@worldbank.org

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Abstract

An important but poorly understood feature of non-democracies is the use of institutionalized ruling parties as a way for autocrats to make credible commitments to investors. Such parties promote investment by solving collective-action problems among a designated party elite, who invest with the expectation that the autocrat will not attempt their expropriation. We derive conditions under which autocrats will want to create such parties, and predict that private investment performance and governance will be stronger in their presence. Qualitative evidence regarding the institutional evolution of the Chinese Communist Party and cross-national comparisons of non-democracies strongly support these predictions.

1 Introduction

Economic performance varies significantly among autocracies, with some autocracies growing quickly not only compared to other non-democracies, but also relative to the average democracy. Such high-performing autocracies seem to pose a challenge to the hypothesis that institutions that constrain rulers are necessary to encourage investment and thus stimulate growth, as the particular checks on rulers that characterize democracies are absent in non-democracies. However, just as democracies vary substantially in the degree to which competitive elections discourage rulers from engaging in expropriatory behavior, so do non-democracies differ in the extent to which they exhibit institutions that 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 are the consequences of such institutions for 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 credible commitments by designating a party elite who are expected to invest, and by facilitating the collective action of that elite in the event of their expropriation.

At the root of our analysis is a commitment problem common to both democratic and non-democratic rulers: economic agents will not invest money, time, and effort without some assurance that the rewards from their investment will not be expropriated, but once these investments are made rulers have an incentive to renege on earlier promises not to expropriate. Two related literatures show how democratic institutions can solve this problem. The first, drawing upon the seminal work of North and Weingast (1989) and Greif, Milgrom, and Weingast (1994), 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, and thus facilitating collective action when those limits are ignored. The second, with origins in the analysis of Barro (1973) and Ferejohn (1986), focuses on electoral control as a mechanism by which democratic leaders are held accountable to the citizenry. Drawing upon both literatures, Fearon (2006) suggests 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.

Non-democracies lack competitive elections, of course, but autocratic leaders may encourage the development of institutions that facilitate collective action among an elite group as a way of credibly promising not to expropriate that group's members.¹ An important case is the institutionalized ruling party. Members of such parties, especially high-ranking cadres, form a protected class by virtue of their ability to rebel against an overbearing ruler. We argue formally that mechanisms that make expropriation of any cadre common knowledge within the party create this capacity for rebellion.² As we show, however, the establishment of such mechanisms is a necessary but not sufficient condition for their effectiveness. An

¹Autocracies do often hold controlled elections, but these serve different purposes than the competitive elections of democracies. For analysis, see Magaloni (2006) and Simpser (2006).

²Chwe (2001) discusses the importance of common knowledge for collective action.

autocratic ruler is dissuaded from expropriating only if the number of individuals potentially expropriable 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 by the expropriated. Institutionalized ruling parties satisfy this condition by establishing a focal point that cadres and only cadres should invest. Our definition of an institutionalized ruling party therefore incorporates both the formal institutions that facilitate collective action among party insiders *and* the informal institutions that coordinate the expectations of both insiders and outsiders. In an extension, we demonstrate that institutionalized ruling parties may play the same role in encouraging bureaucratic effort by making credible the promises of autocratic leaders to provide bonuses in return for such effort; this may have particular relevance to socialist dictatorships where bureaucratic effort rather than private investment is of primary economic importance.

These arguments find wide-ranging empirical support. We show first that a significant shift in the institutions of the Chinese Communist Party after Mao gave leaders the ability to commit credibly to party members, who in turn were critical to the increased investment that drove Chinese growth. We then extend our analysis to a broad sample of non-democracies. We demonstrate empirically that investment in non-democracies is greater when ruling parties are older, our proxy for ruling-party institutionalization; that party age is positively associated with the quality of governance in non-democracies; and that ruling parties are older and presumably more institutionalized when society is fractionalized along religious lines and when services make up a large share of GDP, two characteristics suggested by our formal analysis.

The analysis here is related to a growing literature on the political economy of dictatorship, though our emphasis differs in important ways. Our 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, Olofsgard, and Yousef (2006), toward those that encourage investment by making intra-elite bargains credible. Our argument echoes Bueno de Mesquita and Root (2000), Bueno de Mesquita, Morrow, Siverson, and Smith (2003), Haber (2006), and Besley and Kudamatsu (2007), each of whom focus on the choices of an autocrat constrained by an elite group with capacity for collective action. However, in contrast to each we take the presence and size of this group as endogenous, asking when an autocrat would choose to designate such an elite and how encompassing it would be. As in Gandhi and Przeworski (2006) and Wright (2007), we ask when non-democratic rulers might create institutions as credible constraints on autocratic rule, a task that Acemoglu, Robinson, and Verdier (2004) identify as critical to understanding the politics of weakly institutionalized societies. We build on that work by modeling the particular mechanisms by which such institutions provide the necessary constraints. Finally, as in Egorov, Guriev, and Sonin (2006), who analyze a dictator's choice between allowing a free media or establishing a secret service, we show how autocratic institutions may encourage bureaucratic effort, though we focus on the role of institutions in allowing an autocrat to make credible promises rather than to monitor the behavior of bureaucrats.

Some contributions to this literature are complementary to our analysis in their 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 also be useful for wealth maximization by helping autocrats to make credible promises not to expropriate investors. Based on the experience of the Partido Revolucionario Institucional (PRI) in Mexico, both Haber, Razo, and Maurer (2003) and Magaloni (2006) emphasize the historical determination of ruling parties in non-democracies, showing how their role in determining economic performance may be a by-product of ruler strategies for retaining power. Without discounting the importance of historical factors, our analysis emphasizes 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 (forthcoming) 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. Our work shows the role of institutionalized ruling parties in making such contracts credible.

Finally, our empirical analysis is related to a large literature that explores the effects of regime type on cross-country variation in economic performance. In their summary of this literature, Przeworski and Limongi (1993) conclude that no robust evidence supports the conclusion that democracies grow faster than non-democracies. Acemoglu et al. (2005) counter that democracy does lead to higher incomes, but that the effect can only be identified if one controls for historical factors that separate democracies that attract private investment from those that are overly distributive and prone to political instability, and so repel investment. We explore the parallel question among non-democracies: to what extent does institutional heterogeneity explain significant differences in private investment across non-democracies?

In the following section we present the formal analysis responding to this question. We then explore the phenomenon of ruling-party institutionalization empirically, drawing on both historical and statistical evidence, before concluding with implications of this analysis for future research on non-democracies and economic growth.

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)³

In this section we develop a formal model to demonstrate the economic consequences of ruling-party institutionalization, to identify the conditions under which autocrats might try to create such parties, to show how encompassing such parties can be, and to explain why

³Quoted in Egorov, Guriev, and Sonin (2006).

not all attempts to create institutionalized ruling parties are successful. In the baseline model, autocrats create institutionalized ruling parties as a way to credibly commit not to expropriate investors. Further below, we use the same framework to describe the role of institutionalized ruling parties in making credible the commitment of autocrats to provide compensation in return for bureaucratic effort.

2.1 Baseline model

Consider a model with two sets of players: an autocrat, and a continuum of identical investors of mass one. Investors are indexed by i . At the beginning of the game the autocrat chooses some subset of investors to be party *cadres*, where s is the fraction of all investors who are chosen to be cadres. We refer to investors who are not chosen to be cadres as *outsiders*. As discussed below, the creation of a cadre class helps investors to overcome collective-action problems when cadres know how many other cadres have been expropriated, and 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 $e_i \in \{0, \hat{e}, \bar{e}\}$. 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, where $\hat{c} < \hat{g}$ and $\bar{c} < \bar{g}$. We assume $\bar{g} > \hat{g} > 0$, $\bar{h} > \hat{h} > 0$, $\bar{c} > \hat{c} > 0$, and $\bar{g} - \bar{c} > \hat{g} - \hat{c}$. Thus, the efficient level of investment is \bar{e} . We denote the mass of cadres and outsiders who choose $e \neq 0$ as v_c and v_{-c} , respectively, and define $v \equiv v_c + v_{-c}$.

Following investment choices, the autocrat decides for each investor who has chosen $e_i \neq 0$ whether or not to expropriate a fixed amount \tilde{g} of the investor's benefit, where $\tilde{g} < \hat{g} < \bar{g}$. Expropriation of any cadre is observed by all other cadres, but not by outsiders. Expropriation of any outsider is unobserved by all other investors. We assume that the level of expropriation is the same for large and small investments for analytical convenience: this assumption implies that we need keep track only of the number of cadres and outsiders who are expropriated. Further below we discuss the extent to which this assumption can be relaxed. We denote the mass of cadres and outsiders who are expropriated as x_c and x_{-c} , respectively. We define $x \equiv x_c + x_{-c}$, and use x_c^* , x_{-c}^* , and x^* to refer to the equilibrium choice of x_c , x_{-c} , and x , respectively. (For notational convenience, we rely on context to indicate whether or not other variables represent equilibrium choices.)

Investors who are expropriated may choose to contest the expropriation, where $p_i = 1$ indicates contestation and $p_i = 0$ indicates acquiescence. The decision to contest is made simultaneously and independently by expropriated cadres, following which expropriated outsiders

decide simultaneously and independently whether or not to contest, having observed the number of cadres who contested. To capture the idea that contesting autocratic rule is safer when joined by others, i.e., that there is “strength in numbers,” we assume that there is an individual cost of contestation $d > 0$ if the mass of investors who choose $p_i = 1$ is less than or equal to k , whereas the cost of contestation is zero if more than k investors choose $p_i = 1$. Contestation results in the investor’s recouping proportion $1 - q$ of the \tilde{g} seized by the autocrat. 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 private benefit after contestation is $m(\hat{g} - q\tilde{g})$ or $m(\bar{g} - q\tilde{g})$, while the autocrat retains $m q \tilde{g}$. We assume $d > (1 - q)m\tilde{g}$, so that an investor would never choose $p_i = 1$ unless he expected at least mass k of investors to contest expropriation.

A key assumption of our model is that expropriation is only observed among cadres, but that cadres may signal their expropriation to outsiders through contestation before expropriated outsiders decide whether or not to contest. Alternatively, we could assume that the expropriation of cadres is observed by both cadres and outsiders, following which all expropriated investors decide simultaneously and independently whether or not to contest. Although the two assumptions generate the same qualitative behavior, we believe that the former assumption more closely captures the avenue by which information about treatment of party officials is transmitted to the general public. In either case, what is critical is the assumption that expropriation of outsiders is generally unobservable. Indeed, absent mechanisms of the sort that we describe in this paper, it is often difficult to determine the extent to which assets of any particular actor have been seized by the state: claims of back taxes are made in an environment of generally poor tax compliance, government officials with control rights over public enterprises are reassigned to different posts, etc. More generally, other assumptions about the role of institutionalized ruling parties in facilitating collective action among party cadres could generate qualitative results similar to that which we derive here. As will become clear shortly, what is critical is that any mechanism serve to protect the party elite but not outsiders.

We focus on a particular region of the parameter space where investment and expropriation choices are non-trivial. We assume $\bar{g} - \bar{c} < \tilde{g}$, which implies $\hat{g} - \hat{c} < \tilde{g}$, so that investors prefer $e_i = 0$ if they expect expropriation with certainty but do not anticipate sufficient contestation by other investors to justify $p_i = 1$. In addition, we assume

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

which implies that investors choose $e_i = \hat{e}$ if they expect expropriation and sufficient contestation by other investors to justify $p_i = 1$. Finally, we assume $k < m q$, so that if *all* investors choose $e_i \neq 0$, then the autocrat prefers full expropriation with contestation to partial expropriation with no contestation.

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

1. Party choice: The autocrat 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 or not to expropriate a fixed share of the investor’s private benefit.

4. Contestation: Expropriated cadres 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.

We begin by defining our equilibrium concept and deriving optimal behavior in the expropriation game. Following that, we prove the existence of “non-party equilibria,” where investment behavior is independent of party choice by the autocrat. Such equilibria demonstrate that attempts to create institutionalized ruling parties may be unsuccessful if they do not change investors’ expectations about what other investors will do. We then proceed to construct “party equilibria,” where cadres and outsiders differ in their investment behavior. In doing so, we establish conditions under which the autocrat prefers to create institutionalized ruling parties, and derive the party size optimal for the autocrat, given the constraint that he not want to expropriate party members *ex post*. Finally, we 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. As we discuss in Section 3, this alternative formulation offers substantial insight into the flow of private and foreign direct investment into China in the 1990s.

2.2 Preliminaries

Optimal party choice and investment behavior depend on expectations of what will happen in the expropriation game. However, 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 are determined in part by beliefs about how many other investors have been expropriated. Because cadres do not observe the expropriation of outsiders, and outsiders do not observe any expropriation other than their own, multiple beliefs 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 had been expropriated, it is optimal to contest expropriation only if enough other expropriated investors also do so.

To simplify matters, we focus on a subset of sequential equilibria that restricts actions and beliefs in the expropriation game.

Definition 1. *An **equilibrium** is a sequential equilibrium in which:*

1. *The autocrat selects x_c cadres and x_{-c} outsiders at random to expropriate.*
2. *For observations of x_c off the equilibrium path, cadres believe $x_{-c} = x_{-c}^*$.*
3. *Each expropriated cadre protests if and only if $x_c > k - x_{-c}^*$, and each expropriated outsider i protests if and only if he believes $x_{-c} > k - p^c$, where p^c is the mass of cadres who chose $p_i = 1$.*

Condition 1 simplifies the analysis so that we need only specify beliefs about how many cadres and outsiders are expropriated. 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 $x_{-c} = x_{-c}^*$, then 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 neither adjust their beliefs upward or 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.

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

- If $x_{-c}^* > k - p^c$, then given equilibrium strategies, each expropriated outsider expects more than k investors to choose $p_i = 1$, so that it is optimal to choose $p_i = 1$. In contrast, if $x_{-c}^* \leq k - p^c$, then given equilibrium strategies, each expropriated outsider (if any) expects not more than k investors to choose $p_i = 1$, so that it is optimal to choose $p_i = 0$.
- Given equilibrium strategies of outsiders and the requirement of Condition 2 that cadres believe $x_{-c} = x_{-c}^*$ for observations of x_c both on and off the equilibrium path, 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 $p_i = 1$, so long as the number of expropriated investors $x_c > k - x_{-c}^*$; otherwise $p_i = 0$ is optimal.

Note that because expropriation of cadres is unobserved by outsiders, it is critical that expropriated outsiders be able to observe contestation by cadres before deciding whether or not to contest. Were that not the case, then expropriated outsiders would have no opportunity to respond to an unexpectedly high level of expropriation of cadres, so that expropriated cadres—less able to count on support from outsiders—might themselves be less likely to contest. As discussed above, the same qualitative behavior could be generated by the assumption that expropriation of cadres is observed by outsiders as well as cadres, following which all expropriated investors decide simultaneously and independently whether or not to contest.

Given the definition of equilibrium, in certain cases the autocrat can credibly commit not to fully expropriate 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 privately observed, the autocrat can always profitably deviate from some x^* such that $x_{-c}^* < v_{-c}$ to some x such that $x_c = x_c^*$ and $x_{-c} > x_{-c}^*$ without changing investors’ beliefs about how many outsiders have been expropriated. (The one possible exception is when $x_{-c}^* = 0$, which we consider in the proof to the following lemma.) As a consequence, in any equilibrium the autocrat always fully expropriates outsiders.

Lemma 1. *In any equilibrium, the autocrat fully expropriates outsider investors.*

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

1. $x_{-c}^* < v_{-c} \neq 0$: But then the autocrat has an incentive to deviate to any x such that $x_c = x_c^*$ and $x_{-c} > x_{-c}^*$. With such a deviation, expropriated outsiders continue to believe $x_{-c} = x_{-c}^*$, as by assumption the autocrat chooses outsiders at random to expropriate, so that expropriation is consistent with the belief that the autocrat has chosen x_{-c}^* . Moreover, expropriated cadres continue to believe $x_{-c} = x_{-c}^*$, given that expropriation of outsiders is unobserved. (Condition 2 of the equilibrium definition plays no role here.) Thus, by deviating the autocrat can secure gains from additional expropriation without changing the contestation behavior of either outsiders or cadres.
2. $x_{-c}^* < v_{-c} = 0$: But then the autocrat has an incentive to deviate to any x such that $x_c = x_c^*$ and $x_{-c} > x_{-c}^*$. With such a deviation, any expropriation of an outsider is inconsistent with that investor's belief that $x_{-c} = x_{-c}^* = 0$, so that depending on the beliefs of outsiders off the equilibrium path, expropriated outsiders might choose $p_i = 1$. However, as with the previous case, the beliefs of expropriated cadres are unaffected by this deviation. Thus, by deviating the autocrat can secure gains of at least $mq\tilde{g}$ from each expropriated outsider, without changing the contestation behavior of cadres.

Q.E.D.

Although stark, Lemma 1 captures the general intuition that autocrats have greater incentive to expropriate outsiders than insiders. Were we to relax the assumption that expropriation of outsiders is completely unobserved, then it might follow that the autocrat would expropriate some but not all outsiders, contra Lemma 1. In that case, the autocrat would trade off the rents from increased expropriation against the greater probability that investors observe expropriation large enough to justify collective action. As we discuss below, this may be relevant in the context of the Chinese case, as increasing private investment during the 1990s followed improved information about the treatment of other investors.

Given our assumption that expropriation of outsiders is completely unobserved, however, Lemma 1 implies that if the autocrat refrains from full expropriation of all investors, it must be because he refrains from full expropriation of cadres. Such restraint can only be optimal if the autocrat can expropriate enough investors for collective action to be possible, but the mass of outside investors who have chosen $e_i \neq 0$ is sufficiently low that not fully expropriating cadres can prevent collective action. As the following lemma establishes, in that case the autocrat refrains from full expropriation if what he retains in the event of full expropriation and collective action ($mqv\tilde{g}$) is small relative to what he can expropriate without provoking collective action ($k\tilde{g}$).

Lemma 2. *In any equilibrium:*

1. *if $v \leq k$, then the autocrat fully expropriates all investors, and all investors choose $p_i = 0$.*

2. if $v_{-c} > k$, then the autocrat fully expropriates all investors, and all investors choose $p_i = 1$.
3. if $v > k$ and $v_{-c} \leq k$, then:
 - (a) if $v < \frac{k}{mq}$, the autocrat expropriates all outsiders and $k - v_{-c}$ cadres, and all investors choose $p_i = 0$;
 - (b) if $v > \frac{k}{mq}$, then the autocrat fully expropriates, and all investors choose $p_i = 1$; and
 - (c) if $v = \frac{k}{mq}$, then either the autocrat expropriates all outsiders and $k - v_{-c}$ cadres, and all investors choose $p_i = 0$, or the autocrat fully expropriates, 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 fully expropriate.
2. By Lemma 1, in any equilibrium the autocrat fully expropriates outsiders, so by Condition 3 of an equilibrium all expropriated investors choose $p_i = 1$ regardless of x_c . Thus, the autocrat's optimal choice is to fully expropriate all cadres as well 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:
 - (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 $k\tilde{g}$. By an argument analogous to that just above, the best possible deviation is to $x = v$, which implies that all expropriated investors choose $p_i = 1$ (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 $mq\tilde{g}v$. This deviation is not profitable if $k\tilde{g} \geq mqv\tilde{g}$, or $v \leq \frac{k}{mq}$.
 - (b) $x^* = v$, which implies that all expropriated investors choose $p_i = 1$ and the autocrat receives a payoff of $mqv\tilde{g}$. The best possible deviation is to $(x_c, x_{-c}) = (k - v_{-c}, v_{-c})$, which implies that all expropriated investors choose $p_i = 0$ and the autocrat receives a payoff of $k\tilde{g}$. (To see that this is the best possible deviation, observe that with any deviation, expropriated investors continue to believe that $x_{-c} = x_{-c}^* = v_{-c}$. Thus, the best possible deviation changes only the expropriation of cadres, with the autocrat choosing the maximum x_c such that expropriated investors do not contest.) This deviation is not profitable if $v \geq \frac{k}{mq}$.

Q.E.D.

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 become “outsiders” and 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 formal 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 thus depends on what he expects other investors to do, and in particular on how many other cadres and outsiders will choose $e_i \neq 0$. This determines whether the autocrat subsequently chooses to expropriate and whether investors will choose to contest that expropriation. Here we demonstrate that the party chosen by the autocrat need not coordinate these expectations. In the “non-party equilibria” that we describe, all investors—cadres and outsiders—make the same investment choice. We thus show that the creation of formal party institutions is not sufficient for ruling-party institutionalization, answering the question of 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 that with no other investors having chosen $e_i \neq 0$, 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 $-\bar{c} < 0$. *Q.E.D.*

In Proposition 1, fear of expropriation prevents any investment. Below we discuss how creation of an institutionalized ruling party can promote high levels of investment by a narrow elite. But for any party choice by the autocrat, there is an equilibrium in which all investors undertake moderate investment, understanding that they will be expropriated but reassured that there will be sufficient strength in numbers to contest that expropriation.

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

Q.E.D.

In contrast, there are no equilibria in which all investors choose $e_i = \bar{e}$. 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 fully expropriate if all investors choose $e_i \neq 0$, even though full expropriation 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 fully expropriates and all investors choose $p_i = 1$, giving a payoff to any investor of $m(\bar{g} - q\tilde{g}) - \bar{c}$. But then any investor could profitably deviate to $e_i = \hat{e}$ and receive a payoff of $m(\hat{g} - q\tilde{g}) - \hat{c}$, which by assumption is greater than $m(\bar{g} - q\tilde{g}) - \bar{c}$. *Q.E.D.*

2.4 Party equilibria

Propositions 1 and 2 describe equilibria in which investment behavior is unaffected by the autocrat's choice of party. Parties in these equilibria are not fully institutionalized in the sense that they fail to focus the expectations of investors. They therefore play no role in determining investment behavior, even though the formal institutions that facilitate collective action by cadres have been created. We focus now on "party equilibria," i.e., equilibria in which the division of the investor population into a privileged and non-privileged class establishes a focal point, such that all cadres choose $e_i = \bar{e}$ and all outsiders choose $e_i = 0$. In these equilibria, the promise to not fully expropriate cadres is credible not only because formal institutions facilitate collective action among cadres, but also because the decision of outsiders not to invest reduces the autocrat's temptation to expropriate all investors, cadres included.

In principle, parties that focus expectations in the way that we describe could be distinguished from parties that do not by the extent to which investment is undertaken primarily by high-ranking party members and their clients. Indeed, as the construction of these equilibria demonstrates, the exclusion of outsiders from investment is essential to the credibility of promises not to expropriate insiders (or those with financial or other personal links to insiders). In practice, as we discuss in the following section, systematic data on both formal party institutions and the degree to which investments are disproportionately carried out by party officials are generally unavailable. Nonetheless, as we describe there, for various reasons we may treat ruling-party age as a useful proxy for institutionalization.

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 $e_i = 0$, and all investors choose $e_i = \hat{e}$. 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, on the equilibrium path, any party equilibrium must satisfy an *expropriation constraint*: the autocrat must prefer partial expropriation of cadres and no collective action to full expropriation and collective action. This implies in particular that parties must be sufficiently small for full expropriation of cadres to be unattractive. Because the autocrat benefits from additional investment even when his gains from expropriation are capped (i.e., because $\bar{h} > 0$), we focus on equilibria with the largest party that satisfies this constraint.

Proposition 4. *There exists an equilibrium in which*

1. *the autocrat chooses a party of size $s = \frac{k}{mq}$;*
2. *cadres choose $e_i = \bar{e}$ if $s = \frac{k}{mq}$, and $e_i = 0$ otherwise; and*
3. *outsiders choose $e_i = 0$ regardless of s .*

In this equilibrium, the autocrat expropriates k of $\frac{k}{mq}$ cadres.

Proof. The optimality of investment behavior off the equilibrium path, i.e., for observations of $s \neq \frac{k}{mq}$, 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, $v = s > k$, $v_{-c} = 0 < k$, and $mq = \frac{k}{v}$. Thus, by Lemma 2 it is optimal for the the autocrat to expropriate k of $\frac{k}{mq}$ cadres. The probability that any cadre is expropriated is therefore $\frac{k}{s} = mq$, so that the payoff for cadres in equilibrium is $\bar{g} - mq\tilde{g} - \bar{c}$. This is greater than the payoff from deviating to $e_i = \hat{e}$, which is $\hat{g} - mq\tilde{g} - \hat{c}$, which in turn is greater than zero (the payoff from $e_i = 0$) given that $m(\hat{g} - q\tilde{g}) - \hat{c} > 0$, 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 by Lemma 2 the autocrat would expropriate the deviating investor, and all investors would choose $p_i = 0$. The payoff from deviation 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.

Q.E.D.

In this equilibrium, parties are larger when collective action is difficult (k is large), costly (m is small), and effective (q is small). A large k implies that it is relatively difficult for cadres to overcome their collective-action problems, so that the autocrat is able to capture a larger share of the rents from investment by cadres. 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 a 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, 1987), while the ebbs and flows of party membership under Stalin seem to have followed the perception of threats against the regime (Gregory, Schröder, and Sonin, 2006). Although the latter examples do not neatly fit our baseline model of party institutionalization as a way of promoting investment, they are consistent with the idea that this may also function as a way of encouraging bureaucratic effort. As we show below, this alternative formulation produces identical comparative statics with respect to party size.

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—though as we show below we find only limited evidence in favor of this interpretation.

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 partial expropriation of cadres, each of whom chooses $e_i = \bar{e}$, must be greater than full expropriation of all investors, each of whom chooses $e_i = \hat{e}$.

Proposition 5. *If $\frac{k}{mq}\bar{h} - \hat{h} \geq (mq - k)\tilde{g}$, then there exists an equilibrium in which*

1. *the autocrat chooses a party of size $s = \frac{k}{mq}$;*
2. *cadres choose $e_i = \bar{e}$ if $s = \frac{k}{mq}$, and $e_i = \hat{e}$ otherwise; and*
3. *outsiders choose $e_i = 0$ if $s = \frac{k}{mq}$, and $e_i = \hat{e}$ otherwise.*

In this equilibrium, the autocrat expropriates k of $\frac{k}{mq}$ cadres.

Proof. The optimality of investment behavior follows the proof to Proposition 4. To see that

$s = \frac{k}{mq}$ is optimal for the autocrat, observe that in equilibrium the autocrat's payoff is

$$k\tilde{g} + \frac{k}{mq}\bar{h}, \quad (2)$$

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 $\frac{k}{mq}$ cadres. In contrast, if the autocrat deviates to some $s \neq \frac{k}{mq}$, then all investors choose $e_i = \hat{e}$, the autocrat fully expropriates, and all investors choose $p_i = 1$, for a payoff to the autocrat of

$$mq\tilde{g} + \hat{h}. \quad (3)$$

Comparing Expressions 2 and 3 and simplifying gives the second premise of the proposition. *Q.E.D.*

The premise of the proposition has an intuitive interpretation: the benefit to the autocrat from high rather than low investment must be large relative to the sacrificed gains from expropriation to justify building a party that protects cadres from expropriation. 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 who cannot rely on resource rents and foreign aid to guarantee popular support may be more inclined to try to create institutionalized ruling parties. This effect is magnified to the extent that *large* institutionalized ruling parties can be created, which as discussed above is the case when collective action is difficult (k is large), costly (m is small), and effective (q is small). The same conditions guarantee that the autocrat does not sacrifice too much by partially expropriating cadres rather than fully expropriating all investors.

With respect to the sacrificed gains from expropriation, the opportunity cost to the autocrat of protecting cadres from expropriation is greater when the share of the private benefit that is potentially expropriable (\tilde{g}) is large. Because resource extraction is particularly easy for state authorities to monitor (e.g., Karl, 1997; Shafer, 1994), this reinforces the conclusion that institutionalized ruling parties may 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). Further, expropriation may be more difficult when investors have access to international capital markets. To the extent that this is the case, globalization may encourage the development of institutionalized ruling parties in nondemocratic states.

Together, Propositions 4 and 5 suggest that investment should in general be higher in the presence of institutionalized ruling parties. 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, so that institutionalization unambiguously increases investment. In contrast, 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, so that institutionalization 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 $\hat{g} \approx f\hat{h}$ and $\bar{g} \approx f\bar{h}$, where $f > 0$. Then the premise of Proposition 5, $\frac{k}{mq}\bar{h} - \hat{h} \geq (mq - k)\tilde{g}$, implies $\frac{k}{mq}\bar{g} - \hat{g} > \frac{(mq-k)}{f}\tilde{g} > 0$, which says that investment with institutionalization ($\frac{k}{mq}\bar{g}$) is greater than that without (\hat{g}).

An interesting feature of this analysis is that the conditions for autocrats to create institutionalized ruling parties generally coincide 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 non-elites to tax elite assets, i.e., when *elites* are harder to “expropriate.” In our model, ruling elites also must decide whether to create an institution (an institutionalized ruling party) that facilitates their punishment by non-elites. As we have shown, however, this decision is more likely when *non-elites* have fewer assets to expropriate, as then the opportunity cost of creating such institutions is smaller. Further, the rationale for creating an institutionalized ruling party is 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 more generally, and among a more limited group of citizens, mitigate collective-action problems.

2.5 Credible bonus schemes

In our baseline model, investment behavior depends on the credibility of an autocrat’s promise not to expropriate. Here we show that the model can be modified slightly to analyze the behavior of bureaucrats, some of whom may be party cadres, and all of whom may 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.

As Lazarev (forthcoming) describes, the institutionalization of ruling parties seems to have played a particularly important role in promoting bureaucratic effort in socialist dictatorships, where private investment is obviously of less importance. In particular, the sharp division between party cadres and rank-and-file bureaucrats in such systems appears to have been instrumental in encouraging effort by a narrow party elite. More generally, just as non-democracies vary substantially with respect to private investment, so also do they vary with respect to bureaucratic performance. The source of variation in bureaucratic performance among non-democracies remains relatively under-examined, but the extension to the model we present here and the evidence we discuss below suggests that ruling-party institutionalization helps to explain these differences.

In fact, encouraging investment and promoting bureaucratic effort can be seen as strategic complements. Economic actors may refrain from making investments if they perceive public-sector officials as corrupt and unwilling to provide public goods. There may, however, be

situations in which they act at cross purposes, a possibility we discuss in the concluding section.

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 $\hat{r} < \bar{r}$. In the following section, we describe several examples of private rents earned by cadres in the Chinese Communist Party in return for promoting growth in their jurisdictions, including those emanating from control of land and from shares in enterprises primarily owned by outsiders.

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 mass of bureaucrats who choose $p_i = 1$ is less than or equal to k , with zero cost otherwise. Thus, we may define $\tilde{g} \equiv b$, $\hat{g} \equiv \hat{r} + b$, 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 $p_i = 1$.

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.” Solving for \bar{r} 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 ruling elite 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 $s = \frac{k}{mq}$ and $b = \bar{b}$) to the best non-party equilibrium (with $b = \hat{b}$) so long as

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

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:

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

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 k 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.

One implication of this analysis is that the results of this section do not depend on the assumption that collective action destroys the same proportion (r) of rents from high and low effort, but only that enough of the rents from high effort are destroyed that the incentive-compatibility constraint is violated. Similarly, the baseline model may be generalized (at considerable cost in notation) such that the autocrat may expropriate more from investors who have chosen $e_i = \bar{e}$ than from those who have chosen $e_i = \hat{e}$, as that only tightens the incentive-compatibility constraint in non-party equilibria.

3 Implications of the analysis

The analysis presented in the previous section predicts that high levels of investment and bureaucratic effort should be observed in non-democracies when parties are more institutionalized—when mechanisms within ruling parties help party elites to overcome their collective-action problems, and when the designation of a party elite fixes expectations about who is to undertake investment and exert effort. Qualitative evidence from China and evidence from the statistical analysis of cross-country data are consistent with these general propositions, as well as with a number of specific predictions about when autocrats would attempt to create institutionalized ruling parties.

3.1 Party institutionalization and growth in China

Among economically successful autocracies, China’s experience is most remarkable and has attracted correspondingly great attention from researchers. Though we obviously do not claim to offer a complete understanding of the China growth miracle, the Chinese case does illustrate many features of our theoretical analysis.

Much investigation of China has focused on the boom in investments in township and village enterprises (TVEs) in the 1980s. Our baseline model offers a new explanation of these cadre-controlled investments. In our interpretation, cadres invested in TVEs rather than diverting TVE returns to dividends and consumption because of critical changes in party institutions. In particular, after Mao’s death the party leadership adopted institutions that reduced the costs of collective action among party cadres, including those related to information transmission emphasized by our analysis, and coordinated expectations among cadres regarding cadre investment. The result was that cadres were encouraged to (re)invest in TVEs without fear that the resulting profits would be taxed away or otherwise expropriated.

By the late 1980s, however, private investment, not directed by cadres or by owners with strong party links, became increasingly important, eventually far surpassing TVEs in volume. Our analysis also provides an explanation for this second phase of the Chinese growth miracle. First, non-cadre investors had increasing access to information, making leadership promises

to limit expropriation of outsiders more credible. Second, because the ruling party was institutionalized, the party leadership could encourage cadres to exert effort and provide the public goods that were essential complements to this outside investment.

From 1952–1980, average individual incomes in China increased by less than 2.5 percent 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. Households were allowed to be the residual claimants of production on their collectively owned plots. Farm households were allowed to invest profits in farm machinery, trucks, industrial equipment and to engage in private marketing and manufacturing. Collectively-owned township and village enterprises (TVEs) could be leased to individuals and groups (Shirk 38). Rural investment loomed large: private firms in the rural sector accounted for 19 percent of total fixed asset investment in the 1980s and township and village enterprises, TVEs, another 13 percent (Huang, forthcoming). The central government also decentralized the administration of foreign trade and investment, allowing localities to deal directly with foreign interests.

These changes unleashed unprecedented investment and growth. Most of this investment was initially the product of decisions by local officials, who were the residual claimants of TVE profits. 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; nor did they have any formal guarantees that they themselves would continue to be the residual claimants on TVE profits.

One possible explanation for their investments is cronyism, which Haber, et al. (2003) argue was one of the foundations of Mexico growth during the regime of Porfirio Diaz. However, in the Chinese case, only a fraction of township officials had a personal relationship with the higher-level government officials who could have expropriated them. Another possible explanation, that high expected rates of return offset expropriation risks, implies that rates of return to investments in China were significantly higher than in any other country that did not exhibit similar high rates of growth. While possible, the explanation does not seem plausible, particularly as the duration of the Chinese economic miracle went from years to decades.

Various scholars have proposed a third explanation, that a particular set of new institutional arrangements reduced political risk sufficiently to trigger greater investment (e.g., Che and

Qian, 1998a,b; Qian and Weingast, 1996; Montinola, Qian, and Weingast, 1996). First, 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. Second, it 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. The same 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.

Three developments in China suggest that these reforms do not fully explain the credibility puzzle in China.⁴ First, the 1980s and especially the 1990s actually saw significant conflict between local and central governments regarding local public good provision. If the governments' interests were aligned with respect to public good spending, 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, and conflicts between local and central government interests have had 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. 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). And third, coincident with the reversal of fiscal policy, TVEs diminished in importance over time, while private investment accelerated.

Ruling-party institutionalization offers an alternative institutional explanation for high TVE investments, as well as for the private investment that followed. Under Mao—when China grew slowly—large obstacles to collective action by party cadres were in place and the party offered no protection to cadres from depredations by party leaders. Shirk (1993) writes, for example, that prior to 1978, “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” (p. 8). In terms of our theoretical perspective, Mao actively discouraged coordination among party members. 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 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 p. 15).

After Mao’s death, Deng Xiaoping came to power and undertook numerous actions to build institutions within the Chinese Communist Party. The Red Guard was abolished. Personnel reforms were introduced in 1980, which shifted promotion and cadre evaluation to systems

⁴Cai and Treisman (2006) also revisit the role of decentralization in China’s economic success.

“governed by rules, clear lines of authority, and collective decision-making institutions to replace the over-concentration of power and patriarchal rule that had characterized China under Mao” (Shirk, p. 9). Mao had explicitly opposed intra-party institutionalization of this kind. Finally, 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. The process of cadre evaluation is today 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 could expect to be treated, making arbitrary treatment of some cadres easier for other cadres to detect.⁵ 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).

Concurrent with these changes in cadre management, there were changes in the process by which “internal news” was distributed among party officials. As described by exiled journalist He Qinglian (Qinglian, 2004), the Xinhua News Agency’s “Second Editorial Office” produces daily and weekly news reports that are distributed only to key party officials. The most sensitive of these, the “domestic situation final proofs,” were under Mao available only to the central leadership. 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.

As we discuss in Section 2.2, our model explains why these information arrangements are self-enforcing: if information were to suddenly become unavailable to party cadres, then the autocrat would fully expropriate them and they would rebel. Paradoxically, the only way for the autocrat to prevent rebellion is by giving cadres the tools to initiate it. Two additional factors, not explicitly analyzed in our model, also explain the credibility of these personnel reforms. First, they were expensive to implement, involving re-training of thousands of cadres and the construction of a costly bureaucratic process for evaluation. This investment was lost to the leadership if it disregarded the newly established rules. Second, Deng Xiaoping had incurred significant personal costs in advocating the same cadre management system under Mao: Mao used the Cultural Revolution not only to dismantle the system, but also to purge Deng himself (Manion, 1985, pp. 205). By having paid a high price for his advocacy

⁵Such 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.

of systematic cadre management under Mao, Deng was credible in advocating support for the system when he came to power in 1978.

The credibility of these arrangements is evident in the findings of Li and Zhou (forthcoming), who show that between 1978 and 1995 the likelihood of promotion of provincial leaders increased and of termination decreased with a province's economic performance, exactly as the promotion criteria specified. However, Propositions 1 and 2 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. In fact, the party leadership established this focal point by adopting rules that clearly limited the legal rights attached to non-cadre private investment and explicitly subordinating them to those of cadre-directed (TVE) investments.

Problems in the TVE sector in the late 1980s, such as growing defaults on loans to state-owned banks, led the government to shift away from enterprises owned by towns and villages and towards enterprises owned outright by domestic and foreign private investors. Combined TVE and rural private fixed-asset investment dropped steadily as a fraction of total fixed-asset investment, while the share of urban and foreign-invested firms rose to approximately 14 percent of total investment in 2001–2003, from less than three percent in the period 1986–1990 (Huang, forthcoming). Direct party connections, though they continue to be important for some types of private enterprises, are by no means necessary (Nee and Opper, 2006). On its face, this appears inconsistent with the core prediction of our baseline model—that there should be no investment by when ruling parties have institutionalized—but other elements of our analysis offers an explanation for these investments by outsiders.

The difficulties in the TVE sector implied that the benefits to party leaders of high investment (\bar{h}) in that sector declined in comparison to that available from outside investors. This led party leaders to look to private investment and economic growth to build popular support for the party. But how could party leaders attract private investment? In our baseline analysis, where we assume that outsiders have no information about the expropriation of other outsiders, outsiders are always expropriated. Such an assumption is accurate in the early 1980s, when outsiders had little or no access to information about the expropriatory experience of other outsiders. By the 1990s, though, interactions among private firms had necessarily increased along with economic growth. In addition, information sources, not least the Internet, that were unknown in the 1980s were widely accessible in the 1990s. In the 1990s, therefore, outsiders could better assess, though with uncertainty, the degree of expropriation experienced by other outsiders.

This organic growth in information availability served party objectives by encouraging private investment. Later in the 1990s, and recognizing that economic growth would be sustainable only by encouraging private investment, the party leadership even undertook active measures to further increase outsider information. Much as Deng had approved personnel reforms that made promotions more transparent within the party, in the 1990s administrative and judicial tribunals were set up to make the adjudication of business disputes more transparent. Clarke, Murrell and Whiting (2006) point to the growing institutionalization of legal dispute resolution, replacing the administrative, cadre-centered resolution of disputes that would

have favored TVEs. Legal dispute resolution increases the information that private investors have about the expropriatory behavior of government, allowing them to coordinate their withdrawal from the country if expropriation becomes too pervasive.

Both the quantity of cases filed against the government and their outcomes suggest that these administrative mechanisms convey significant information. Under the auspices of the Administrative Litigation Law of 1989, 9,934 cases were filed against government agencies in 1989; this rose to 98,000 by 1998. Of the 460,000 total cases over the period, plaintiffs won 35 percent of the time (Yang p. 306). It is important to stress, however, that these are not traditional third-party enforcement institutions. Enforcement rests on the fact that the party leadership has an interest in the high political benefits that these firms bring, and that these firms, along with other private investors, can observe the decision of the courts.

In sum, expropriation of outsiders posed a risk of contestation in the 1990s that it did not in the 1980s, in part as a result of conscious decisions of the party leadership. As we discuss in the previous section, the acquisition of partial information by outsiders may relax the sharp prediction of Lemma 1 that outsiders will always be expropriated, though retaining the prediction the insiders will generally be better protected. This alone was not sufficient to encourage greater private investment, however. Party leaders also required cadres to implement local policies, such as the provision of local public goods and the creation of a welcoming regulatory climate, to encourage outside investors to enter. And while by the early 1990s party leaders had fully internalized the value to the party of attracting outside investors (since they judged economic growth to be key to popular support for the party), cadres had not. Individual cadres internalized the full cost of their costly actions to encourage investment, but only a fraction of the benefit to the party as a whole. Party leaders therefore needed to persuade them to exert that (only partially observable) effort. Our reformulation of the baseline model in Section 2.5 addresses precisely the conditions under which party leaders are willing to do this.

Given their inability to observe effort directly, the party leadership promised bonuses and promotions to cadres who encouraged income and employment growth in their districts. As we discuss above, local cadres originally had incentives to use TVEs as a vehicle for increasing growth. In the 1990s, however, party leaders increased the attractiveness to local cadres of growth strategies focused on outside investors by reducing the privileges accruing to TVEs (e.g., easy access to credit). Cadres were less likely to receive bonuses, therefore, if they did not exert effort to create an attractive business climate for private investors. Naturally, though, they would only exert effort if the promise of bonuses was credible. The continued institutionalization of the Chinese Communist Party helped to make these promises credible by providing cadres with information about the extent to which bonuses were paid and promotions provided, thus helping to establish expectations about who was expected to exert effort.

Thus, model extension that we present in Section 2.5 helps to explain why leadership promises to reward cadres for promoting private investment would be credible. A key assumption of this version of the model is that cadres receive some private benefit from exerting effort. The Chinese case illustrates some of the forms that these rents can take. Although TVEs were de-emphasized by the leadership, the leadership retained rules that allowed cadres to extract

some rents from private investment. For example, only in 2007 was private investment formally recognized by the Communist Party, and until the mid-1990s domestic private firms were obligated to register as collective firms, formally placing them under control of local governments (Huang, 2003, p 112). Party leaders also continued to allow, at least de facto, cadres to take privileged stakes in outsider enterprises (stakes that substantially exceeded cadre financial investments in the firms). In addition, local cadres continued to control land rents that flowed from outsider investment—ruling party institutionalization convinced cadres that their ability to extract returns from higher-valued community land assets would only be abrogated by party leaders with a low probability. This strategy carried political risks, as unrest in the Chinese countryside is often attributed to the efforts of cadres to capture the increase in land value that occurs when land shifts from serving rural and agricultural to urban and industrial purposes. Nonetheless, even though avoiding unrest is a high priority, so also is growth. To the extent that these rents underpin the growth strategy of the Chinese Communist Party, party leaders cannot easily discipline cadres for capturing them.

One question that remains is why did the party leadership did not adopt the 1990s system earlier, instead of relying on TVEs. Two reasons seem most likely. The first and most obvious was deep intra-party opposition to private capital. This opposition eased over time (enough so that private investment could be formally recognized in 2007). Second, the party mechanisms that allowed more credible commitments from leaders to cadres were still a work in progress during the mid-1980s. Given the model's prediction of strong leader incentives to expropriate outsider investments, private capital would rationally have stayed out until it was clear that their property rights were reasonably secure and the necessary public goods were being provided.

Our explanation for the Chinese economic miracle, 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 investment was cadre business. Finally, our analysis offers a new way to think about the successful transition in China from cadre-led investment to purely private investment, on a scale unmatched by any other autocracy. In so doing, it provides an explanation for the conclusion in Fan, et al. (2006) that China has received more foreign direct investment than one would expect given the limited formal institutional constraints placed on the executive.

3.2 Investment in non-democracies

The foregoing analysis yields several predictions that may be examined through the statistical analysis of cross-national data. Most centrally, private investment should generally be greater in non-democracies with institutionalized ruling parties. Here we explore this prediction. Further below we examine two other implications of our analysis: autocracies that exhibit greater party institutionalization should exhibit more secure property rights and less shirking by bureaucrats, and non-democracies with and without institutionalized ruling parties should differ in systematic ways consistent with the predictions of our model.

Data and specification

Examining the relationship between investment and party institutionalization in non-democracies poses three empirical challenges: how to measure of private investment, how to define non-democratic episodes, and how to define party institutionalization. With respect to the first, our primary measure is private investment/GDP, a standard measure from the IMF's International Financial Statistics database. In addition, to capture the degree to which autocratic leaders can extend the benefits of party institutionalization to outsider investors, we assume that foreign investors are more likely than domestic investors to be "outsiders," and employ a measure of foreign direct investment FDI/GDP from the World Bank's *World Development Indicators* database.

The second empirical challenge is how to characterize non-democracies. Our arguments apply to all countries where leaders are not selected in competitive elections, consistent with the discussions in Przeworski, et al. (2000) and Keefer (2007), among others, in which democracies are defined as countries in which leaders are elected in competitive elections. In the case of Keefer (2007), for example, democratic episodes are all those consecutive country-year observations in which legislators and the executive are elected, multiple candidates or parties contest the elections, and none receive more than 75 percent of the vote.

In most of the analyses below, we therefore define non-democratic episodes as the converse of this: consecutive country-year observations in which either legislators or the executive do not meet the threshold of democratic elections (no elections are held; or they are held but only one candidate is allowed to run; or multiple candidates run, but one receives more than 75 percent of the vote). The elections data are the Indices of Legislative and Executive Electoral Competitiveness from the Database of Political Institutions (Beck, et al., 2003), available from 1975-2004. LIEC and EIEC range from one to seven, and we define non-democracies as those countries for which either LIEC or EIEC is less than seven. We also report results for a more stringent definition of non-democracy, where *both* LIEC and EIEC are less than seven.

The third empirical challenge is to identify a proxy for ruling-party institutionalization. Keefer (2007) concludes that the age of democracy (the number of continuous years of competitive elections) captures whether democratically elected leaders can make credible pre-electoral promises to citizens. For analogous reasons we use the age of the ruling party

to proxy for ruling-party institutionalization. This proxy is appropriate to the extent that the two features of party institutionalization of concern here—institutions that promote intra-party transparency, and focused expectations on who should and should not invest—are more likely to be found in older than in younger ruling parties. There are two reasons to suggest that this is the case.

On the one hand, party leaders require time to implement institutionalization. Institutions that ensure transparency, such as the personnel reforms introduced by Deng, cannot be completed quickly. In addition, insiders and outsiders must have appropriate expectations regarding each others' investment behavior, which may be especially difficult to establish to the extent that party institutionalization does not Pareto dominate the status quo.⁶ Older parties are more likely to have established these formal and informal institutions.

On the other hand, institutionalization itself may contribute to the longevity of the ruling party. The mere fact that ruling parties have successfully implemented transparency institutions and focused expectations makes it more difficult for opponents (inside and outside of the party) to remove it. Keefer (forthcoming), for example, argues that ruling parties that can make credible promises to followers are also better able to mount counter-insurgency efforts against potential challengers.

In principle, unobserved factors unrelated to our analysis could influence both ruling party longevity and investment. We substantially mitigate the possible effects of omitted variable bias by controlling for three variables: the years in office of the country's leader, the length of the non-democratic episode, and political instability. Unobserved variables that might increase ruling party age and investment tend to have broader effects on leader tenure and the duration of the non-democratic episode. The inclusion of these two variables ensures that such unobserved effects do not create a spurious association between ruling party age and investment. The inclusion of leader tenure in particular controls for the presence of (unobserved) long-lived charismatic rulers who actively discourage party institutionalization. Our control for political instability is defined as the proportion of parties and the executive who control government in year $t - 1$ who no longer occupy these positions in year t . This variable captures conditions under which a non-democratic episode begins and ends, and so mitigates potential omitted variable bias introduced by the unobserved circumstances in which non-democracies emerge or disappear.⁷ All these variables are taken from the Database of Political Institutions.

⁶In particular, outsiders prefer the equilibrium in Proposition 2, where all investors choose $e_i = \hat{e}$ and outsiders earn positive payoffs equal to $m(\hat{g} - q\hat{g}) - \hat{c}$, to those in Propositions 4 and 5, where insiders only invest and outsiders receive a payoff of zero. Analogously, insiders prefer the equilibria in Propositions 4 and 5 to that in Proposition 2.

⁷For example, in countries in which a new ruling party wrests control from a democratic government, the instability variable takes a value of one in the first year of the non-democratic episode. In contrast, when ruling parties—such as ZANU in Zimbabwe—participated in democratic government just prior to taking autocratic control of the country, political instability takes a lower value, as prior veto players continue to exercise veto player in the current (now autocratic) government. With respect to transitions to democracy, most non-democratic periods end with the sudden replacement of the autocrat. In some countries (such as Haiti), however, prior to elections the autocrat is compelled to share power with another party. The entry of this new party increases the instability variable in the last years of the non-democratic episode.

We also control for basic demographic and income data that might be related both to party longevity and to private investment: income per capita (in PPP-adjusted, 2000 US dollars); the land area of the country; total population; and the percent of the population that is young or rural, respectively. Because private investment might be sensitive to a country’s position in global trade, we also control for the Frankel-Romer trade instrument (Frankel and Romer 1999).⁸ We examine other controls, related to economic structure and social fractionalization, in robustness checks on our basic results.

We examine these predictions by estimating $inv_i = \beta_1 + \beta_2 inst_i + X_i' \beta_3 + \epsilon_i$ using ordinary least squares, where i indexes non-democratic episodes (one country could have several or no episodes); inv_i is a variable measuring investment; $inst_i$ is age of ruling party, our proxy for party institutionalization; and X_i a vector of other potential determinants of investment. All variables are averages over the non-democratic episode, though as we discuss below, we examine the robustness of our results to the use of ruling party age at the beginning and end of the episode. Our main prediction is $\beta_2 > 0$, for which we find substantial support across different subsamples and with different sets of control variables. We report estimated coefficients and p -values calculated from heteroskedasticity-robust standard errors that correct for correlation of error terms across non-democratic episodes within countries.

Investment-institutionalization results

Our core results appear in the first and third columns of Table 1. Consistent with the central theoretical prediction of the baseline model, age of the ruling party is associated with a statistically significant and large increase in private investment. A non-democratic episode with a ruling party that is ten years older (median party age is approximately ten years) attracts one percentage point more private investment as a fraction of GDP (median private investment is approximately 12.5 percent of GDP). Age of the ruling party is also positively associated with foreign direct investment, but the magnitude of the estimated effect is less than one-third that on investment generally, and the estimated coefficient is not statistically significant.

These results are robust to the use of a more autocratic, and smaller, sample of countries. In columns two and four, all non-democratic episodes are used for which LIEC *and* EIEC are less than seven. The private investment results are larger in magnitude and similar in statistical significance to those in the baseline sample. The FDI results are also similar in magnitude, though with higher standard errors that drive the p -value from 0.15 to 0.26.

To the extent that foreign investment corresponds more to investment by outsiders” than does investment overall, our results thus suggest that insiders are more responsive to ruling-party institutionalization than are outsiders. Our theoretical analysis explains this differential responsiveness as arising from two offsetting effects of institutionalization on outsider

⁸Frankel and Romer (1999) estimate the contribution to total trade flows/GDP of the geographic circumstances of a country (distance from all possible trading partners, common borders, whether countries are landlocked), conditioned on population and area of trading partners relative to the country. Their measure is the fitted value of this equation.

investment. In the baseline model, there is no outsider investment when the ruling party is institutionalized (as in Propositions 4 and 5), but such investment is possible when there is no institutionalization (as in Proposition 2). Institutionalization thus potentially reduces FDI. The extension to credible bonus schemes, in contrast, suggests that to the extent that outsider investment requires leaders to elicit effort from cadres, ruling party institutionalization may increase this investment by providing cadres with the assurance that they will be compensated in return for that effort. The results in Table 1 imply that the second effect is greater than the first, but with the net effect of making foreign investment less responsive to institutionalization than private investment generally.

Table 2 demonstrates that the baseline results are robust to numerous other controls. The structure of the economy may influence both investment and political incentives. To account for this, we include controls for the contribution of value-added in agriculture, manufacturing, and services to GDP (from *World Development Indicators*). Ethnic, religious or linguistic fractionalization might similarly reduce both incentives to invest and systematically influence leadership incentives to undertake party institutionalization. We therefore also include controls for fractionalization, taken from Alesina, et al. (2002), in the Table 2 regressions. The magnitude and significance of the coefficients on ruling party age are almost unchanged from Table 1, although the role of agriculture in the economy and ethnic (only) fractionalization are both significantly negatively associated with investment.

The diversity of these controls, and particularly the controls for leader tenure and the length of the non-democratic episode, should allay most concerns that omitted variable bias drives the observed relationship between investment and our proxy for ruling-party institutionalization. Nonetheless, there may still be unobserved heterogeneity that is related to ruling party institutionalization—and in particular, to our proxy for institutionalization, ruling-party age—and investment. There are, however, several additional reasons to believe that the associations we identify between institutionalization and investment are not spurious.

First, the qualitative evidence from China that we present above, with which we are able to document precisely those features of institutionalization that are not observable in cross-country data, supports our interpretation of the cross-country comparisons. Second, if omitted variables drive both investment and party age, or if higher investment directly leads to higher party age, then we should expect party age at the end of the non-democratic episode to have a greater association with investment than party age at the beginning of the episode. If anything, however, the opposite is true. Using the specification from the first column of Table 1, and substituting values for age of ruling party in this way, the estimated coefficient on party age evaluated at the beginning of the period is .096 (with a p -value of .006), where the estimated coefficient on party age evaluated at the end of the period is .072 (with a p -value of .007).

Third, we focus not only on a simple hypothesized relationship between investment and ruling-party institutionalization, but also on related hypotheses. It is unlikely that omitted effects simultaneously explain the association of investment and party age, in Tables 1 and 2; the difference in the effect of ruling party age on private and foreign direct investment in the two tables; and the association of party age with expropriation and corruption that we document below. Fourth, as Propositions 1 and 2 in our theoretical model demonstrate, parties

may have the formal attributes of institutionalization without having focused expectations in a way that would encourage high investment. Our operationalization of institutionalization as party age thus biases our tests against finding a significant association between institutionalization and investment.

Fifth, our theory suggests that any omitted effects may in fact bias our tests against finding a significant association between party age and investment. To see this, recall our interpretation of the model as identifying two types of countries. In the first type, absent ruling-party institutionalization no one invests (as in Proposition 1 and—off the equilibrium path—Proposition 4). In the second type, absent ruling-party institutionalization, a broad group of investors invest at a low level (as in Proposition 2 and—off the equilibrium path—Proposition 5). Thus, the “natural” level of investment should be higher in countries of the second type. But rulers should be less likely to institutionalize in countries of the second type, as they are able to profit from some investment even without institutionalization. To the extent that that we do not capture the distinction between the two types of countries with our various covariates, omitted variable bias should therefore work against finding a positive relationship between party age and investment.

3.3 Property rights, corruption and autocracy

The foregoing results indicate that investment is higher when ruling parties are more institutionalized. However, our analysis suggests specific channels through which party institutionalization should operate: it should increase investment because it reduces the risk of expropriation; and it should reduce bureaucratic incentives to extract rents (corruption) by increasing the credibility of government promises to civil servants.⁹ We find evidence for both of these propositions, using two widely-employed measures from Political Risk Services’ *International Country Risk Guide*: Expropriation Risk (collected from 1984–1997) and Corruption (available from 1984–2004). For each of these, larger values imply better governance, i.e., lower expropriation risk and lower corruption.

To examine these effects, we regress each of these governance variables in turn on the control variables used in Table 1, using four different specifications: all non-democratic episodes; the more autocratic subsample of episodes; the subsample of episodes with private investment data; and all non-democratic episodes, controlling for social fractionalization. Table 3 reports the estimated coefficient on the age of the ruling party in each of these eight regressions. Consistent with our predictions, the estimated coefficient on ruling party age is positive and statistically significant at conventional levels in six of eight cases.

The estimated effects of leader years in office and length of the non-democratic episode (not reported) are additional notable findings in Table 1–3. Previous research has attached strong importance to leader longevity in autocracies, arguing that leaders with long horizons

⁹There may be some complementarity between these two effects. In the absence of a transparent framework for cadre management, leaders cannot easily demonstrate that they are punishing corrupt cadres as opposed to engaging in excessive expropriation. Party institutionalization simultaneously reduces expropriation and makes it easier for leaders to punish corruption.

were more likely to pursue policies that increase current investment and future growth (e.g., Clague, et al., 1996). Our analysis suggests that longevity matters, but that it is the ruling party’s rather than the leader’s or regime’s tenure that matters most. In the regressions in Tables 1 and 2, years in office of the leader has no significant effect on investment. In Table 3, years in office of the leader is significant and positive only in the first of the expropriation regressions, is significant and *negative* in three of four corruption regressions, and insignificant in all other regressions. Finally, in all of the regressions reported in Tables 1–3, the length of the non-democratic episode is insignificant.

These findings stand in contrast to the empirical results in Clague et al. (1996), where the years in office of the autocrat are significantly associated with more secure property rights (lower expropriation risk). Clague et al. conjecture, and Olson and McGuire (1996) formalize, the argument that autocrats who remain in office for a longer period of time internalize the future costs of current expropriation. The question left open in that research is why some autocrats have longer horizons in the first place. The theory we present implicitly considers the horizons of autocrats as dependent on their actions with respect to expropriation, and points to the importance of party institutionalization as the underlying feature of autocracies that improves the security of property rights. Using data unavailable in the early 1990s on the age of parties, we show that the individual horizons of the autocrat are not as important as the institutionalization of the ruling party (that is, the horizons of the autocrat’s supporters) in generating more secure property rights.¹⁰ Indeed, if one omits the age of the ruling party from the regressions in these tables, the effect of leader years in office on investment and expropriation risk is positive and statistically significant, as in Clague et al. (1996).

3.4 The correlates of party institutionalization

Our earlier results indicate that investment is greater and governance better in autocracies with older, and presumably more institutionalized, ruling parties. Our theoretical model suggests a number of testable hypotheses regarding when rulers are more likely to attempt such institutionalization. In particular, Proposition 5 predicts ruling-party institutionalization to be more likely when the difficulties of organizing collectively are great (k is large) and when the investment losses from collective action are large (m is small). Proposition 4 shows that the same effects drive the optimal number of cadres in any institutionalized ruling party, and the discussion in Section 2.5 demonstrates that these comparative statics extend to the case where institutionalized ruling parties promote bureaucratic effort (though in that case the interpretation of m is somewhat different). In addition, Proposition 5 suggests that institutionalization of ruling parties should be more likely in countries where expropriable rents (\tilde{g}) are small.

To examine these hypotheses, we regress age of ruling party on proxies for k , m , and \tilde{g} . Although optimal given data constraints, this approach is biased toward finding no effect on institutionalization of our various proxies. First, if autocrats expect no investment without institutionalization, then they may try to create institutionalized ruling parties regardless

¹⁰For a related argument, see Debs (2007).

of k , m , and \tilde{g} , as in Proposition 4. The size of such parties will depend on the values of these parameters, but we only observe whether or not a party is institutionalized (through party age). Second, as Propositions 1 and 2 demonstrate, autocrats may be unsuccessful in institutionalizing party rule even when they are inclined to attempt it.

To examine the effect of barriers to collective action (k), we include ethnic, religious, and social fractionalization, each of which may influence the ease of collective action against the leadership, though in possible complex ways. On the one hand, the fractionalization of a group that would otherwise be well-organized is likely to impede collective action. This is most likely to be true for religious fractionalization, as religious identification is generally tied to a religious organization. Religious fractionalization therefore implies a proliferation of smaller organized groups, which should have a negative effect on collective action (raising k) and thus a positive impact on leader incentives to pursue ruling-party institutionalization. Linguistic or ethnic fractionalization, on the other hand, may prompt collective action where none would otherwise exist, lowering k and so deterring leaders from institutionalizing.

To capture investment losses from collective action ($1 - m$), we include variables for economic structure, as economies that are more intensive in immovable assets (land, capital) might suffer more in the event of rebellion. The same variables also bear on the expropriability of investments; expropriable rents (\tilde{g}) are likely to be lower in more mobile, service-oriented economies. These considerations suggest an ambiguous effect of services on party institutionalization: by increasing m , services reduce the incentive to institutionalize, while by reducing \tilde{g} , they increase that incentive. As an additional measure of \tilde{g} , we also include two traditional measures of natural-resource rents from *World Development Indicators*—mineral-ore and fuel exports as a proportion of all exports—as natural resources may be easier to expropriate than other goods.

Wright (2007) provides evidence that the incentives to create binding constraints—in his case, legislatures rather than parties—may be lower for military than for non-military dictatorships. In addition, both k (the difficulties of organizing collectively) and \tilde{g} (expropriable rents) may increase under military governments, the one increasing incentives to institutionalize, but the second reducing incentives. To capture these effects, we include a dummy variable equal to one if the executive is an active-duty military officer. Finally, we control for leader years in office, percent population young and rural, total population and land area, and income per capita.

Table 4 presents tests of these empirical predictions in both the full non-democratic sample and in the more autocratic subsample. Across all specifications, religious fractionalization has a significantly large and *positive* effect on ruling-party institutionalization, consistent with the idea that religious fractionalization raises collective action costs. Linguistic fractionalization has a *negative* though imprecisely estimated, effect, suggesting that it reduces coordination costs; and ethnic fractionalization has essentially no effect. No measures of the expropriability of rents or their vulnerability to destruction under contestation are consistently statistically significant. Of the three economic-structure variables, only the estimated effect of services value added as a proportion of GDP is ever significant. It is positive, suggesting that the effect of services on \tilde{g} outweighs that on m . The estimated effect of services value added/GDP loses significance when measures of natural-resource exports are added,

due to the significant negative correlation of services with these two variables. However, as is clear in the second and fourth columns of Table 6, neither of these two traditional measures of expropriable rents are significant predictors of institutionalization.

Beyond religious fractionalization, the most robust effect on party institutionalization is whether the executive is an active-duty military officer, notwithstanding the theoretical ambiguity about its effect. The estimated coefficient on this variable is large, negative, and statistically significant in all regressions reported in Table 4. Military leaders are less likely to institutionalize, perhaps suggesting that the ease of expropriation in military governments outweighs the effect that military control has on collective action, at least with respect to the incentives to create institutionalized ruling parties.

Among our other controls, the land area of a country has a significant, positive impact on party institutionalization in the more autocratic subsample. One interpretation of this result is that barriers to collective action may be higher in countries that are physically large. As the model presented above suggests, this could increase the incentives for ruling-party institutionalization. The estimated effect of other controls is insignificant.¹¹

4 Conclusions

The analysis and evidence presented here point to the important role of ruling-party institutionalization as a solution to problems of credible commitment in autocracies. Autocracies that solve these problems can attract high levels of investment, albeit primarily by a designated elite rather than the broader class of potential investors, 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. Autocratic rulers have less interest in restraining themselves, for example, when they are vulnerable to resistance by a small number of individuals and when the gains from expropriation are especially large. Moreover, even when it is in the autocrat's interest to facilitate the collective action of party insiders as a way of credibly committing to their non-expropriation, the formal institutions of institutionalized ruling parties alone do not guarantee that members of the party elite will be protected. Rather, the designation of a party elite must also establish the informal norm that party cadres are primarily responsible for investment.

A wide range of evidence supports our theoretical perspective. We present qualitative evidence from China that ruling-party institutionalization played a critical role in the investment boom that has fueled that country's growth performance in recent decades. We also test various predictions of the theoretical model in statistical comparisons across a broad sample of non-democracies. Using age of the governing party as a proxy for both formal and

¹¹As a robustness check, we also included political stability and length of the non-democratic episode, as in the regressions reported in Tables 1–3. Neither variable has a significant effect on ruling party age, and their inclusion does not substantially alter the estimated coefficients of the other right-hand-side variables, i.e., religious fractionalization and whether the executive is in the military remain the two most robust determinants of institutionalization.

informal elements of ruling-party institutionalization, we find that investment is greater and governance better in autocracies with more institutionalized ruling parties, and that ruling parties are more institutionalized in the presence of religious fractionalization (which may raise the cost of collective action) and in economies oriented around services (which may be harder to expropriate). Finally, we provide some evidence that ruling parties are smaller when non-democratic leaders are more vulnerable to collective action, a result consistent with the theoretical model, though a definitive test of this hypothesis awaits the collection of systematic data on party size in autocracies.

Our analysis points to several areas in which further research is needed. First, although we have emphasized intra-party information flows as the primary means by which autocrats may facilitate collective action by party elites, other mechanisms are possible. Our intuition is that the main qualitative results of the model will continue to hold so long as any mechanism serves to protect members of the party elite but not outsiders, as in Lemma 1. Nonetheless, additional insights may be gained by considering the various ways in which institutionalized ruling parties may coordinate the actions of those who are dissatisfied with the regime.

Second, one might consider the incentive that protected members of the party elite have to treat outsiders as a common pool from which they over-predate, at the expense of the party as a whole. Such issues seem to have been paramount in China, where increased investment has gone hand-in-hand with efforts by local officials to increase their rents, including the transfer of land away from farmers to industrial and other uses and weak oversight of the environmental degradation caused by local enterprises. To some extent, as the extension to the model we present in Section 2.5 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, as if the leadership too vigorously pursues internal corruption, it runs the risk of excessively cutting the rents of party insiders and thus of undermining the perception that they will not be treated arbitrarily by the leadership. An extended model might consider this tradeoff.

Finally, the analysis might 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; it seems likely that they also play an important part in decisions about the appropriate degree of institutionalization within non-democracies.¹² Any such an extension is likely to yield ambiguous results, as shocks may simultaneously increase the risk of coups by party insiders and of revolution by outsiders. As the model suggests, these may have contradictory influences, with the increased coup risk discouraging autocrats from facilitating collective action at the same time that the threat of revolution increases the political benefit of institutionalized ruling parties.

¹²Przeworski, et al. (2000, p. 112) and Geddes (2003) 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.

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Table 1: Party Institutionalization and Investment in Non-Democracies

Dependent variable:	Private investment/GDP		FDI/GDP	
	Base sample	More autocratic	Base sample	More autocratic
Age of ruling party	0.088 (0.01)	0.109 (0.00)	0.026 (0.15)	0.022 (0.26)
Years in office	0.072 (0.43)	-0.050 (0.70)	0.017 (0.78)	0.050 (0.62)
Political instability	0.677 (0.90)	0.880 (0.89)	-3.144 (0.04)	-1.753 (0.14)
Length of non-democratic episode	0.012 (0.92)	0.103 (0.53)	-0.090 (0.27)	-0.045 (0.71)
Frankel-Romer trade index	-2.115 (0.04)	-2.381 (0.13)	1.415 (0.00)	0.766 (0.03)
Percent population young	-0.465 (0.00)	-0.431 (0.03)	-0.052 (0.33)	-0.013 (0.80)
Population, millions	-0.011 (0.01)	-0.011 (0.09)	-0.002 (0.24)	-0.003 (0.25)
Percent population rural	-0.011 (0.80)	-0.018 (0.75)	0.020 (0.27)	0.003 (0.88)
Land area, millions	0.086 (0.84)	-0.186 (0.85)	0.500 (0.10)	0.531 (0.20)
GDP (PPP) per capita, 1000 USD	-0.027 (0.91)	0.013 (0.96)	-0.029 (0.78)	-0.058 (0.49)
N, countries	107, 86	87, 76	125, 100	105, 90
R-squared	0.28	0.27	0.17	0.10

Notes: Ordinary least squares, with heteroskedasticity-robust standard errors corrected for clustering at country level; p-values reported in parentheses. Non-democratic episodes are the unit of observation. In the base sample, these are defined as continuous years in which countries exhibit $LIEC < 7$ or $EIEC < 7$. In the more autocratic subsample, only episodes that exhibit $LIEC < 7$ AND $EIEC < 7$ are included. For $EIEC = LIEC = 5$, elections have multiple candidates, but only candidates from one party win seats. For $EIEC = LIEC = 6$, elections have multiple candidates, but the winner receives more than 75% of the vote. For $EIEC = LIEC = 7$, no candidate receives more than 75% of the vote.

**Table 2: Party Institutionalization and Investment in Non-Democracies:
Robustness to Alternative Explanations**

Dependent variable:	Private investment/GDP		FDI/GDP	
	Base sample	More autocratic	Base sample	More autocratic
Age of ruling party	0.079 (0.02)	0.087 (0.03)	0.023 (0.16)	0.016 (0.43)
Manuf. value-added/GDP	0.141 (0.23)	0.106 (0.40)	-0.074 (0.22)	-0.068 (0.32)
Agricultural value-added/GDP	-0.261 (0.01)	-0.293 (0.00)	-0.105 (0.07)	-0.107 (0.09)
Services value-added/GDP	-0.179 (0.04)	-0.128 (0.16)	-0.039 (0.55)	-0.057 (0.46)
Ethnic fractionalization	-6.760 (0.04)	-6.305 (0.13)	-2.334 (0.10)	-3.205 (0.06)
Religious fractionalization	-3.010 (0.26)	-2.930 (0.33)	1.332 (0.21)	2.581 (0.02)
Linguistic fractionalization	4.729 (0.07)	5.290 (0.07)	1.907 (0.08)	1.946 (0.11)
N, countries	97, 80	81, 72	108, 88	92, 80
R-squared	0.47	0.49	0.30	0.31

Notes: Ordinary least squares, with heteroskedasticity-robust standard errors corrected for clustering at country level; p-values reported in parentheses. Specifications from Table 1. Control variables from Table 1 are not reported. See notes for Table 1.

Table 3: Party Institutionalization and Governance in Non-Democracies

	Dependent variable: expropriation risk (ICRG)			
	Base sample	More autocratic	Private investment data	Control social fractionalization
Age of ruling party	0.020 (0.11)	0.016 (0.21)	0.040 (0.00)	0.023 (0.06)
	Dependent variable: corruption (ICRG)			
	Base sample	More autocratic	Private investment data	Control social fractionalization
Age of ruling party	0.012 (0.08)	0.014 (0.07)	0.016 (0.05)	0.011 (0.10)

Notes: Each cell reports the estimated coefficient on the age of the main government party from the corresponding regression of the respective governance indicator on age of ruling party and control variables. Ordinary least squares, with heteroskedasticity-robust standard errors corrected for clustering at country level; p-values reported in parentheses. Specifications from Table 1. Control variables not reported. See notes for Table 1.

Table 4: Correlates of Party Institutionalization in Non-Democracies

	Dependent variable: age of ruling party			
	Base sample		More autocratic	
Religious fractionalization	13.030 (0.03)	15.401 (0.02)	16.433 (0.01)	17.820 (0.01)
Linguistic fractionalization	-8.861 (0.40)	-6.734 (0.52)	-14.020 (0.16)	-13.490 (0.19)
Ethnic fractionalization	0.428 (0.97)	-5.327 (0.65)	5.677 (0.55)	3.567 (0.75)
Manufacturing value-added/GDP	0.064 (0.86)	0.088 (0.84)	0.339 (0.47)	0.317 (0.59)
Agricultural value-added/GDP	-0.017 (0.94)	-0.155 (0.66)	0.003 (0.99)	-0.099 (0.82)
Services value-added/GDP	0.396 (0.02)	0.374 (0.15)	0.173 (0.33)	0.233 (0.39)
Mineral-ore exports/merchandise exports		-0.062 (0.48)		-0.038 (0.69)
Fuel exports/merchandise exports		-0.053 (0.55)		-0.063 (0.58)
Executive is military officer	-10.658 (0.01)	-11.606 (0.01)	-13.670 (0.00)	-14.488 (0.00)
Years in office	0.417 (0.17)	0.324 (0.37)	0.131 (0.71)	0.030 (0.94)
Percent population young	0.377 (0.39)	0.594 (0.23)	-0.097 (0.87)	0.088 (0.89)
Percent population rural	0.043 (0.72)	0.039 (0.78)	0.035 (0.82)	0.056 (0.74)
Population, millions	0.023 (0.30)	0.021 (0.38)	-0.013 (0.54)	-0.015 (0.51)
Land area, millions km-sq	1.160 (0.62)	1.210 (0.64)	4.970 (0.08)	5.460 (0.08)
GDP (PPP) per capita, thousands USD	-0.247 (0.72)	-0.335 (0.63)	-0.735 (0.40)	-0.639 (0.49)
N, countries	133, 110	118, 102	102, 88	92, 80
R-squared	0.23	0.22	0.30	0.34

Notes: Ordinary least squares, with heteroskedasticity-robust standard errors corrected for clustering at country level; p-values reported in parentheses. For definition of more and less autocratic samples, see notes for Table 1.