Private Investment and the Institutionalization of Collective Action in Autocracies: Ruling Parties and Legislatures

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Despite the absence of formal institutions to constrain opportunistic behavior, some autocracies successfully attract private investment. Prior work explains such success by the relative size of the autocrat's winning coalition or the existence of legislatures. We advance on this understanding by focusing on the key constraint limiting coalition size and legislative efficacy: organizational arrangements that allow group members to act collectively against the ruler. We introduce three new quantitative measures of the ability of ruling party members to act collectively: ruling-party institutionalization, the regularity of leader entry, and the competitiveness of legislative elections. These characteristics are robustly associated with higher investment. Our evidence also points to an effect on the risk of expropriation in nondemocracies.

Although much is known about the determinants of economic performance, the fact that some nondemocracies manage to attract large amounts of private investment remains a persistent puzzle.[1] In 2007, for example, 40% of countries lacking competitive multiparty elections attracted more private investment than the median country with competitive elections. Such performance is not easily explained by the presence of formal institutions that constrain opportunistic behavior by governments; almost by definition, such institutions are lacking in nondemocracies. Moreover, variation in private investment among autocracies is far greater than in democracies: in 2007, the standard deviation of private investment/GDP among nondemocracies was 7.1 percentage points, versus 2.4 percentage points in democracies.[2]

In this article, we investigate variation in private investment among nondemocracies, explaining it with a new argument: autocracies succeed in attracting private investment when they exhibit specific institutions that promote collective action by regime supporters in the event of their expropriation. We identify these institutions and provide three new measures of

their existence: ruling-party institutionalization, the regularity of leadership transitions, and the presence of multiple candidates in single-party legislative elections. Quantitative evidence demonstrates that private investment is robustly higher in nondemocracies with these institutions than those without. This effect, however, extends only to domestic private investment; foreign investors are not members of domestic political coalitions, and their actions are presumably less sensitive to whether regime supporters can act collectively. Consistent with our general argument, we also find suggestive evidence that expropriation risk is lower in nondemocracies where regime supporters are allowed to act collectively.

The discussion that follows begins with a description of this article's contribution to a large literature on regime performance. We then show how specific institutions can create capacity for collective action among regime supporters, thus constraining opportunistic behavior by autocratic rulers and encouraging private investment. The analysis centers on three new measures of the degree to which leaders allow (or are compelled to tolerate) collective action by their

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[1]Replication data available at http://go.worldbank.org/XU84Q9C3L0.

[2]We provide data sources in the fourth section below.

supporters: the age of the ruling party at the time the ruler takes power; the degree to which rulers enter office through regular procedures; and the extent to which legislators build personal constituencies through competitive elections. The remainder of the article presents quantitative estimates of the effects of these variables on private investment and opportunistic behavior by nondemocratic leaders.

Autocratic Performance in the Literature

The literature on autocratic performance is vast. We focus here on a few works closely related to our contribution. These assume, in common with much of the literature, that supporters of the autocrat can remove the autocrat from office. Bueno de Mesquita, et al. (2003), for example, assume that the ruler must maintain the support of some subset (the "winning coalition") of the group of individuals with the power to replace him (the "selectorate"); they conclude that rulers are more likely to adopt policies in the broad public interest when the winning coalition is large. Similarly, Besley and Kudamatsu (2008) argue that good policy results when the selectorate can replace the leader without losing power itself. North and Weingast's (1989) analysis of the Glorious Revolution can be viewed in a similar light: once the wealthy acted collectively to wage war against an opportunistic king, the threat of royal expropriation declined. Even Acemoglu and Robinson (2002) and Boix (2003), who focus more on conflict between a ruling elite and an excluded majority, implicitly assume that the elite's representative acts on their behalf. Our article extends this work by examining the precise institutional arrangements under which a selectorate can act collectively to restrain an unelected leader.

Our article is related to work that asks whether autocratic performance differs in the presence of legislatures. Boix (2003) argues that legislatures in autocracies are a constraint on the executive and encourage private investment. Using the coding of regime type in Geddes (1999), Wright (2008) shows that the presence of legislatures is correlated with greater investment in military, but not in personalist, regimes. Gandhi and Przeworski (2006) and Gandhi (2008) make a different argument, suggesting that legislatures act as fora for co-opting the opposition rather than as solutions to the credible-commitment problem confronting leaders, though still with the effect of improving economic performance. Regardless of their function, the puzzle raised by this body of research is that a ruler who can establish a legislature can also dismantle it. The argument here helps to resolve this puzzle, showing that only legislatures whose members have independent support bases can resist transgressions by the ruler.

Our emphasis on ruling parties also has antecedents in other work on parties in nondemocracies. Wintrobe (2000) emphasizes the role that parties in autocracies play in generating loyalty among some citizens; we demonstrate that some parties can achieve this by creating an environment that encourages private investment. In their analyses of the Partido Revolucionario Institucional (PRI) in Mexico, both Haber, Razo, and Maurer (2003) and Magaloni (2006) link economic performance to ruling parties, though not the aspect of ruling parties of concern here, the ability of members to act collectively. Our focus allows us to draw a contrast between Mexico under the (institutionalized) PRI and Mexico under the autocrat Porfirio Díaz, or China under Deng Xiaoping and China under Mao Zedong. Brownlee (2007) argues that parties serve to hold elite coalitions together; the analysis here can be seen as describing organizational prerequisites for elite cohesion. Finally, according to Geddes (2008), autocrats create ruling parties as a way to defend against coups by impressing upon dissident elements of the military their ability to mobilize citizen demonstrations. From our perspective, since mobilization requires the delegation of authority to supporters, it implies giving supporters the ability to act collectively against the leader.

Collective Action and Investment in Non-democracies

Our argument is that capacity for collective action among an autocrat's supporters can increase private investment. Collectively organized supporters are better able to impose a variety of checks on leaders and to impose sanctions for predatory behavior that would not otherwise be possible. The British case analyzed by North and Weingast (1989) is consistent with this: elites, able to meet in Parliament, collectively organized armed resistance to check the power of the Crown. Even if party members themselves are not in control of armed forces, their collective organization facilitates fund-raising to finance an insurgency and to make commitments to the military about how they would govern the country should the insurgency succeed. Moreover, armed resistance is not the only check they can place on the leader. Leaders rely on supporters to implement policies; collectively organized supporters can more easily disrupt implementation.

Balla and Johnson (2009), for example, argue that an important difference between tax farming in France and the Ottoman empire in the sixteenth century was the greater capacity of French tax farmers to act collectively to withhold resources from the monarch in the event that any one of them was expropriated.

Among the prerequisites for collective action, recent literature emphasizes information transmission within the group. Gehlbach and Keefer (2011), for example, argue that collective action to punish ruler expropriation can be hindered by incomplete information about who has been expropriated. Leaders can mitigate this problem through a specific organizational response: creating an institutionalized ruling party. In Gehlbach and Keefer's model, institutionalization increases information flows within the party, thus making expropriation of supporters common knowledge among party cadres; it also assures cadres that other citizens will not invest. Similarly, Boix and Svolik (2009) argue that organizations such as legislatures can facilitate the provision of information to supporters. They find that leaders are less likely to be evicted by (unnecessary) rebellions in nondemocracies with legislatures.

Noninformational obstacles to collective action, though not the focus of the literature, are at least as important. Leaders may simply prohibit or limit independent initiatives by group members. Where rulers exercise tight control over the timing, agenda, and attendance of group meetings, collective action by the group to sanction the rulers is less likely. Similarly, when leaders prohibit coordination among supporters in the pursuit of any task—even those, such as public-goods provision, that could increase support for the leader among the population—they again make it more difficult for supporters to coordinate against them.

A brief comparison of autocratic performance in East Asia and the Middle East helps to illustrate the argument. East Asian nondemocracies are well-known for their ability to attract investment, in contrast to (nonoil producing) Middle Eastern countries. Averaged over nondemocratic periods, private investment in China, Indonesia, and Singapore was 13.5, 15.4, and 19.9% of GDP, respectively. In Egypt and Syria it was 8.4 and 10.8%. These countries exhibit correspondingly large differences in the degree to which they permit collective action by regime supporters through ruling parties.

In China, under Mao, members of the party could not act collectively against the leadership, but instead were subjected to "divide and conquer" strategies. Those who appeared to be focal points of coordination were suppressed, and two of Mao's "chosen successors"

died politics-related deaths. During the Cultural Revolution, Mao used the Red Guard, which he directly controlled and which lay outside the party hierarchy, to attack his opponents within the party. Thousands of party officials were transferred to lower-level jobs, sent to the countryside for reeducation, or imprisoned (e.g., Whiting 2006).

After Mao's death, and coincident with the economic reforms that accelerated Chinese growth, Deng Xiaoping undertook numerous actions to build institutions within the Chinese Communist Party. He abolished the Red Guard and introduced personnel reforms in 1980 in which promotion and cadre evaluation were "governed by rules, clear lines of authority, and collective decision-making institutions to replace the overconcentration of power and patriarchal rule that had characterized China under Mao" (Shirk 1993, 9). Mao had explicitly opposed intraparty institutionalization of this kind, and in fact had sent Deng into internal exile for advocating similar reforms. Though Deng's motivations are not well-documented, observers link them to a desire for a more functional country.

These broad institutional changes were naturally insufficient to allow local cadres to act collectively to restrain leaders in Beijing. Local cadres at the village level, no matter how transparent the Party management of their careers and no matter how low the barriers they confronted to coordinating with each other, stood little chance of acting collectively against the top leadership. However, at every level of the party, leaders in the post-Mao era confronted greater constraints imposed by at least the hundreds of cadres just below them.

As Gehlbach and Keefer (2011) describe, this institutionalization appears to have played an important role in encouraging private investment in China. Although it is not necessary that entrepreneurs be in the party in order to enjoy the protection of party institutionalization—they could also rely on personal ties with party members—party membership of large private investors is common in China. Party members lead and serve as the largest investors in Baidu and Tencent, two large Internet companies; ZTE and Hua Wei, leading providers of communications equipment for telecommunications operators (i.e., competitors with Cisco); and the Hua Yuan group, a major real estate developer.[3]

[3]China is generally thought to be a magnet for foreign direct investment, suggesting a possible inconsistency with this discussion, as foreigners are not generally members of the Communist Party. Relative to GDP, however, FDI into China has not been extraordinary. Since 1980, net foreign direct investment has averaged 2.5% of GDP, compared to 3.2% for all nondemocracies and 3.3% for all countries.

Similar cases are hard to find in the Middle East. Iraqi and Syrian rulers were careful to take measures to prevent collective action by the ruling Ba'ath parties. They established competing organizations, particularly security forces, that reported directly to them, much as Mao had repressed collective action by Communist Party cadres by establishing the Red Guard. In Syria, for example, General Hafiz al-Asad, representing the military wing of the Ba'ath Party, came to power by overthrowing the civilian Ba'ath Party in 1970. The Ba'ath Party remained the ruling party, but al-Asad gave it no role in internal security, which was controlled by members of al-Asad's small Alawi tribe and by the army. Recruitment to the party was based on regional and sectarian considerations rather than on adherence to the ideological principles that had historically been the basis for collective action by Ba'ath Party members (Owen 1992, 261–62).

The dynamics of ruling-party institutionalization are also consistent with the evolution of private investment in Algeria. Houari Boumedienne took over in a 1965 coup and placed the ruling Front de Liberation Nationale under his personal control, replacing party officials with veterans of the independence war (Owen 1992, 258). In the mid-1970s, he made efforts to build up the party as a vehicle of political mobilization, which required delegating authority to party members and rewarding them for their success in mobilizing support. This late effort at institutionalization ended with his death in 1979, when his successor, Chadli Ben Jalid, assumed the power to appoint members of the political bureau (abandoning internal party elections) and reduced the number of party commissions from 11 to 5 (Owen 1992, 259). Consistent with our general argument, private investment fluctuated with the degree of institutionalization of the ruling party, averaging 25.1% of GDP from 1971 to 1975 (before institutionalization), 32.3% from 1976 to 1979 (during institutionalization), and 18.6% from 1980 to 1985 (after party institutions were dismantled). We only view these fluctuations as illustrative, of course; other explanations, such as variations in oil revenues and their corresponding effects on the exchange rate, might also account for them.

Ruling-party institutionalization is therefore one way to increase the credibility of leader commitments to regime supporters, creating an environment in which those supporters feel secure enough to invest. Legislatures can also perform this role, but only to the degree that legislators have support bases of their own. When leaders allow more competitive legislative elections, as when multiple candidates from the ruling party must compete for seats, they essentially require successful candidates to mobilize citizen support for themselves.[4] By itself then, competitive legislative elections encourage and even require regime supporters to mobilize citizens for collective action. By further allowing these individuals to assemble in the legislature, leaders facilitate coordination among precisely those individuals who are best able to mobilize support against them.[5]

Malesky and Schuler (2010) illustrate the mechanism using microlevel evidence from Vietnam on the degree to which legislators challenge the executive. Consistent with our theoretical perspective, local candidates selected in competitive elections are more likely to challenge the performance and policies of central leaders than are legislators nominated by the central leadership or who hold noncompetitive seats.

Three related testable predictions emerge from this discussion. First, countries with these arrangements should exhibit more private investment, as supporters are presumably more insulated against leader expropriation. Second, however, the ability of supporters to act collectively should have a larger effect on domestic private investment than on foreign direct investment: foreign investors do not typically number among the supporters who can collectively enforce agreements with the leader, nor are they as likely to enjoy the personal relationships with party members and legislators that domestic investors have. Third, expropriation risk (the intervening variable between capacity for collective action and private investment) should itself be lower when these institutional arrangements are present. We test these predictions in the remainder of the article.

Measuring Supporters' Ability to Act Collectively

Our analysis exploits three new measures of the ability of a regime's supporters to act collectively. One is a proxy for the institutionalization of the ruling party: the age of the ruling party at the time the leader took office (*age of ruling party less leader*

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[4]In related work, Blaydes (2008) argues that leaders use elections to ensure that those with privileged access to rents deliver a share to local constituents.

[5]Our theory does not capture situations in which elites possess autonomous political resources that enable them to protect their interests without coordination, as in Reuter (2010).

years in office), set equal to zero if the expression is negative.[6] The two components are taken from the 2009 version of the Database of Political Institutions (Beck et al. 2001); the largest government party is assumed to be the ruling party. For two related reasons, this variable reflects the degree to which party members can act collectively. First, parties that pre-date rulers are more likely to be organized independently of them and thus to impose greater restraints. Second, and conversely, parties that permit collective action are more likely to survive ruler transitions and thus to be older than the tenure of any particular ruler.

The first rationale implies that the party has organizational capacity independent of the ruler, providing members with greater ability to act collectively. Of course, as Geddes (2008) describes (and following the discussion of the Ba'ath Party above), leaders may take over preexisting parties and erase any semblance of independence. This, however, should create a bias *against* finding a relationship between ruling-party institutionalization and private investment. Similarly, if a ruler established a personalized (not institutionalized) party before he took power, that party would be older than the ruler's tenure in office but not be a vehicle for collective action by supporters. The presence of such parties in the data also yields a downward bias in the estimated association between ruling-party institutionalization and investment.

At the same time, parties that facilitate collective action by members are likely to survive leadership changes and thus be older than the current ruler. A simple model illustrates this logic. Assume a selectorate of S individuals, of whom W belong to a ruling party that has just lost its leader, where $W < \frac{S}{2}$. At the time of the ruler's death, an infinitely divisible resource is divided equally among the W party members. One member of the ruling party—a new leader—is chosen at random to propose a new allocation among the S selectors, $\mathbf{x} = (x_1,..,x_s)$, where $\sum_i x_i = 1$. A proposal needs the agreement of W selectors to pass; if it fails, the status-quo allocation is implemented. The survival of the ruling party can be measured by the fraction of the party's members who are included in the new leader's coalition (i.e., who vote for the new leader's proposal).

Assume first that the members of the ruling party have no capacity for collective action. Then in any equilibrium, the new leader retains the entire resource for himself, offering $x_i = 0$ to all other selectors i. All members of the ruling party vote against the proposal, so other than the new leader there is complete turnover in the ruling coalition (i.e., a new ruling party replaces the old).

Now assume that if $\mathbf{x}$ passes, then any member i of the ruling party for whom $x_i < \frac{1}{W}$ can choose to contest the new allocation. If at least K members contest, where $1 < K < W$, then the status quo allocation is restored; otherwise $\mathbf{x}$ is implemented. Then it is an equilibrium for the new leader to offer $\frac{1}{W}$ to $W - K$ members of the ruling party, each of whom votes for the proposal, and keep the remainder $\left(\frac{K}{W}\right)$ for himself. (At least $K - 1$ other selectors vote for the proposal.) Off the equilibrium path, any member who receives less than $\frac{1}{W}$ contests if at least $K - 1$ other members also are allocated less than $\frac{1}{W}$. The ruling party is institutionalized both in the sense that contestation is possible in principle (i.e., $K < W$) and that members coordinate on contestation if the new leader engages in excessive expropriation. Relative to the case with no capacity for collective action, there is greater survival of the ruling party, in the sense that more party members are included in the new leader's coalition.

This same logic suggests that when regime supporters can act collectively, leadership changes are more likely to be the product of decisions made through formal organizations such as the ruling party. Such transitions are more likely to be regular or orderly. Our second collective-action variable therefore measures the degree to which, during the entire nondemocratic episode, new leaders enter regularly (*regular entry into office*). We code leadership transitions in nondemocracies as regular (regular entry into office equals one) if the entry variable in the Archigos database (Goemans, Gleditsch, and Chiozza, 2008) is equal to 0 (their coding for regular entry); our entry variable takes a value of 0 (irregular entry) if the Archigos indicator is coded 1 (irregular entry, usually coups) or 2 (leader imposed by another state). Any entry is coded as regular as long as it adheres to preestablished rules, including those for hereditary succession, and even if the predecessor ruler left office irregularly. More than 50% of entries are coded as regular.

This variable contrasts, for example, regular leadership succession under the Partido Revolucionario Institucional (PRI) in Mexico with irregular leadership transitions in countries such as Libya. As described, for example, by Magaloni (2006), the early

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[6]In China, for example, the variable advances from 28 to 55 at Mao's death, 55 to 59 when Deng takes over from the Gang of Four, and 59 to 82 when Hu replaces Deng. Geddes (2003) measures party strength similarly, asking whether the party was created prior to the current leaders first year in office. Our measure, however, is continuous, distinguishing between parties created long before and shortly preceding the first year in office.

years of the PRI were characterized by drastic measures to enforce a five-year presidential term limit. The first PRI president, who sought to exceed his five-year term, was assassinated; after that, leadership transitions were entirely regular. The threat of coordinated behavior served to enforce the five-year rule.

Finally, as discussed in the previous section, ruler commitments to supporters who convene in legislatures should be more credible to the extent that legislators are allowed to mobilize support for themselves through elections.[7] The Legislative Index of Electoral Competitiveness (LIEC) from the Database of Political Institutions is well-suited to distinguish legislatures that muster the support of private constituencies from those that do not. We use this index, which takes values from 1 to 7, to construct two dummy variables. The first (*legislature*) takes a value of 1 when the average value of LIEC is greater than 1.5, and 0 otherwise; this captures the presence of any legislature. The second (*legislature, competitive elections*) is nested in the first, taking a value of 1 when the average value of LIEC is greater than 3.5, and 0 otherwise. Relative to the first indicator, the second variable excludes unelected legislatures and legislatures in which candidates face no competition. Our prediction is that the estimated effect of the first variable should be indistinguishable from 0, whereas the second should be positive and significant; that is, nondemocracies with competitively elected legislators should exhibit greater investment and lower expropriation risk than nondemocracies either with no legislatures or with legislatures that are not competitively elected.

Summary statistics for these and other variables are provided in the working-paper version of this article, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1663057. Of the 69% of legislatures with competitive elections, 23% exhibit elections with multiple candidates from the ruling party; an additional 11% allow candidates from other parties, none of which compete; a further 23% feature candidates from other parties who do compete, but the ruling party nevertheless controls more than 75% of the seats; and 12% result in fewer than 75% of the seats

controlled by the ruling party. As we discuss below, our results are robust to excluding nondemocratic episodes in which the ruling party controls fewer than 75% of the seats.

Empirical Strategy

Our estimating equation is

$$y_i = \beta_0 + \beta_1 z_i + X_i \beta_2 + \varepsilon_i.$$

The variable y_i is some measure of investment or governance, where i indexes nondemocratic episodes; z_i represents any of the variables used to indicate whether the ruler allows supporters to act collectively; X_i is a vector of covariates; ϵ_i is an error term; and β_0, β_1, and β_2 are (vectors of) parameters to be estimated. Except where indicated, all variables are averages over the nondemocratic episode.

We use the Legislative Index of Electoral Competitiveness, discussed in the previous section, and its similarly defined companion, the Executive Index of Electoral Competitiveness, to define the set of nondemocratic episodes over which we conduct the analysis. Our theoretical framework assumes that citizens cannot act collectively to replace the leader, but that leaders who choose to allow collective action by supporters may also allow competitive legislative elections. We therefore primarily report results from a definition of nondemocracy as a country governed by executive leaders who are not competitively elected and legislators who may or may not be competitively elected in multiparty elections (i.e., EIEC is less than 7 and LIEC is less than or equal to 7). We check the robustness of our results to two stricter criteria: both the LIEC and EIEC measures are less than or equal to 6, and (at considerable cost to sample size) both indexes are less than 6. We also discuss an alternative measure of democracy provided by Cheibub, Gandhi, and Vreeland (2010). Nondemocratic episodes run from the first year that a country's Legislative and Executive Indices of Electoral Competitiveness meet the noncompetitiveness criteria to the last year.

Data

The hypotheses tested here concern several dependent variables. The first two, *private investment/GDP* and *foreign direct investment/GDP*, are taken from the World Bank's World Development Indicators (WDI) database. The third, *domestic private investment/GDP*, is calculated as the difference between these two

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[7]If rulers used electoral rules that made it difficult for voters to express a candidate preference, this effect would be attenuated. In fact, in 80% of the nondemocratic country-year observations in which competitive legislative elections were held, first-past-the-post rules were in place and district magnitudes were generally one. Only 43% of democratic country-year observations exhibit these same rules. This perspective complements that of Diaz-Cayeros and Magaloni (2001), who observe that plurality rule and low district magnitudes favor dominant parties in autocracies.

variables. We use investment data from 1975, the first year of coverage for the political variables from the Database of Political Institutions, through 2009, the last year for which investment data are available. Further below we discuss various issues related to the investment data.

The other key dependent variable is a direct, albeit subjective, measure of leaders' ability to make credible commitments. *Expropriation risk* (available from 1984 to 1997) is taken from Political Risk Services' International Country Risk Guide (ICRG). Larger values of this widely used variable imply less risk and thus greater ability of leaders to make credible commitments.

A natural concern is that any results might be driven by political instability rather than institutionalized capacity for collective action. The vector X_i therefore includes two controls for political instability. The first of these, *intraelite turnover* (the STABS variable in the Database of Political Institutions), captures a first form of political uncertainty relevant to investment: the possibility that leadership turnover disrupts personal connections necessary to guard against predation. This measure is defined as the proportion of parties and the executive who control the government in year $t - 1$ who no longer occupy these positions in year t. This variable incorporates not only leadership turnover within the nondemocratic episode, but also whether governing elites were in office before the nondemocratic episode began or left power in a transition period just prior to the end of the episode.[8]

A second notion of instability is "fundamental" political instability, or anarchy. Although this is reflected in intraelite turnover, all regressions also control for the *duration of nondemocratic episode* (where the episode is that defined above, using the variables LIEC and EIEC), which captures unobserved characteristics correlated with regime durability that may simultaneously influence both private investment and ruler incentives to allow collective action among supporters. We further show that key conclusions are robust to controlling either for a history of coup attempts or for intraepisode coup attempts, which may also capture this form of instability.

As Gehlbach and Keefer (2011) argue, access to rents with high rates of return may deter rulers from

supporting institutional arrangements that allow supporters to act collectively. Moreover, countries with supranormal rates of return may also attract high levels of private investment even if leaders cannot make credible commitments to investors. We therefore control for a country's natural-resource dependence, using *fuel exports/GDP* and *ore exports/GDP* from the World Development Indicators database.

Finally, we control for various other characteristics that might be correlated with both our dependent variables and our measures of capacity for collective action. The demographic characteristics *percent population ≤ 15 years old*, *percent population rural*, and *total population* might all influence both the attractiveness of a country to investors (e.g., the size of the market) and the ease of popular mobilization (e.g., if young individuals are easier to mobilize). *The land area* of a country is also relevant, as all else equal, a larger area raises the infrastructure requirements to serve a country's markets. *Income per capita* (in purchasing power parity-adjusted, 2000 U.S. dollars) captures not only the purchasing power of a country's consumers but also its capital stock: the larger the capital stock, the lower is the marginal return to investment. All of these variables are taken from the World Development Indicators database. Last, social fractionalization also might influence investor's incentives to invest (for example, to the extent that interethnic contracts are more costly to enforce). We control for this possibility using the three measures of *social fractionalization* provided by Alesina et al. (2002).

Identification

In principle, both selection bias and omitted-variable bias could undermine our results. With respect to the first issue, longer episodes could be systematically different than shorter episodes, and (unobserved) differences between the two could drive an association between our measures of collective action and investment. For several reasons, however, this is unlikely to be the case. As discussed above, we control for episode duration and, in any event, our measures of capacity for collective action are not systematically related to episode length. By construction, party age less ruler years in office is constant during a nondemocratic episode. When the ruler changes, our measure takes on a new value that could be higher (if the new ruler is from the same party) or lower (e.g., if the new ruler has no party). Within our base sample, the correlation between this variable and episode duration is 0.03. Similarly, the correlation

[8]For example, when ruling parties participate in a democratic government just prior to taking autocratic control of the country, intraelite turnover takes a lower value, as prior veto players continue to exercise power in the current (now autocratic) government. Further, when an autocrat is compelled prior to his removal to share power with another party, this increases intraelite turnover in the last years of the nondemocratic episode.

between regular entry into office and episode duration is -.08. Average episode duration is essentially identical between episodes that exhibit legislatures with competitive elections (8.1, with a standard error of 5.5) and those that do not (8.5, with a standard error of 5.9). Further, as we discuss below, our results are robust to dropping nondemocratic episodes lasting five or fewer years. This would likely not be the case if results were driven by the difference between shorter and longer episodes.

Similarly, again for several reasons, omitted-variable bias is unlikely to drive our results. Where omitted-variable bias is severe, estimates tend not to be stable across specifications; the estimates reported below are quite robust to changes in the set of control variables. In addition, most omitted variables that could plausibly create an association between collective action and investment should have this effect for all types of investment. As predicted, however, the estimated effects of collective action differ sharply between domestic private and foreign direct investment. Finally, the most theoretically plausible unobserved influences should operate through political instability. As we show below, however, there is no significant effect on investment of *observed* regime characteristics related to stability (duration of nondemocratic episode and intraelite turnover).

These considerations notwithstanding, as an additional check for endogeneity, we also estimate the effects of party age less ruler years in office and regular entry into office by two-stage least squares. The excluded instrument in these regressions is a dummy variable equal to 1 if the country's executive in the first year of the nondemocratic period is an active-duty military officer. We cannot adopt this approach in the legislature regressions, as we have two potentially endogenous variables but only one instrument.

The theoretical justification for this variable emerges from several arguments in the literature. Gehlbach and Keefer (2011) argue that dictators who come to power with the backing of the military require less popular support to remain in power and are therefore less likely to promote private investment by allowing supporters to organize. Geddes (2008) makes this point explicitly: ruling parties are likely to be loosely organized when the autocrat is a military leader. Similarly, Wright (2008) provides evidence that the incentives to create binding constraints—in his case, legislatures rather than parties—may be different for military than for nonmilitary dictatorships. As we discuss below, the instrument is a robust predictor of both the party-age and regular-entry proxies for supporter collective action, with precisely

estimated, substantively large, negative effects on both variables in first-stage regressions.[9]

The question, then, is whether the exclusion restriction is satisfied: whether it is correct to assume that government by a military ruler affects private investment or governance only through its influence on the ability of elite to organize collectively. There are three potential concerns. First, it is possible that military leaders come to power because the military is well organized, and that organized militaries facilitate investment by discouraging predation. This argument, however, is entirely consistent with our theory: leaders who facilitate collective action attract more investment. That said, there is no evidence of such a systematic association in the data: the sample includes not only Augusto Pinochet of Chile, with its well-organized military, but also leaders like Jerry Rawlings of Ghana and Samuel Doe of Liberia, with poorly disciplined militaries. Second, military governments may be systematically right-wing and, therefore, systematically more receptive to capital owners : it is well-known that some Latin American and East Asian military dictatorships have been sympathetic to capital owners. As an empirical matter, however, our military instrument is uncorrelated with right-wing ideology, as coded by the DPI.[10] Of nondemocratic episodes that begin with a military leader, the party associated with the ruler has no observable economic ideology whatsoever in more than half the cases, whereas 17% are coded as right-wing. Of those that do not begin with a military leader, nearly the same fraction, 15%, are coded as right-wing. Third, military governments may be more likely to have come to power through coups, which in and of themselves deter investment. Such an effect, however, would operate in the opposite direction of any tendency of military governments to favor investors.[11] On balance, there is no obvious bias from any failure of the exclusion restriction to hold.

[9]Other commonly used instruments are not as theoretically motivated as the military instrument. All of these—ranging from latitude and fraction of the population that speaks English, to settler mortality in countries that have a colonial history, to whether the ruler died in office—are weak (i.e., fail to predict the specific institutions that promote collective action).

[10]As a theoretical matter, it is not self-evident that ideological predisposition to favor capital owners would violate the exclusion restriction. For example, leaders who are ideologically committed to attract investment may be precisely those most motivated to permit collective action by regime supporters in order to make that commitment credible.

[11]In fact, the lagged coup variable that we introduce in the fifth section is an insignificant predictor of party age and regular entry when conditioning on government by a military ruler and other variables in our estimating equation.

Two other issues arise in connection with identification. First, given that the underlying data are country-year observations, it is natural to consider a panel specification that controls for unobserved time-invariant characteristics with episode fixed or random effects, rather than the cross-section specification that we employ. Empirically and by construction, however, our measure of ruling-party institutionalization (party age less ruler years in office) exhibits little within-episode variation, as it changes value only with a change in ruler or the ruling party. Of 91 episodes for which we can calculate the change, for 39 (43%) the value of the party-age variable remains constant; among the 52 remaining episodes, the vast majority experience only one change in the party variable. Similarly, our measure of regular entry into office varies little within episodes, and half of the episodes exhibit no change in the legislature variables. Thus, there is little within-episode information with which to identify any effect of institutionalization on investment. Further, especially given the construction of our party-age variable, which changes only when the ruler or ruling party does, a panel specification would give disproportionate weight to investment changes as a consequence of leadership change per se, which is not our focus. We therefore view cross-section estimates as a cleaner test of our hypotheses than the time-series, cross-section estimates used in previous research on related topics.

Second, already organized citizens could compel leaders to create institutions that further facilitate collective action. Gandhi and Przeworski (2006) implicitly make this point in their discussions of Jordan and Poland. If these citizens also happen to be investors (because they are organized), then investment could "cause" higher values of our collective-action variables. This possibility is consistent, however, with our argument that leaders can make more credible commitments to groups capable of collective action. For our purposes, it is immaterial whether leaders choose to allow groups to organize or whether they have organized without the leaders' consent. In any event, our instrumental-variable strategy also serves as a check on this form of endogeneity.

Private Investment and the Institutionalization of Collective Action

Baseline Results

In this section we present the estimated effects on investment of our three measures of institutionalized capacity for collective action: ruling-party institutionalization (party age less ruler years in office), the regularity of leader entry into office, and the competitiveness of legislative elections. A simple comparison of means suggests a sizable effect. In the 27 nondemocratic episodes that exhibit at least the median level of "institutionalization" across all three indicators, private investment was 16.01% of GDP. In the 18 episodes that were below the median for all three indicators, investment was 8.73% of GDP.

More systematically, Table 1 displays the results for ruling-party institutionalization, reporting estimated coefficients and heteroskedasticity-robust standard errors corrected to allow for clustering across episodes within countries. Consistent with the foregoing discussion, the OLS estimates indicate that a 15-year (one standard deviation) increase in ruling party age less ruler years in office is associated with a statistically significant and substantively large increase in private investment of approximately 2% of GDP (over one-quarter of the standard deviation of that variable). The results are slightly stronger for domestic private investment. In the instrumental-variable regressions the estimated magnitude of these effects is nearly three times greater, consistent with the real possibility that the party-age variable measures ruling-party institutionalization with error, thus attenuating the OLS estimates.

In contrast, when foreign direct investment is the dependent variable, the estimated effect of ruling-party institutionalization is insignificant in both regressions.[12] Autocratic institutions that protect domestic investors appear not to affect FDI significantly. This result complements a large literature on the effect of regime type on FDI. Jensen (2006), for example, finds that democratic institutions, which presumably protect most investors, significantly attract multinational investment and reduce expropriation risk. Our findings suggest that the logic of expropriation risk in autocracies may be different.

In the first stage of all of the IV regressions, the estimated effect of the military-leader instrument is significant and substantively large: if the first ruler in a nondemocratic episode is a military officer, the party-age variable is seven to eight years lower than

[12]By construction, the right-hand side variables should have smaller coefficients in the FDI than in the total-investment equations, as FDI is a subcomponent of total investment. This does not explain our results, however: the collective-action coefficients are much less precisely estimated in the FDI equation, and for the OLS specification, the estimated coefficient in the FDI regression is much smaller than can be explained by the share of FDI in total investment.

TABLE 1   Ruling-Party Institutionalization and Investment

	Private Invest./GDP (OLS)	Dom. Private Invest./GDP (OLS)	FDI/GDP (OLS)	Private Invest./GDP (IV)	Dom. Private Invest./GDP (IV)	FDI/GDP (IV)
Age of ruling party less leader years in office	0.130*** (0.035)	0.141*** (0.035)	0.007 (0.015)	0.396** (0.180)	0.343* (0.172)	0.077 (0.098)
Duration of non-democratic episode	0.004 (0.151)	-0.100 (0.124)	0.033 (0.072)	0.001 (0.180)	-0.124 (0.145)	0.034 (0.075)
Intra-elite turnover	3.245 (4.847)	3.753 (5.162)	-0.701 (2.043)	6.326 (4.814)	5.962 (5.113)	0.456 (2.724)
Fuel exports/GDP	0.143** (0.070)	0.136* (0.077)	0.051 (0.037)	0.235** (0.111)	0.232* (0.127)	0.069 (0.046)
Ore exports/GDP	-0.074 (0.079)	-0.078 (0.073)	0.047 (0.033)	-0.096 (0.080)	-0.115 (0.075)	0.032 (0.055)
Percent population ≤ 15 years old	-0.374*** (0.106)	-0.347*** (0.091)	-0.132*** (0.049)	-0.391*** (0.129)	-0.376*** (0.105)	-0.145** (0.059)
Total population (millions)	-0.010* (0.005)	-0.011** (0.005)	-0.001 (0.002)	-0.015 (0.011)	-0.015 (0.010)	-0.003 (0.003)
Real, PPP-adjusted income/ capita ($10,000)	-2.273*** (0.652)	-3.134** (1.568)	-1.254* (0.735)	-3.366* (1.735)	-5.874* (3.523)	-1.393 (0.870)
Observations	99	92	115	99	92	114
R-squared	0.34	0.42	0.15			

Note: All regressions control for percent population rural, land area, and three measures of social fractionalization; these estimated effects are insignificant in every specification. Constants not reported. The instrument in the IV regressions is an indicator for whether the first ruler in a nondemocratic episode is a military leader. In parentheses, heteroskedasticity-robust standard errors corrected for clustering of episodes within countries. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

would otherwise be the case. The first-stage F-statistic is approximately 10 in the first, exceeding the Stock-Yogo critical value for weak instruments (Stock and Yogo, 2005); it is somewhat lower in the second and third.

Table 2 summarizes results from regressions analogous to those in Table 1, substituting the other two collective-action variables: regular entry of rulers during the nondemocratic episode and the competitiveness of legislative elections. Again consistent with our predictions, regular entry is associated with greater total private and domestic private investment but not with greater foreign direct investment. Further, nondemocracies with competitive legislative elections outperform other autocracies in attracting investment: total private and domestic private investment is over four percentage points of GDP greater than in autocracies with noncompetitively elected legislatures. In contrast, there is only a small (positive) and insignificant difference between autocracies with noncompetitive legislatures and those with no legislatures at all, which supports the argument that only legislators able to mobilize support can impose constraints on rulers.

Robustness

The results in Tables 1 and 2 are robust to numerous changes in sample and specification. With respect to sample, a first important question is whether the results are sensitive to the definition of nondemocracy. The definition used in Tables 1 and 2 identifies 99 nondemocratic episodes in the first specification in Table 1 (missing values result in fluctuating sample sizes from regression to regression). Alternatively, one could define nondemocracies as those in which LIEC is also less than or equal to six, where a value of six for LIEC means that multiparty elections are held but the winning party receives more than 75% of the vote/seat share; 84 nondemocratic episodes meet this definition. Most strictly still, confining attention only to countries in which both LIEC and EIEC are less than 6 yields 58 nondemocratic episodes, a reduction from the most generous definition of almost one-half.

All of the qualitative results related to ruling-party institutionalization and regular entry are robust to the first alternative definition of nondemocracy. The results for competitive legislative elections are

TABLE 2   Regular Entry into Office, Legislative Elections, and Investment

	Private Invest./GDP (OLS)	Dom. Private Invest./GDP (OLS)	FDI/GDP (OLS)	Private Invest./GDP (IV)	Dom. Private Invest./GDP (IV)	FDI/GDP (IV)
Regular entry into office	5.731***	5.351***	0.330	8.246**	5.785*	0.646
	(1.857)	(1.749)	(0.681)	(4.100)	(3.153)	(1.587)
Observations	91	85	105	91	85	104
R-squared	0.36	0.43	0.24			
Legislature	2.161	2.402	-0.108			
	(1.933)	(2.074)	(0.957)			
Legislature, competitive elections	4.990***	4.457***	0.568			
	(1.134)	(1.077)	(0.751)			
Observations	101	94	117			
R-squared	0.40	0.46	0.15			

Note: Each entry reports the estimated effect of either regular entry or the legislature variables on the indicated investment variable from a separate regression. The specifications are otherwise identical to those reported in Table 1. The instrument in the IV regressions is an indicator for whether the first ruler in a nondemocratic episode is a military leader. In parentheses, heteroskedasticity-robust standard errors corrected for clustering of episodes within countries. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

somewhat more ambiguous. Autocracies with competitively elected legislatures significantly outperform those with no legislatures, but there is no significant difference between autocracies with competitive and noncompetitive legislatures, though the estimated difference is positive. However, in the sample with the strictest definition of autocracy, and despite the greatly reduced sample size, it is once again the case that autocracies with competitively elected legislatures attract significantly more investment than those with either no or noncompetitive legislatures. All but one of the results for regular entry is fully robust to the strictest definition of nondemocracy; only the IV estimate for domestic private investment is insignificant. The estimated coefficients on party age less leader years in office, however, are insignificant in the subset of episodes that meet the strictest definition of nondemocracy.

The estimated relationships are also robust to a large number of other sample and specification changes. For ease of presentation, we report these robustness checks in Table 3 only for the estimates in the first column of Tables 1 and 2: the OLS regression of private investment on the institutional variables. The first row repeats the baseline results. A glance at the remaining rows reveals both significance levels and parameter estimates very similar to those in Tables 1 and 2.

The second row in Table 3 reports the estimated coefficients of the collective-action variables when controlling for the number of coup attempts in the 10 years prior to the start of the regime; the third-row estimates are from a regression that controls for the

number of within-episode coup attempts. In practice, contemporaneous coup attempts are already substantially captured by our control for episode duration, which is significantly negatively correlated with the (average) number of within-episode coups. Our results when controlling for coups are qualitatively similar to those in our baseline regressions.

The fourth and fifth rows in Table 3 present results from bivariate regressions, using first the sample of all nondemocratic episodes and then the smaller samples on which the estimates in Tables 1 and 2 are based. In both rows, the estimated effects are very precisely estimated, with parameter estimates close to those in the baseline regressions (especially so with the restricted sample).

The results are also robust to adding controls for continent fixed effects, as reported in the sixth row of Table 3. Again, the parameter estimates vary little from those reported in Tables 1 and 2. The baseline estimates are also robust to the inclusion of the Frankel-Romer Trade Index (the seventh row of Table 3), which captures the degree to which a county's geographic and other attributes give it inherent advantages in international trade, thus raising returns to investors (Frankel and Romer 1999). The eighth row of Table 3 shows that the difference in sample sizes across the FDI and private-investment samples (the two investment series are assembled from different sources and through different methodologies) does not drive the results.

The ninth row demonstrates that influential outliers are not responsible for the results reported in Tables 1 and 2. On the contrary, estimates from ''robust

regressions" are quite similar to our baseline estimates, though here there is a significant difference not only between having a legislature with competitive and noncompetitive elections, respectively, but also between having a legislature with noncompetitive elections and no legislature.[13]

Collective-action problems are more severe as group size increases. The same should apply to countries: regime supporters in large countries should confront more severe collective action problems than those in small countries. Although our baseline specification includes a control for population, there may also be interaction effects with our institutional variables. We therefore exclude all nondemocratic episodes in countries with a population of less than one million, reducing sample sizes by between 10 and 15%. The estimates in the tenth row show that our results are not influenced by the inclusion of very small countries.

The specifications in Tables 1 and 2 control for the duration of an autocratic regime, thereby accounting for unobserved factors correlated with regime durability that might simultaneously affect both private investment and ruler incentives to allow collective action among supporters. An alternative approach, following Besley and Kudamatsu (2008), is to exclude autocracies that are fewer than five years old from the analysis. The eleventh row of Table 3 demonstrates that our results are robust to this restriction.

Besley and Kudamatsu (2008) also partition nondemocratic episodes into "regimes" based on changes in three authority characteristics from the Polity IV database (Marshall and Jaggers 2006): political competition (POLCOMP), constraints on the executive (XCONST), and method of chief-executive recruitment (EXREC). POLCOMP and XCONST both suggest some form of institutionalized capacity for collective action, whereas the definition of EXREC seems to preclude that interpretation.[14] Consistent with this reading, the first two variables are more significant predictors (p-values of .02 and .12, respectively) of private investment when entered one-by-one in

place of our collective-action measures compared to the third (p-value of .43). In any event, the estimated effect of all three variables drops to insignificance when entered jointly with our collective-action measures. (The single exception is that POLCOMP exerts a positive, significant effect on private investment when entered with the party-age variable.) In contrast, all three collective-action variables robustly predict private investment in the regressions that control for these Polity variables. The selectorate's ability to act collectively thus seems to be more precisely measured by the objective variables introduced in the third section.[15]

The twelfth row of Table 3 examines whether our results are driven by the influence of government ideology (though as discussed in fn 10, any such influence would not necessarily contradict our argument). Using data from the Database of Political Institutions, we construct dummy variables for whether governments are right or left of center, respectively. Our results are fully robust to the addition of these two variables, and the estimated effect of the ideology variables themselves is not significant.

The World Development Indicators investment data are based on reports from individual country statistics offices, and changes in criteria used to translate country into WDI categories can alter reported investment dramatically. In 2007, for example, the World Bank country office in China retroactively reallocated all investment by SOE-private joint ventures from 1995 to 2007 away from private to public investment; this single change reduced reported private investment by as much as 14% of GDP. (Of course, investment by state-owned enterprises may itself be contingent on whether leaders can make credible commitments to supporters; regardless, all of our results are robust to controlling for a China dummy variable.) To verify that such decisions are not driving our results, which use investment data as reported in 2010, we checked robustness to the use of data as reported in 2007 and 2009. The qualitative results are very similar to those reported in Tables 1 and 2. All of our results are robust to using these earlier, and presumably noisier data sources.

One final question is whether our results are robust to other measures of autocracy, such as

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[13]We use the rreg command in Stata, with a biweight tuning constant of 6. The estimated coefficient on legislature is 4.826, with a standard error of 2.097.

[14]It is easy to see that EXREC does not distinguish autocracies according to institutionalized capacity for collective action. One component of EXREC, openness of executive recruitment (XROPEN), gives the same score (four) to any country not governed by some form of hereditary succession. The other component, competitiveness of executive recruitment (XRCOMP), gives the same score (one) to any country whose leaders are not chosen in competitive elections.

[15]Besley and Kudamatsu (2008) define autocracies as those countries that score 0 or less on the Polity IV democracy scale (Marshall and Jaggers, 2000). The results in the first column of Tables 1 and 2 are also robust to removing all autocratic episodes from the sample with an average score greater than 0 on this variable.

Table 3 Robustness of the Estimates in Tables 1 and 2

Dependent Variable: Private Investment/GDP	Party Age	Regular Entry	Competitive Legislative Elections
Coefficients from Tables 1 and 2	0.130*** (0.035)	5.731*** (1.857)	4.990*** (1.134)
Add coups in ten years prior to episode onset	0.140*** (0.037)	5.617*** (1.871)	4.947*** (1.190)
Add coups during episode	0.133*** (0.036)	4.960*** (1.829)	4.738*** (1.252)
Remove all controls (bivariate regressions)	0.069** (0.035)	6.194*** (1.362)	5.334*** (1.173)
Bivariate regressions from samples in Tables 2 and 3	0.109*** (0.038)	6.880*** (1.572)	5.705*** (1.215)
Add continent dummies	0.120*** (0.039)	6.447*** (1.683)	4.979*** (1.218)
Add log of Frankel-Romer trade index	0.131*** (0.042)	4.773** (1.951)	4.813*** (1.393)
FDI sample	0.138*** (0.034)	5.179*** (1.706)	4.516*** (1.033)
Robust regression (underweight influential outliers)	0.142*** (0.039)	4.414*** (1.627)	3.871*** (1.222)
Exclude countries with population under 1 million	0.146*** (0.034)	5.800*** (1.430)	4.787*** (0.950)
Exclude non-democratic episodes ≤ 5 years old	0.130*** (0.033)	6.725*** (1.719)	5.328*** (1.219)
Include dummies for right- or left-wing governments	0.126*** (0.033)	6.555*** (2.235)	4.832*** (1.454)
CGV autocracy definition	0.043 (0.038)	5.409*** (1.669)	4.612*** (1.134)

Note: Each cell represents the estimated effect of the particular collective-action variable on private investment from a separate OLS regression. Other than the given modification, both sample and specification are identical to those in the first column of Tables 1 and 2. "Continents" defined as South Asia, East Asia, Africa, Middle East, and Latin America. In parentheses, heteroskedasticity-robust standard errors corrected for clustering of episodes within countries. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Cheibub, Gandhi, and Vreeland (2010, henceforth CGV), who extend the most prominent alternative definition of (non)-democracy. Unfortunately, their coding is not well-matched to our theory. On the one hand, CGV classify countries as democratic if, conditional on alternation in power having occurred, opposition candidates receive *any* votes in executive elections and *any* seats in the legislature. This is inconsistent with our emphasis on the importance of *competitively* elected legislatures and therefore excludes nondemocratic episodes from the sample that are necessary to test our argument. On the other, they classify countries as nondemocratic until they experience alternation in power. This potentially biases our estimates by including what in fact may be democratic episodes. We therefore would not necessarily expect our tests to be robust to use of the CGV classification. Nonetheless, if we rerun the regressions in Tables 1 and 2 using the CGV classification, the OLS estimates of the effect of regular entry and competitive legislative elections on private investment are positive and significant, as reported in the final row of Table 3. Further, all three collective-action measures are positive and significant determinants of *domestic* private investment.

Governance and the Institutionalization of Collective Action

In this section, we examine the mechanism by which institutionalized capacity for collective action encourages private investment. To do so, we use the expropriation-risk variable described above. Though coverage for this variable stops in 1997, it is the most direct measure available of whether rulers can credibly commit to not acting opportunistically once investments have been made. The variable offers only a rough approximation of the expropriation risk specifically faced by domestic investors, as it captures expropriation risk for both domestic and foreign investors. Nonetheless, since we do not expect institutions that promote collective action among domestic actors to influence the expropriation risk confronting foreign investors, a significant association between expropriation risk and our measures of institutions would provide supportive (and conservative) evidence that these institutions increase domestic private investment by reducing the risk of opportunistic behavior.

To estimate the effect of party institutionalization on expropriation risk, we repeat the specifications in Tables 1 and 2, substituting expropriation risk for the investment variables. Results are reported in Table 5 of the working-paper version of the article, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id= 1663057. As expected, the estimated effect of the collective-action variables is positive in each case, significantly so in the regressions examining the regular entry of leaders and competitive legislative elections. The estimated magnitude of the effects is large (e.g., a one-standard-deviation increase in the regular-entry variable is associated with a reduction in expropriation risk of approximately one-third of a standard deviation). Moreover, although the OLS estimate of the effect of the party-age variable is insignificant and small, the IV estimate is close to significant at conventional values ($p = 0.102$) and has a large magnitude: a one-standard deviation increase in party age reduces expropriation risk by over two-thirds of a standard deviation.

Earlier results in the literature argue that leaders with longer horizons are more likely to pursue policies that promote investment and growth (e.g., Clague et al., 1996; Wright 2008). The results summarized here, however, like those in Tables 1 and 2, shift the explanation away from the ruler's time horizon and toward the institutional arrangements that allow supporters to act collectively in the event of their expropriation—that is, the time horizons of the ruler's supporters (for a related argument, see Debs 2007).

Conclusion

How do autocracies solve the problem of credible commitment to investors? The evidence presented in this article points to organizational arrangements that facilitate collective action by regime supporters, allowing them to defend themselves against acts of expropriation. Three different measures of capacity for collective action—ruling-party institutionalization, the regularity of ruler entry into office, and the competitiveness of legislative elections—are positively associated with private investment in nondemocracies. Consistent, however, with the argument that these arrangements benefit domestic but not foreign investors (the latter have comparatively few opportunities to participate in the politics of the countries where they invest), foreign direct investment responds little to such institutional differences across nondemocracies. Expropriation risk is also lower in the presence of these institutional arrangements, again pointing to the con-clusion that the threat of opportunistic behavior by the ruler diminishes when supporters can act collectively.

These findings help to resolve the puzzle of higher investment in some autocracies, but they also raise further questions. Our results are the first to document a sharply different effect on domestic and foreign investment of institutions that constrain opportunistic behavior by rulers. However, given that foreign investors do sometimes invest in autoc-racies, notwithstanding the apparent lack of protec-tion provided by these institutions, more research is needed to understand how foreign direct investment responds to local political conditions.

The conditions under which rulers permit col-lective action by supporters are also not fully under-stood. As we show, organizational arrangements that allow for collective action may increase private invest-ment, with consequent direct and indirect benefits to the ruler. They may also, of course, help the ruler to deal with internal and external aggressors: our identi-fication strategy exploits the fact that the threat posed by such aggressors may be smaller when the ruler is a military leader. Yet, as our brief discussion of the Middle East in the second section demonstrates, rulers may sacrifice these benefits by imposing barriers to collective action in various organizations, even in an environment bristling with internal and external threats. Future work should further explore the trade-offs that rulers face in deciding whether to facilitate or discourage collective action.

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