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Coups and Economic Crises

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Abstract: This paper explores whether coups cause increased crisis risk, and if some types of coups are associated with stronger risk. I use a worldwide sample with data on more than 1200 onsets of economic crisis between 1950 and 2019, treat separate effects of military and civilian coup attempts, and distinguish between failed and successful coups. The data reveal that economic crises are primarily induced by successful coups, and by coups that result in regime change towards civilian autocracy from both democracy and military dictatorship.

Keywords: Democracy, Autocracy, Regime Types, Crisis

JEL Codes: O11, O43, P16

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1. Introduction

Since World War II, democracy has gradually become the most common form of government. After the end of the Cold War, about 60 % of all countries have had some form of democratic regime. Yet, even democratic regime types differ and autocratic reversals are far from rare. Similarly, not all autocracies are identical and regime and power transitions within autocracies occur at frequent intervals, although in most cases by way of a coup d'état. In many cases, these events take place at around the same time as serious economic crises. Military coups against democratically elected governments in, for example, Chile in 1973 and Argentina in 1976 occurred after the onset of serious recessions. On the other hand, the military coup in El Salvador in 1979, which installed José Napoleon Duarte as a civilian dictator, preceded an economic collapse lasting six years. It would last until 1995 before real GDP per capita returned to its 1978 level despite the return of electoral democracy in 1984. Similar problems arose in Nicaragua when the military handed over power to Luis Somoza Debayle after the 1956 assassination of his father, Anastasio Somoza García.

Such examples suggest that regime changes and other institutional shocks may not only be consequences of economic downturns, but can also affect the risk of an economy entering a prolonged crisis. Yet, the literature has so far almost exclusively focused on explaining political regime transitions as outcomes of crises while ignoring how coups might affect economic crises (cf. Przeworski and Limongi, 1993; Haggard and Kaufman, 1995; Bernhard et al., 2001; Belkin and Shofer, 2003; yet see Blum and Gründler, 2020). That is all the more surprising, as transitions in political regimes and economic crises are recurring events and both are economically and socially disruptive.

In this paper, I therefore explore if institutional shocks, understood as regime transitions and intra-institutional coups, in general affect the risk of experiencing an economic crisis, and which types of shocks are most likely to induce a crisis. Following a discussion of the theoretical differences between transition types, I define a regime change not as a change of cabinet or parliament, but a *change*

in the fundamental political institutions in which any government, legislature and head of state are embedded. In other words, the focus is on coups as institutional shocks, including attempts that fail. I not only explore regime changes to and from democracy, but distinguish between different types of shocks, including regime changes within autocracy, i.e. primarily between civilian autocracies and military dictatorships. With the exception of most democratisations, the vast majority of these regime changes have been caused by coup d'états.

In the following, I use a large panel of countries observed between 1,950 and 2019 to estimate the risk of a crisis onset, distinguishing between different types of regime transitions and thus different types of coups. Autocracies can be either civilian or military, and coup attempts can occur against either type or against an incumbent democratic regime. The regime typology rests on the work by Cheibub et al. (2010), as updated in Bjørnskov and Rode (2020) who also provide a novel database with substantial information on both successful and failed coups since 1950.

The empirical findings support the main theoretical considerations as coups that induce changes to the ruling selectorate of autocracies, particularly those shifting power from military dictatorships to civilian autocracy and thus background support from military to civilian interest groups, are associated with a significantly higher risk of economic crisis. These findings are robust to focusing only on developing countries and excluding short recessions.

The rest of the paper is structured as follows. Section 2 sets out the regime data and provides a description of typical crises and crisis differences across regime types. Section 3 outlines the control data and the empirical strategy Section 4 reports the central results discussed in section 5.

2. Regime transitions, institutional shocks, and development

A long list of empirical studies have focussed on the long run and shown, for example, that countries that experienced transitions from autocracy to democracy enjoy economic growth and better judicial institutions (de Haan and Sturm, 2003; Doucouliagos and Ulubaşoğlu, 2008; Acemoglu et al., 2019). In

a similar vein, citizens of countries that experienced transitions from democracy to autocracy may suffer in some cases, as dictators are not subject to the same limitations as democratic governments, and can therefore implement anything from highly beneficial to outright disastrous changes (Wintrobe, 1998; Giavazzi and Tabellini, 2005; Tullock, 2005). In addition, several studies have associated the political instability around coups and institutional shocks with lower growth (Barro, 1991; Easterly et al., 1993; but see also Jong-a-Pin, 2009).

Several studies have indeed focussed on financial distress and financial crisis as causes of economic recession and economic crisis (e.g. Reinhart and Rogoff, 2009; Romer and Romer, 2015). In addition, studies also emphasise the certainty of the survival of the regime and the policies pursued by the regime as factors that can shorten crises and limit their economic losses (Higgs, 1997; Baker et al., 2016). Yet, based on the examples above, this paper instead emphasises the role of *political* distress as revealed by major changes to countries' political institutions. In stable democracies, a certain amount of distress will be a necessary precondition since all governments and politicians run the risk of being ousted in the next elections. For autocratic governments and politicians, the potential risks are substantially larger as a loss of power also mostly entails a substantial loss of privileges and potentially of life. As Tullock (2005, 56) notes "A dictator, then, will spend much of his time worrying about being replaced, and much of his choice of policy will turn on exactly that fear of being replaced."

Autocratic policies are therefore not only likely to be different from democratic policies, but also likely to change drastically when the incumbent government is removed or credibly threatened. While some of these policy changes are for the better, others may be detrimental and all may entail substantial transitional costs. However, a main question is why and how one would expect *different* types of institutional shocks to affect the risk of observing a crisis, or the characteristics of already evolving crises.

2.1. When do we observe coups and regime transitions?

A theoretical answer may rest on the insight that institutional shocks and regime transitions in principle can affect crisis risks and characteristics in three different ways. First, any successful or failed institutional shock or regime change creates economic and political uncertainty. As uncertainty of policies, regulations, institutions and the market situation increases, companies and individuals rationally hold back on purchases and longer-run investment plans, thereby depressing the economy (e.g., Alchian, 1950). Higgs (1997) for example argues that while the Great Depression of the 1930s was not created by uncertain policies or any regime change, it became substantially longer and deeper as a consequence of Roosevelt's New Deal policies that included tight and direct market regulations, control of individual firms and government-backed creation of cartels. After the 2008 crisis, Baker et al. (2012, 2016) document that policy uncertainty increased significantly and argue that erratic, discretionary policy interventions similar to the New Deal prolonged the crisis.

Second, given that policies or economic institutions do change, firms and individuals in the economy are likely to experience transitional costs that could in principle induce an economic crisis, given that the policy changes are sufficiently large. Bjørnskov and Kurrild-Klitgaard (2014) for example show that major institutional changes, as captured by changes to political institutions, have in general been associated with temporary economic slowdowns through history. The post-communist transition in Central and Eastern Europe offers very similar examples (Rohác, 2013). Such slowdowns arise as changing policies, regulations and institutions imply a reallocation of investments and resources, and therefore a likely period of increased unemployment in which some companies either reduce activity or go out of business. Even though a regime change eventually may not lead to substantial policy or institutional change, it is likely to cause a period of significantly increased policy uncertainty.

Yet, since the basic costs associated with transition and uncertainty are likely to be qualitatively similar for different types of institutional shocks, I ignore them in the following theoretical framework. While these potential effects are similar across regime types, a third is likely to yield different effects depending on the type of regime transition: costs and benefits associated with the actual policy and

institutional changes. Making this distinction necessitates a theory of why different types of institutional shocks may lead to different policy changes.

Drawing on the work of Wintrobe (1998), Bueno de Mesquita et al. (2003) and Bueno de Mesquita and Smith (2009), I therefore focus on differences across *types* of institutional shocks and regime changes. Although ignored by previous studies, it appears likely that certain regime transitions, under some circumstances, imply a change in the composition of the political elite of non-democratic governments (yet, see Bennett et al., 2021). While such political changes imply both a period of policy uncertainty and transitional costs if policies and institutions are changed, they may also incur shifts in the influence of special interests supporting the incumbent government or the leaders of a successful coup d'état.

2.2. A simple coup model

A simple way of illustrating the likely problems in a theoretical framework is to expand that of Bueno de Mesquita et al. (2003) who take as a starting point that any government must have the support of a sufficient share of their politically relevant group of citizens. In stable democracies, this group is the entire electorate and except in very particular circumstances, any government must have the implicit or explicit support of the majority of voters. In autocracies, similar circumstances hold, but the relevant group is not the electorate, but a particular *selectorate* consisting of a subgroup of a potential electorate that holds political power or influence. In the framework of Bueno de Mesquita et al. (2003), any autocratic government therefore has to secure the quasi-votes of a majority or winning coalition of the selectorate.

The extension of this framework consists in allowing for the existence of different latent selectorates. Specifically, any autocratic government has to solve what Tullock (2005) considered “The Dictator’s Dilemma” – how to keep other groups away from power – and must therefore cater to one of at least two potential selectorates: either it maintains the support of a sufficient share of *civilian*

interests, or it maintains the support of an equally sufficient share of *military* interests (Bjørnskov, 2020). The latter may consist of different factions or represent a cohesive interest while the former in most cases consists of potentially incompatible industrial special interest groups. In both situations, the incumbent government has the basic choice of either favouring policies catering to the interests of a sufficient majority of either selectorate or designing policies to prevent the formation of a cohesive majority interested in toppling the government. One must thus start by asking what are the basic interests of different potential support groups of an incumbent government as well as a potential future government.

2.3. Consumer, firm and military behaviour

In order to assess the economic effects of coups, it is therefore first necessary to characterise the economy. To do so, I first assume that ordinary citizens supply one unit of labour inelastically and have standard preferences U over a range of goods, x_i with market price p_i , and an n^{th} good with $p_n = 1$, which is the numeraire. They thus maximise utility in (1), subject to the budget constraint in (2), where E is after-tax income $w(1-\tau)$ for ordinary labour, which yields the relative demand functions for all goods 1 to $n-1$ in (3).

$$U \equiv \sum_{i=1}^n x_i^\beta \quad (1)$$

$$st. x_n + \sum_{i=1}^{n-1} p_i x_i \leq E \quad (2)$$

$$p_i = \left(\frac{x_i}{x_n}\right)^{\beta-1} \quad (3)$$

The economy consists of n firms, each with monopolistic power and each producing a single good, that all take total demand as given. Each good is produced with labour as the only input – denoted l_i – and each firm has its own technology, a_i , such that some firms are more productive than others. Firms can nevertheless also gain artificial competitiveness through a price subsidy of s percent if they have political connections. All firms pay the equilibrium wage w and may choose to bear a cost c_i in

order to obtain political connections and become members of the privileged selectorate group that gets access to the price subsidy. The cost c_i can thus be interpreted as a coordination or lobbying cost in the tradition of Olson (1965; 1982) and s as the selective incentive that allows some firms to overcome free-rider problems and coordination costs. If a firm chooses not to bear the cost, it is not part of the selectorate supporting the incumbent government: for these firms, $s = 1$ and $c_i = 0$.

All firms maximise their profits given in (4), taking their demand functions (3) into account owing to their monopolistic power. This yields the optimal labour force for each firm, l_i in (5) as well as the decision to incur the cost c_i of being a member of the selectorate group. Comparing the profits with and without the subsidy yields the selectorate participation constraint in (6), and implicitly therefore also the necessary price subsidy s^* that buys support for the incumbent government from a sufficient share k of the industrial selectorate.¹

$$\Pi_i = sp_i a_i l_i^\alpha - w l_i - c_i \quad (4)$$

$$l_i = \left[s\beta a_i a_n^{\frac{1}{\alpha-1}} \left(\frac{\alpha}{w} \right)^{\frac{1-2\alpha}{1-\alpha}} \right]^{\frac{1}{\alpha\beta}} \quad (5)$$

$$\Pi_k |_{k \in K} > \frac{s^{1-\alpha\beta}}{1-s^{1-\alpha\beta}} (s + c_i) \quad (6)$$

In the following, I simplify this framework by assuming that all firms in the K set, i.e. those firms deciding to bear the coordination cost to receive the price subsidy, share the technology a_k while all other firms share the technology a_{-k} . With this assumption, it is easy to show that the equilibrium wage and thus all taxable income becomes given by (7). As such, the economic reactions to changes in the price subsidy are given by the derivative in (8).

$$w = a_n \frac{\alpha^\alpha}{\beta^{1-\alpha}} \left[k(s a_k)^{\frac{1}{\alpha\beta}} + (1-k)(a_{-k})^{\frac{1}{\alpha\beta}} \right]^{\alpha\beta(\alpha-1)} \quad (7)$$

¹ The definition of ‘sufficient support’ for the government is that the price subsidy must yield the support of a subset K of all n firms to provide an effective selectorate majority.

$$\frac{dw}{ds} = w(\alpha - 1) \left[s + \frac{1-k}{k} \left(\frac{a-k}{a_k} \right)^{\frac{1}{\alpha\beta}} s^{\frac{\alpha\beta-1}{\alpha\beta}} \right]^{-1} \quad (8)$$

As such, the organised industries in the K set will first of all have an interest in a higher price subsidy, s , but only up to a point. Defining the probability that a coup attempt succeeds as ω and given that the subsidy that any potential coup government is able to offer, s' , provides larger expected profits to *all* firms in the K set, they may support a coup attempt given that (9) holds. The military, on the other hand, does not have a similar constraint but is only interested in more military spending, m (cf. Leon, 2014). It may therefore support a military coup iff (10) is satisfied, i.e. if potential coup leaders can offer m' that yields higher expected military spending. As noted in the following, this may arise if coup leaders have different political preferences than the incumbent government or if they are more economically competent.

$$\omega(\pi_i(s') - c_s) + (1 - \omega)(\pi_i(s) - c_s - f_s) > \pi_i(s), \forall i \in K \quad (9)$$

$$\omega(m' - c_m) + (1 - \omega)(m - c_m - f_m) > m \quad (10)$$

For both selectorates, free-riding is a problem for those wishing to organise a coup or other form of regime change, including a peaceful democratic uprising. For potential coup groups, any action has to include costly political action that has two purposes (Dorsch et al., 2015). First, the action must overcome whatever active oppression is present in order to organise strikes or demonstrations, or coordinate actual interests, which here affects ω . Second, costly political action also serves as a signal to parts of the relevant selectorate that might potentially support the coup or – in rarer cases – a peaceful democratic uprising. All selectorates are like clubs and must therefore be credibly provided with club goods after a regime transition to support the new regime, which here take the form of special offers of s' or m' , in order to overcome the inherent coordination problem (cf. Collier and Hoeffler, 1998).² As

² In addition, any coup presupposes one of two situations: either the organisers of a coup engage in pre-coup negotiations with special interests in which they credibly offer club goods in exchange for political support, or the organisers must be

such, any potential interest that can overcome these costs, either because they have different preferences or are economically more competent than the incumbent government, can mount a coup in which m' and s' are offered.

However, as shown in Bjørnskov (2020), the expressions in (9) and (10) are not independent, as a larger subsidy for any budget-constrained government implies smaller military spending as a consequence of the budget constraint. In case s becomes too large, m may decrease so much that a military coup becomes incentive compatible. As such, the implicit threat of a military countercoup thus also constrains the size of s' . In all cases, both military spending and the price subsidy are eventually decided by politics.

For a coup d'état or another form of regime change to occur, any political insurgent must therefore be able to solve the collective action problem of organising a coup with what appears as sufficient support. The insurgent interests must also perceive that the incumbent government is weaker than formerly in order for an implicit cost-benefit analysis to tip in its favour at a particular point in time. An evolving economic downturn or crisis, a change of the economic or political influence of the selectorate majority supporting the incumbent government, the loss of a war, or the loss of support from a major international power may all be seen as signals of weakness.³ On this basis, I next move to characterise optimal government behaviour.

2.4. Government behaviour

able to send a credible signal of some form of post-coup compensation in order to buy support at the coup. In the following, I treat these as a single situation.

³ A pertinent example of the effects of losing a war is Argentina following its invasion and subsequent loss in the Falkland Islands conflict in 1982. The loss of prestige and political credibility of the military led to the re-democratisation of the country the following year.

As noted above, a fundamental choice for any autocrat, whether incumbent or potential, is to choose his preferred selectorate and which type and mix of selective incentives and club goods to offer to whom (Olson, 1982, 2000). For most military dictators, this most likely implies a larger military budget all together, if the military is a cohesive interest, or larger specific expenditures such as modern fighter airplanes or tanks, if his support rests on particular military factions. Similarly, for civilian autocrats, they most likely must keep some minimum military budget to avoid the formation of an effective military selectorate while providing policies designed to cater to politically important special interest within their specific selectorate. Such policies may include, e.g., industrial support, trade protection, special interest regulation and government capture of labour unions.

In addition, almost all autocrats must allocate sufficient funds on or off the government budget to be able to suppress any effective opposition. Yet, while military dictators can and often do use military forces, many autocrats additionally maintain costly non- or para-military forces for this purpose. The *Tonton Macoutes* – the Duvaliers’ death squads in Haiti – and the Haitian *chef de sections* (heads of local police forces) are particularly horrible examples of how civilian autocracies can use para-military or police forces to oppress the population and thus also how the military does not always have a monopoly on power in non-democracies (Lundahl, 2013). Conversely, parts of the military in many cases support coups against civilian autocrats but with no intention of installing a military government.

Support policies thus have the purpose of maintaining the effective support of the relevant selectorate while oppression aims at exacerbating the free-riding problems associated with forming an opposition group, i.e. an alternative selectorate majority opposing the incumbent non-democratic government. Denoting the probabilities that (9) and (10) or satisfied, and that a coup attempt is likely to occur, as p_s and p_m , respectively, the full coup risk faced by any government is given by $\mu = \omega (p_s + p_m)$,

where the probability that the coup succeeds ω depends on the level of repression and pure chance.⁴

This risk is central to the government's objective function in (11), which it maximises under the budget constraint in (12). As such, government has three aims: staying in power, gaining some form of private benefit, a , and distributing benefits to the winning coalitions within its selectorate (m and s). In the following, I assume for simplicity that there can only be two ideal types of government: purely military dictatorships with $\theta=1$ or purely civilian autocracies with $\theta=0$.

$$G \equiv (1 - \mu)z^\rho [\theta m + (1 - \theta) \sum_{k \in K} \pi_k]^\sigma \quad (11)$$

$$s.t. z + m + k(s - 1) + r \leq \tau w \quad (12)$$

Deriving the first order-conditions yields the optimal budget and thus also the optimal support for each selectorate. Hence, even without specifying a functional forms for the elements of μ , combining the first-order conditions allows a characterisation of the equilibrium subsidy for the two idealised regime types.

$$\left. \frac{d\mu}{ds} \right|_{\theta=1} = \left(k - \tau \frac{dw}{ds} \right) \frac{d\mu}{dr} \quad (13)$$

$$\left. \frac{d\mu}{ds} \right|_{\theta=0} = \left(k - \tau \frac{dw}{ds} \right) \frac{d\mu}{dr} + \frac{\sigma(1-\mu)}{\pi_k} \frac{d\pi}{ds} \quad (14)$$

2.5. Crisis risk

As such, the wage response of changing policy is given by (8) and the differential policy responses between coup types is characterised by the difference between the long-run optimal budget choices given by (13) and (14). Noting that (9) and (10) imply that military spending or industrial subsidies will increase after a coup, and that the comparison between (13) and (14) suggests that the response to s is substantially stronger for civilian autocracies, the only way that the income response in (8) can be

⁴ This also implies that the reaction functions of changing m and s are given by the derivatives $\frac{d\mu}{ds} = p' \omega \frac{c_s + f_s}{[\pi' - \pi + f_s]^2}$ for s and

$\frac{d\mu}{dm} = p' \omega \frac{c_m + f_m}{[m' - m + f_m]^2}$ for m , where p' is the density function for the success probability ω .

unaffected by a civilian-led coup is if such coups, and *not* military-led coups, are generally accompanied by sufficient productivity increases. This is not only the case because of the extra second term in (14), which captures the additional effects on profitability among civilian interests supporting a civilian coup, but also because k – the number of distinct interests necessary to form a supporting coalition – is likely to be larger for the diverse interests behind a civilian-led coups (cf., Coates et al., 2010). Theoretically, effects of military coups could be larger if a new civilian government is substantially more competent – perhaps through implementing institutional improvements – than the former incumbent and military alternatives. Additional competence would reduce coup risk, relative to a general growth trend not captured in the model for simplicity, if it also resulted in very rapid change in the rate of growth. If not, such that all other things are equal, the combination of these results yields the main hypothesis in the following:

H1: The risk of observing a crisis is likely to increase substantially, all other things being equal, when a civilian-led coup against a military dictatorship succeeds.

However, the theoretical framework also implies that any potential coup government must not only incentivise its own selectorate, but also keep the alternative from organising a coup attempt. In other words, this means that the reduction in support for the alternative selectorate – s in the case of military dictatorships and m in the case of civilian autocracies – is constrained by an implicit risk of observing a countercoup. The lower bounds of s' and m' are thereby defined by the respective risks of incentivising a civilian or military countercoup. As such, these threats are exactly equivalent to (9) and (10), and imply the second hypothesis:

H2: Regime change away from civilian autocracy is associated with either no or lower crisis risk.

Finally, as noted in the equivalent framework in Bjørnskov (2020), expanding the present theoretical considerations to include a potential democratisation yields similarly ambiguous predictions regarding economic outcomes and crisis risk. In order to test these hypotheses, both standard national

accounts as well as detailed data on coups and regime changes are needed. The following section outlines these data including a new database on both successful and failed coup d'états.

3. Data on regime types, transitions and economic crises

3.1. Main regime, coup and crisis data

The main institutional data derive from Bjørnskov and Rode's (2020) update and expansion of the database in Cheibub et al. (2010). Version 4.2 of the dataset provides annual regime data back to 1950 and updated to 2022 for an unbroken series consisting of 208 countries, categorising them as either one of three types of democracy – parliamentary, presidential or mixed – or one of three types of autocracy – civilian, military or royal – as well as colonies. As such, a regime is not associated with a particular cabinet or government, and a regime change is therefore emphatically *not* defined as a mere change in government. Regimes are instead defined by the *de facto* political institutions in which any government, head of state and legislature are embedded, and institutional shocks thus refer to changes to the fundamental set-up of political institutions. Defining these institutions, the data follow the coding scheme from Cheibub et al. (2010) as summarised in Table 1.

Insert Table 1 about here

The distribution of regime types has changed over the years: while 44 % of observations before 1990 were democratic, this share increased to 57 % after the Cold War had ended. Most of this increase has occurred as autocracies have become presidential or mixed democracies and as all types of autocracies have become less prevalent. As such, the dataset includes 481 regime changes in total, of which 102 were newly formed or independent countries, and 271 occurred during the Cold War (i.e. before 1990). 125 of these changes are from autocracy to democracy, 102 are losses of democracy while 136 are changes between types of autocracy of which slightly more than half are changes from civil dictatorship to predominantly military dictatorship and the rest are changes towards civilian dictatorship. These transitions are illustrated by the transition matrix in the appendix, which also shows

that in almost all cases of democratisation from a military regime, the institutional changes result in a presidential democracy while democratisations from civilian autocracy are approximately equally likely to result in each of the three types of democracy (Bjørnskov, 2020).

The database also resolves a complication in the regime definition in the Cheibub et al. dataset where the typology does not inform if a change between autocratic types or to autocracy was due to a coup, international intervention or merely the consequence of a peaceful handover of power from, e.g., a head of state with a military background to one without, but from within the same political segment. I therefore also code a dummy capturing whether an apparent regime transition was the result of a peaceful handover. Most importantly, Bjørnskov and Rode (2020) provide the most comprehensive dataset of coups and coup attempts to date (cf. Marshall and Marshall, 2014; Powell and Thyne, 2011). The database is mainly based on information about coups in newspapers, supplemented with a number of other sources. This data source comes with two other benefits. First, it categorises all coup attempts using the same regime typology as Cheibub et al. (2010), based on whether a coup was primarily led by the military or a group of civilians. Second, it provides the same information on failed as on successful coups, whereas many of the former were either not covered by existing databases or coded on the basis of rumours. When observing a successful coup, the data therefore informs of whether the underlying political institutions and selectorates changed, for example in the case of a military coup against a democratic regime, or not, as in the case of a military coup in a military dictatorship. In addition, the use of detailed information from contemporary newspaper reports allows users to distinguish between failed coups that would, if they had succeeded, have installed either a civilian autocracy or military dictatorship. As such, estimating the likely effects of failed coups enables me to clearly identify the effects of regime transition over and above those of simple political unrest.

Exploring the data illustrates a few important points in the following. First, consistent with previous research, about half of all coup d'états between 1950 and 2022 failed, and both military dictators and civilian autocrats coming to power through a coup only last on average 3.5-4 years. The

background political institutions, conversely, are substantially more stable, lasting on average 18 years in developing and middle-income countries, reflecting the fact that many coups take place within unchanged political institutions. As such, these differences illustrate the value in separating types of coups and treating institutional shocks as a subset of government change, whether peaceful or not.

Turning to the main outcomes of interest, the paper operates with a strict definition of crisis, based on data on real, purchasing-power adjusted GDP per capita from the Penn World Tables, mark 10 (Feenstra et al., 2015). The definition of a crisis onset is a year in which growth is below -.2 percent, following a year of positive growth; the event ends when positive growth resumes. This definition yields 1280 crisis onsets in 180 countries during the period covered by the Penn World Tables, i.e. between 1950 and 2019.⁵ The average country thus was in recession or crisis about 25 percent of all years for which there are national accounts data available. All data are summarised in Table 2.

Insert Table 2 about here

3.2. The shape of crises and regime transitions

Exploring simple differences in the dataset, it is first clear that crises are somewhat more prevalent in autocracies than in democracies, although democracies are also on average significantly richer. Most crises last about two years under most regime types before growth turns positive again, and half a year extra under military dictatorships. However, excluding all crises lasting only one year – amounting to 55 % of all crises under civilian and military dictatorships and 67 % under other regime types – the

⁵ An alternative definition simply setting crisis onset when growth turns negative yields 1338 crises. It is also worth noting that crises can, in principle, be falsely identified if a sufficiently large share of economic activity escapes into the underground economy following a coup or coup attempt. However, with the restrictive definition of a crisis, this is not likely to be a real worry as this would entail a rather large and sudden increase in the share of already established economic activity suddenly evading registration. The main data problem, which is likely to work against the main hypotheses of this paper, is that national account data in civilian autocracies appear to be less reliable than elsewhere (Martinez, in press).

remaining crises on average last three to four years. A simple comparison also shows that crises are deeper under civilian and military dictatorships, where the peak-to-trough GDP ratio is 10-11 % compared to the typical 6-7 % loss in democracies and an intermediate 8 % loss in royal dictatorships.

Figure 1 illustrates the crisis risk around coups; note that the coup takes place between time $t-1$ and time 0. The figure first of all illustrates that the probability of observing a crisis is substantially higher in the years around a coup attempt than in periods without coups ($p < .01$). Yet, it also shows that crisis risks peak in the year following the coup ($t=0$) with the risk increasing from 34 % to 44 % for successful military coups ($p < .05$) and from 36 to 60 percent for successful civilian coups ($p < .05$). More importantly, while the crisis risk in year $t=0$ does not differ significantly between successful and failed military coups (44 versus 38 %; $p < .26$), it visibly does so for successful versus failed civilian coups (60 versus 36 %; $p < .02$). Following the logic of my causal strategy, which I outline next, these differences therefore indicate that successful civilian coups may *create* crises more than just reflect them.

3.3. Control variables and empirical strategy

In all regressions in the following, I include a set of control variables: the log to population size, the log to real GDP per capita, trade volume (as percent of GDP), government final expenditures (as percent of GDP), the share of geographical neighbour countries that are in an economic crisis, and dummies for communist and post-communist countries. I argue that these variables are relevant for the onset and development of economic crises. First, although small countries may be better able to cope with crises by better adapting to international trade circumstances, larger countries are on average more structurally diverse and thereby less likely to experience industry- or market-specific crises. Second, post-communist countries were, at least during the transition period in the 1990s, economically vulnerable due to their institutional transition after two decades of decline. Third, international trade may both make countries more susceptible to international shocks but also allow them to diversify more while Rodrik (1998) argues that larger government sectors partially insulate economies from the

consequences of international fluctuations. Fourth, richer economies are both structurally more diverse and thus more resilient, but also more complex and effectively regulated. It is therefore uncertain whether crises are related to pre-crisis wealth, although recovery, due to standard convergence mechanisms, is likely to be slower in richer societies (cf. Gassebner et al., 2016). Finally, I include a geographically spatial crisis variable, calculated as the share of immediate geographical neighbours that are in an economic crisis.

With the exception of the communist and post-communist dummies, which are from Bjørnskov and Rode (2020), these all derive from the Penn World Tables, mark 10 and are lagged one year. The spatial variable is calculated based on a standard map of the world. I also add a set of regime type controls that capture the potential differences across *stable* regime types. The three types are civilian autocracy, military dictatorship and royal dictatorship, as described in the previous section. These types capture if certain regime types are more likely to be “debt-intolerant regimes”, which Reinhart and Rogoff (2009) define as societies with deficient institutions, be it instable regimes or incomplete checks and balances on political power.

All coups in the following are defined as pertaining to year t if happening in the 12 months prior to June 30 of that year. Although coups and crisis onset appear as contemporaneous in the database, the former is therefore on average lagged half a year relative to the latter. The database also includes an indicator of whether a regime change takes place in the spring or autumn half of the year, i.e. before or after June 30. In the following, this variable allows me to effectively lag any institutional shock and regime change half a year. Lagging institutional shocks half a year thus effectively ensures that endogeneity cannot account for any association, as lagged transitions of power occur well before any national accounts data or other indications of a crisis can logically be available to any decision-makers.

With these data, I apply a condition fixed effects logit to estimate the effects on crisis onset, captured by a dummy variable taking the value of one in the year that a crisis starts. Countries in crisis are excluded from the dataset while their crises are ongoing, and one year after the crises have ended; a

new crisis cannot logically start before the old has ended. Regarding causality, the effective half-year lag and the alternative one-year lag alleviate some of the endogeneity concerns arising from the possibility that a beginning crisis may give rise to a coup attempt. However, this source of endogeneity bias cannot be entirely dispelled. Following recent literature, I instead argue that a comparison between the effects of successful and failed coups may be interpreted causally (cf., Bennett et al., 2021). Even though a crises and related events may give rise to coup attempts (Gassebner et al., 2016), coup success includes a very large random component and is not driven by economic crisis. As such, the *difference* between effects of failed and successful coups can be interpreted causally in a way equivalent to establishing causality through heterogeneous effects (Nizalova and Murtazashvili, 2016).

4. Results

4.1. *Main results*

I begin by reporting the results of estimating crises, as defined by losses in GDP per capita, in Table 3. Throughout the table, initial GDP per capita is positively associated with crisis onset, as is being communist or having been communist, and having geographical neighbours in crisis. The results also indicate that international trade is negatively associated with crisis risk, although this appears mainly to pertain to poorer countries. Conversely, the otherwise significant association with government spending fails when excluding rich countries, democracies or countries in which a coup never occurred during the period in question.

Insert Table 3 about here

Turning to the main focus, the results reveal that failed civilian coups are never near significance and failed military coups fail significance in three of the five tests. Conversely, successful military coups are significantly associated with crisis risk, although only weakly so when excluding all short recessions in column 2, and successful civilian coups are strongly significant throughout. Following the causal logic of comparing successful and failed coups, the effects of successful civilian coups are consistently

and significantly larger than those of failed coups throughout with associated odds ratios about 5-9 times larger. For military coups, only one of the five estimates approaches significance, and the odds ratios associated with successful coups are between 33 and 130 percent larger than those of failed coups. In all cases, the effects of successful civilian coups are substantially larger than those of successful military coups, although the difference is not always statistically significant.

In Table 4, the results using crises defined by drops in labour productivity (GDP per fulltime employee) exhibit very similar patterns. While all significance of military coups disappears when deleting the short recessions, the strong and likely causal effects of successful civilian coups remain. In particular, the odds ratios associated with civilian coups reveal that the crisis risk after failed coups is almost exactly zero while crisis risk after successful civilian coups increases by a factor between 5 (when excluding coups against democracies) and 16 (when excluding countries without any coup attempts). As in Table 3, the estimates of military coups vary while those of successful civilian coups are considerably larger, persistently significant and significantly different from those of failed attempts.

Insert Table 4 about here

4.2. Robustness tests

Finally, Table 5 reports the results of a particularly strong test of causality, as all coups are lagged half a year, such that all events occurring after June 30 are assigned to the following year. Although estimates would appear more conservative, these tests render successful military coups significant throughout while failed military coups fail significance in one test for crises in labour productivity. Conversely, failed civilian coups are only significant in a single test while successful civilian coups maintain significance in all but one test. Although the difference between successful and failed coups is only significant in one test, the odds ratio increases by a factor between 2 and 5 across the results. Furthermore, it must be noted that the estimates are conservative as lagging coups an entire year effectively excludes estimating the effects of all rapid-onset economic crises resulting from coups.

Insert Table 5 about here

The appendix reports the results of a second set of robustness tests in which I combine sample restrictions: 1) removing all short, one-year recessions; 2) removing all coups against incumbent democracies; 3) including only countries with at least one coup attempt between 1950 and 2022; 4) removing all years with multiple coups in a country; 5) removing all incumbent civilian autocracies; and 6) removing all incumbent military dictatorships. The latter two tests specifically inform about whether inter-institutional coups – i.e. civilian coups against military dictatorships and military coups against civilian dictatorships – result in larger effects (cf., Bennett et al., 2021).

The results in appendix Tables A1 and A2 reveal that the findings pertaining to military coups are fragile. The occasional significant of successful military coups is clearly mainly driven by coups against democracies that last only one year, as all other estimates are far from insignificant and a magnitude smaller. Similarly, failed military coups are never significant in Table A1 and only once in A2 (excluding coups against democracies). Conversely, the tables exhibit consistently significant and large effects of successful civilian coups and no clear effects of failed civilian coups.

However, the robustness tests also indicate two additional difference. First, comparing the results across columns 5-7 in both tables reveal that any potential effects of successful military coups are against other autocracies: when excluding incumbent democracies, the estimates become small and far from significance. As stressed by many, including Wintrobe (1998), one needs to be careful when interpreting regime change and many military dictatorships are effectively ‘tinpots’. Even autocracies differ significantly, such that regime transitions within autocracy can have potentially major consequences, which is consistent with these more detailed results.

Second, the result in column 5 indicate that the large effects of successful civilian coups mainly derive from civilian coups against regimes other than civilian autocracies. In other words, as hypothesised in the model above, crisis risk increases most after coups that replace either a democracy or a military dictatorship with a civilian autocracy. This effect is likely driven by civilian coups against

democracies, as the sample only includes eight successful civilian coups against military incumbents and only two in which the country was not already in a recession.

4.3. What's going on?

Overall, the results indicate that coup attempts do not systematically lead to increased crisis risk, but only successful civilian coups do so. As such, it is not the increased political uncertainty surrounding a coup attempt that causes the crisis, but the specific institutional and political changes resulting in short order from a civilian coup that succeeds. As military power overthrows are typically seen with more scepticism than similar events that cause civilians to take power, the results beg the question what is specifically going on in these events.

On the one hand, Bennett et al. (2022) find that judicial institutions mainly deteriorate after military coups, which may indicate that the present effects are unlikely to be driven by short-term institutional change. On the other hand, consistent with the theoretical frame of this paper, Pfaff and Bjørnskov (2021) find that successful civilian coups lead to substantially more repression in the years after the coups. This is also substantiated by evidence suggesting that while failed military coups do not appear associated with particular levels of political violence, as proxied by assassinations, they are often followed by substantial increases in military expenditures (Collier and Hoeffler, 2007). For example, Burundi experienced failed military coups in April 1991 and July 1992 after which military expenditures accelerated from approximately 3.5 % of GDP in 1990 to 4.5 % in 1994 and 6.5 % in 1998 (World Bank, 2015). Similar reactions could be observed following Lieutenant General Oladipo Diya's failed military coup in Nigeria in December 1998 where military expenditures increased by almost 50 %, in Chad after failed coups in 2004 and 2006, where military expenditures increased several-fold, and in Côte d'Ivoire after failed coups in September 1999 and October 2001 and mutinies in 2000.

In all cases, the military was visibly strengthened both politically and economically. Conversely, there is little evidence to suggest that economic policies or basic institutions changed.

Aina and Nyei (2022) also note in a newspaper column that broad swaths of the population often welcome military coups against civilian autocracies that often lack effective constitutionalised veto institutions. These regimes therefore become – or are broadly seen as – particularly corrupt and likely to manipulate the judicial system, with the result that civilian populations in countries such as Burkina Faso, Guinea and Mali in recent years “enthusiastically embracing the recent military interventions” (Aina and Nyei, 2022). Problems associated with a lack of constitutional restraint and corruption even featured prominently in *The Economist's* (1973) coverage of the violent military coup in Chile in 1973.

As such, anecdotal evidence suggests that judicial and economic institutions change as consequences of coups, and perhaps particularly when military dictatorships are replaced by civilian autocracies. In other cases, and arguably often following failed coups, governments reallocate budget resources towards the military in order to prevent the next coup. Yet, these anecdotes can only serve as indications of what may substantially be happening that causes the general pattern observed in the above. With these indications as approximate guidelines, the last section concludes.

5. Conclusions

Shocks to countries' political institutions and institutional regime transitions are common, as both coups and democratisations occur with fairly regular intervals. Across the up to 179 countries covered in the background data of the present paper, the unconditional probability of observing a regime change between 1950 and 2022 was 3.7 %, which remains at 2.7 % since the end of the Cold War. In the same period, a random country had a 3.7 % chance of experiencing at least one coup d'état and a 25 % chance of entering or being in an economic recession or crisis. This paper asks whether the former institutional shocks in the form of coups contributed to crisis risk and whether they potentially affected the duration of economic crises.

The theoretical background of expecting different crisis risks across different types of coups is an extension of the basic framework pioneered in Bueno de Mesquita et al. (2003). As the main objectives

of a non-democratic regime change when the selectorate and political elite shift with the coalition in power, policies are likely to change while mere policy uncertainty associated with a coup attempt can both create and prolong crises. Yet, introducing the specific assumption that military dictatorships and civilian autocracies are supported by two *different* selectorates, regime changes between these types imply changes in the selectorate majority influencing government policies and institutions. As the selectorate of most civilian autocracies consists of industry special interests while tinpot military dictatorships are support by a military selectorate, changes towards civilian autocracy are likely to be associated with substantially increased rent-seeking policies and larger transitional costs. Such institutional shocks are therefore theoretically more likely to be associated with increased crisis risk.

Estimating the risk of crisis onset in a large panel dataset reveals that coup attempts *per se* do not significantly affect the risk. However, successful coups do so, and particularly civilian-led coups substantially increase the risk of entering an economic crisis. Further results also indicate that coup d'états, which replace military dictatorship and democracies with civilian autocracy, may increase crisis risk more than other successful civilian coups. Although more research is clearly needed, the results here are consistent with the theoretical considerations, indicating changes towards civilian autocracy lead to changes in political elites and selectorates.

Similar problems may in principle occur in regime transitions towards military dictatorships, although both of these regime types may be less prone to immediate rent-seeking behaviour and rent-seeking influence on policy choices. However, a question not answered in this paper is whether coups and similar institutional shocks also contribute to the duration and depth of economic crises. Several examples suggest that institutional shocks *within* crises may prolong and deepen them. The set of events covered in this paper for example includes the return to power of Milton Obote in Uganda in 1979, accomplished with help from Tanzanian forces that exiled Idi Amin. The military again took over in 1985 and lead the way for the presidency of Yoweri Museveni and the onset of yet another crisis that lasted four years. Comparable events occurred in the Central African Republic when France helped

overthrow the self-proclaimed Emperor Bokassa. The new regime experienced a significant drop in living standards and a new military coup in 1981 installed yet another military dictator, André-Dieudonné Kolingba, who would come to preside over an already evolving economic collapse in the 1980s and early 1990s.

While the present paper illustrates that only specific types of coups seem to induce crises – and in general that the uncertainty associated with coup attempts that fail does not significantly increase the risk of an economic crisis – a fruitful direction for future research appears to be exploring the causes and consequences of institutional shocks in the many developing countries already in persistent economic crisis. At a broader level, in a time in which more than a dozen incumbent regimes came to power through a coup and where coup risk appears to be increasing again, more knowledge about the consequences of coups appears highly desirable. Although much research has been committed to coups since Luttwak’s (1968) seminal study, many questions remain unanswered.

Appendix

Insert Table A1 about here

Insert Table A2 about here

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Table 1. Coding regime types

Requirement / type	Requirements
1	The chief executive must be chosen by popular election or by a body that was itself popularly elected.
2	The legislature must be popularly elected.
3	There must be more than one party competing in the elections.
4	An alternation in power under electoral rules identical to the ones that brought the incumbent to office must have taken place.
	Democracy Dictatorship
Parliamentary	Government serves the legislature, which can dismiss it
Presidential	Government serves the president, who can dismiss it
Mixed	Government answers to both president and legislature
Civil	Dictatorship in which the head of state is not associated with the armed forces
Military	Dictatorship in which the head of state is current or past member of the armed forces
Royal	Dictatorships where the head of state is called king (or similar title) and the post is hereditary

Source: Cheibub et al. (2010).

Table 2. Descriptive statistics

	Mean	Standard deviation	Observation
Crisis, GDP	.251	.434	10118
Crisis, labour productivity	.273	.446	9274
Log GDP per capita	8.866	1.235	10299
Log population	1.610	2.095	10299
Government expenditures	.190	.122	10299
Openness	.529	.809	10299
Neighbour crisis, GDP	.239	.312	13119
Neighbour crisis, lab. prod.	.256	.321	12938
Crisis length, GDP	1.817	1.523	1227
Communist	.128	.335	15123
Post-communist	.027	.162	15184
Democracy	.461	.498	15123
Civilian autocracy	.218	.413	15184
Military dictatorship	.207	.300	15184
Log coups last 20 years	.318	.562	15184
Successful military coup	.013	.119	15184
Failed military coup	.014	.122	15184
Successful civilian coup	.003	.055	15184
Failed civilian coup	.006	.076	15184

Table 3. Coups and crisis onset, GDP crises

	1	2	3	4	5
	All	No 1 year crises	No rich	No democracies	Coup countries
Log GDP per capita	.615*** (.125)	1.173*** (.189)	.426* (.242)	.541*** (.171)	.633*** (.159)
Log population	.058 (.213)	.118 (.310)	2.351*** (.754)	.614 (.392)	-.211 (.293)
Government expenditures	1.253*** (.481)	2.642*** (.639)	.624 (.839)	.832 (.675)	.855 (.606)
Openness	-.124* (.064)	-.262*** (.083)	-.041 (.164)	-.393** (.200)	-.602*** (.231)
Neighbour crisis	1.128*** (.123)	1.166*** (.176)	.866*** (.225)	.749*** (.183)	.869*** (.159)
Communist	.696*** (.218)	1.123*** (.299)	.679** (.275)	.631** (.257)	.716*** (.238)
Post-communist	.625*** (.247)	.968** (.385)	.356 (.307)	.242 (.332)	.505* (.289)
Log coups last 20 years	-.019 (.084)	-.227* (.124)	-.111 (.130)	-.009 (.111)	-.076 (.088)
Successful military coup	.866*** (.244)	.577* (.349)	1.313*** (.340)	1.071*** (.288)	.819*** (.243)
Failed military coup	.612*** (.238)	.410 (.338)	.480 (.306)	.451 (.295)	.519** (.234)
Successful civilian coup	1.964*** (.523)	2.293*** (.652)	2.340*** (.725)	1.909*** (.627)	1.965*** (.518)
Failed civilian coup	.275 (.419)	.093 (.599)	.408 (.467)	.338 (.488)	.289 (.422)
Regime type FE	Yes	Yes	Yes	Yes	Yes
Annual FE	Yes	Yes	Yes	Yes	Yes
Observations	7278	6058	2479	3205	4139
Groups	179	179	112	129	103
LR Ci squared	620.42	407.29	295.68	253.05	379.91
Pseudo R squared	.111	.143	.142	.092	.106
Log likelihood	-2490.892	-1218.392	-891.647	-1247.689	-1603.741
<i>Odds ratios</i>					
Successful military coup	2.378	1.781	3.717	2.918	2.270
Failed military coup	1.844	1.507	1.616	1.569	1.681
Successful civilian coup	7.130	9.903	10.382	6.748	7.137
Failed civilian coup	1.317	1.098	1.504	1.402	1.335
<i>Differences between event types</i>					
Succ. mil. = fail. mil.	p<.459	p<.742	p<.068	p<.134	p<.379
Succ. civ. = fail. civ.	p<.011	p<.013	p<.024	p<.047	p<.012
Succ. mil. = succ. civ.	p<.056	p<.020	p<.196	p<.219	p<.044
Fail. mil. = fail. civ.	p<.483	p<.649	p<.897	p<.844	p<.631

Note: *** (**) [*] denote significance at p<.01 (p<.05) [p<.10]. All regressions are conditional fixed effects logit.

Table 4. Coups and crisis onset, labour productivity crises

	1	2	3	4	5
	All	No 1 year crises	No rich	No democracies	Coup countries
Log GDP per capita	.390*** (.134)	.665 (.175)	.347 (.235)	.517*** (.187)	.428** (.170)
Log population	-.369* (.222)	-.522 (.273)	1.787** (.726)	.692 (.409)	.144 (.298)
Government expenditures	1.718*** (.559)	2.425*** (.702)	1.657** (.837)	1.356* (.759)	1.732** (.675)
Openness	-.114 (.081)	-.139 (.103)	-.136 (.286)	-.520** (.210)	-.661*** (.253)
Neighbour crisis	.770*** (.129)	.577*** (.163)	.586*** (.218)	.730*** (.200)	.458*** (.169)
Communist	.435* (.232)	.851*** (.292)	.592** (.273)	.450 (.298)	.503* (.259)
Post-communist	.541** (.234)	1.041*** (.298)	.366 (.302)	.387 (.329)	.409 (.289)
Log coups last 20 years	-.141 (.088)	-.238** (.111)	-.326*** (.123)	-.041 (.124)	-.222** (.092)
Successful military coup	.678** (.265)	.155 (.374)	.949*** (.333)	1.208*** (.324)	.685*** (.266)
Failed military coup	.477** (.251)	.146 (.339)	.715** (.292)	.497 (.322)	.424* (.249)
Successful civilian coup	2.456*** (.676)	2.564*** (.768)	2.453*** (.797)	1.838** (.837)	2.689*** (.702)
Failed civilian coup	-.091 (.439)	-.481 (.623)	-.039 (.495)	.203 (.502)	-.071 (.444)
Regime type FE	Yes	Yes	Yes	Yes	Yes
Annual FE	Yes	Yes	Yes	Yes	Yes
Observations	6500	5750	2413	2843	3716
Groups	179	179	112	129	103
LR Ci squared	380.86	314.14	223.66	179.63	246.96
Pseudo R squared	.069	.087	.106	.074	.075
Log likelihood	-2422.260	-1639.306	-946.614	-1128.228	-1526.521
<i>Odds ratios</i>					
Successful military coup	1.969	1.168	2.586	3.348	1.983
Failed military coup	1.611	1.157	2.045	1.643	1.528
Successful civilian coup	11.663	12.986	11.619	6.285	14.720
Failed civilian coup	.913	.618	.961	1.225	.932
<i>Differences between event types</i>					
Succ. mil. = fail. mil.	p<.592	p<.987	p<.596	p<.124	p<.485
Succ. civ. = fail. civ.	p<.002	p<.002	p<.008	p<.092	p<.001
Succ. mil. = succ. civ.	p<.014	p<.005	p<.080	p<.480	p<.007
Fail. mil. = fail. civ.	p<.261	p<.380	p<.188	p<.622	p<.329

Note: *** (**) [*] denote significance at p<.01 (p<.05) [p<.10]. All regressions are conditional fixed effects logit.

Table 5. Coups and crisis onset, half-year lagged events

	1	2	3	4	5	6	7	8
	GDP crises			Labour productivity crises				
	All	No 1 year crises	No rich	Coup countries	All	No 1 year crises	No rich	Coup countries
	<i>Full baseline specification included</i>							
Successful military coup	.996*** (.242)	.658* (.359)	1.575*** (.346)	.874*** (.243)	.855*** (.251)	.672** (.335)	1.179*** (.313)	.815*** (.253)
Failed military coup	.862*** (.220)	.669** (.304)	.679** (.279)	.772*** (.220)	.558** (.238)	.063 (.315)	.595** (.275)	.483** (.238)
Successful civilian coup	1.497*** (.493)	2.102*** (.580)	1.988*** (.739)	1.475*** (.485)	1.817*** (.609)	1.848*** (.694)	1.357 (.894)	1.903*** (.633)
Failed civilian coup	.631 (.423)	.393 (.639)	.752 (.480)	.736* (.424)	.794 (.406)	.543 (.509)	.681 (.469)	.839** (.409)
Regime type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Annual FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7278	6058	2479	4195	6500	5750	2413	3716
Groups	179	179	112	103	129	129	112	103
LR Ci squared	627.01	411.67	304.51	386.08	365.63	313.72	223.64	248.38
Pseudo R squared	.112	.145	.147	.108	.070	.088	.106	.075
Log likelihood	-2487.599	-1216.204	-887.235	-1600.656	-2419.873	-1639.519	-946.627	-1525.813
	<i>Odds ratios</i>							
Successful military coup	2.425	1.931	4.829	2.397	2.352	1.958	3.252	2.258
Failed military coup	2.367	1.952	1.973	2.164	1.748	1.065	1.813	1.620
Successful civilian coup	4.467	8.186	7.304	4.369	6.156	6.345	3.886	6.707
Failed civilian coup	1.879	1.481	2.121	2.088	2.213	1.721	1.975	2.135
	<i>Differences between event types</i>							
Succ. mil. = fail. mil.	p<.943	p<.982	p<.042	p<.759	p<.405	p<.199	p<.160	p<.354
Succ. civ. = fail. civ.	p<.179	p<.046	p<.157	p<.248	p<.159	p<.127	p<.499	p<.156
Succ. mil. = succ. civ.	p<.263	p<.033	p<.609	p<.266	p<.143	p<.125	p<.850	p<.109
Fail. mil. = fail. civ.	p<.630	p<.698	p<.896	p<.941	p<.613	p<.423	p<.874	p<.448

Note: *** (**) [*] denote significance at p<.01 (p<.05) [p<.10]. All regressions are conditional fixed effects logit.

Table A1. Robustness, GDP crises

	1	2	3	4	5	6	7
	No 1 year crises	No democracies	No 1 year crises	No democracies	No civilian autocracies	No military dictatorships	No democracies
	Only countries with coups		No years with mult. coups			No 1 year crises	
	<i>Full baseline specification included</i>						
Successful military coup	.535 (.348)	1.039*** (.289)	.568 (.425)	1.214*** (.310)	.543 (.438)	.532 (.605)	1.071*** (.288)
Failed military coup	.296 (.335)	.421 (.294)	.425 (.425)	.544 (.341)	-.124 (.418)	.501 (.458)	.451 (.295)
Successful civilian coup	2.094*** (662)	1.937*** (.637)	2.286*** (.650)	1.936*** (.628)	3.166*** (1.045)	1.965*** (.710)	1.909*** (.627)
Failed civilian coup	-.109 (.624)	.262 (.493)	.058 (.665)	.454 (.509)	-.039 (.810)	.016 (.951)	.338 (.488)
Regime type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Annual FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3516	2490	6044	3196	2414	2240	3205
Groups	96	93	161	120	81	79	129
LR Chi squared	302.31	219.46	407.52	257.39	208.65	261.74	253.05
Pseudo R squared	.163	.098	.144	.094	.174	.235	.092
Log likelihood	-778.651	-1007.336	-1207.639	-1238.324	-496.838	-425.456	-1247.689
<i>Odds ratios</i>							
Successful military coup	1.707	2.828	1.765	3.366	1.721	1.703	2.918
Failed military coup	1.345	1.524	1.529	1.722	.884	1.650	1.569
Successful civilian coup	8.121	6.935	9.831	6.934	23.721	7.137	6.478
Failed civilian coup	.897	1.299	1.059	1.574	.962	1.016	1.402
<i>Differences between event types</i>							
Succ. mil = fail. mil.	p<.634	p<.136	p<.808	p<.134	p<.285	p<.967	p<.134
Succ. civ. = fail. civ.	p<.015	p<.037	p<.016	p<.065	p<.014	p<.095	p<.047
Succ. mil. = succ. civ.	p<.036	p<.195	p<.027	p<.297	p<.019	p<.124	p<.219
Fail. mil. = fail. civ.	p<.571	p<.783	p<.638	p<.882	p<.927	p<.642	p<.844

Note: *** (**) [*] denote significance at p<.01 (p<.05) [p<.10]. All regressions are conditional fixed effects logit.

Table A2. Robustness, labour productivity crises

	1	2	3	4	5	6	7
	No 1 year crises	No democracies	No 1 year crises	No democracies	No civilian autocracies	No military dictatorships	No democracies
	Only countries with coups		No years with mult. coups			No 1 year crises	
	<i>Full baseline specification included</i>						
Successful military coup	.159 (.373)	1.299*** (.331)	-.229 (.461)	1.146*** (.349)	.126 (.454)	.637 (.748)	1.208*** (.324)
Failed military coup	.006 (.348)	.504 (.324)	.320 (.391)	.742** (.359)	-.157 (.407)	-.266 (.511)	.497 (.322)
Successful civilian coup	2.587*** (.822)	1.873*** (.872)	2.498*** (.773)	1.838** (.861)	4.444*** (1.333)	2.347** (.941)	1.838** (.837)
Failed civilian coup	-.615 (.625)	.156 (.507)	-.335 (.634)	.373 (.511)	-1.894* (1.125)	-.291 (.825)	.203 (.502)
Regime type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Annual FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3230	2213	5699	2833	2315	2160	2843
Groups	96	93	161	120	81	79	126
LR Chi squared	250.33	174.98	312.44	175.35	183.69	199.32	179.63
Pseudo R squared	.114	.089	.088	.072	.117	.145	.074
Log likelihood	-971.588	-897.736	-1619.277	-1123.716	-695.079	-589.812	-1128.2275
<i>Odds ratios</i>							
Successful military coup	1.173	3.667	.795	3.145	1.134	.529	3.348
Failed military coup	1.006	1.656	1.377	2.100	.855	.766	1.643
Successful civilian coup	13.293	6.511	12.155	6.281	85.135	10.458	6.285
Failed civilian coup	.541	1.169	.716	1.453	.151	.747	1.225
<i>Differences between event types</i>							
Succ. mil. = fail. mil.	p<.771	p<.089	p<.357	p<.409	p<.655	p<.684	p<.124
Succ. civ. = fail. civ.	p<.002	p<.086	p<.004	p<.140	p<.000	p<.034	p<.092
Succ. mil. = succ. civ.	p<.007	p<.537	p<.002	p<.455	p<.002	p<.013	p<.480
Fail. mil. = fail. civ.	p<.387	p<.562	p<.373	p<.547	p<.149	p<.979	p<.622

Note: *** (**) [*] denote significance at p<.01 (p<.05) [p<.10]. All regressions are conditional fixed effects logit.

Figure 1. Crisis risk around coups and coup attempts

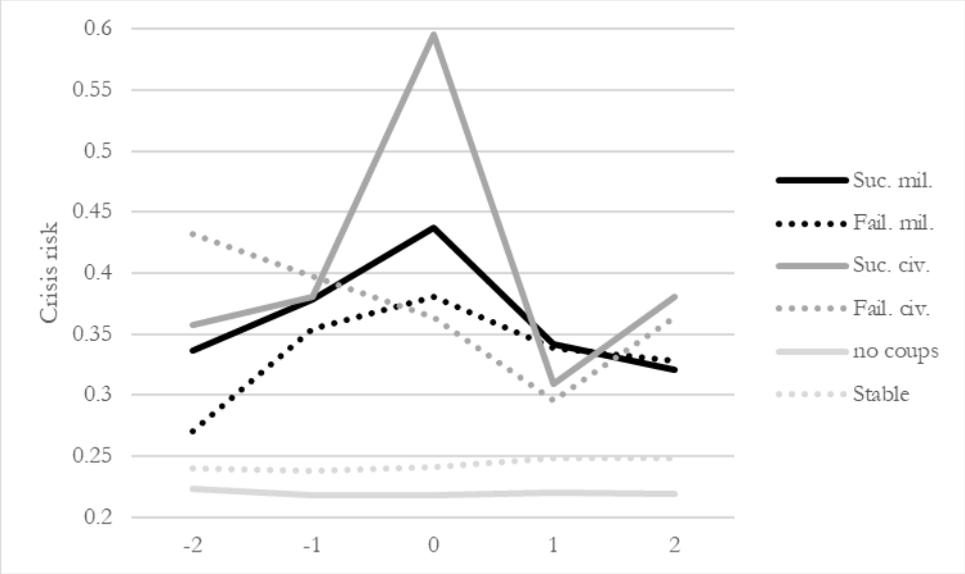


Table A1. Regime transition matrix, 1950-2022

		Regime type, t							
		Parl. democracy	Mixed democracy	Pres. democracy	Civilian autocracy	Mil. dictatorship	Royal dictatorship	Colony, auton	Colony
Regime type, t-1	Parl. democracy	3609 (-)	9 (19.6)	0 (0.0)	18 (39.1)	18 (39.1)	1 (2.2)	0 (0.0)	0 (0.0)
	Mixed democracy	4 (15.4)	1161 (-)	2 (7.7)	8 (30.8)	12 (46.2)	0 (0.0)	0 (0.0)	0 (0.0)
	Pres. democracy	0 (0.0)	1 (2.2)	1504 (-)	21 (45.7)	24 (52.2)	0 (0.0)	0 (0.0)	0 (0.0)
	Civilian autocracy	13 (10.4)	18 (14.4)	24 (19.2)	2924 (-)	70 (56.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Mil. dictatorship	7 (5.7)	18 (14.8)	41 (33.6)	56 (45.9)	1783 (-)	0 (0.0)	0 (0.0)	0 (0.0)
	Royal dictatorship	4 (28.6)	0 (0.0)	0 (0.0)	5 (35.7)	5 (35.7)	998 (-)	0 (0.0)	0 (0.0)
	Colony, autonomous	22 (30.1)	2 (2.7)	5 (6.8)	25 (35.6)	0 (0.0)	5 (6.8)	1131 (-)	13 (17.8)
	Colony	3 (3.1)	0 (0.0)	0 (0.0)	14 (14.3)	0 (0.0)	3 (3.1)	78 (79.6)	1316 (-)

Note: numbers in parentheses are percent of all changes in a given regime type.