Why return to an electoral authoritarian state?

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Abstract. This study provides theoretical conditions for a stable political system. This study has the trade-off that military support for the rulers simultaneously encourages military build-up, resulting in closed authoritarianism, electoral authoritarianism and stabilising military regimes, while at the same time giving the military a stronger voice, which is a cost for the rulers. Democracies that are not aligned with the military are shown to be unstable. Despite the assumption of a path-dependent model, electoral authoritarianism is a stable system in countries where the initial political system is strengthened, but where the balance between citizens and the military is struck and the amount of real resources is not sufficient for the number of resources demanded by the citizens.

Keywords. Path dependency; Democracy; Electoral authoritarian; Closed authoritarian; Military.

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1. Introduction

This study provides theoretical conditions necessary for a stable political system. The study includes the military as a player and includes the military's influence after a successful coup by its participation in the coup. It also fills a gap in previous research by showing that the disparity between the minimum resources demanded by the people and the resources they possess in reality influences the political system.

Many previous studies have shown that the utility function of citizens is determined by the political system, with disparities in inequality as one of the factors (e.g. Miller, 2012; Ishii, 2020). This study takes the same perspective. However, while this study would be more likely to be a coup d'état for socialism if the only demand of citizens was to reduce inequality, this is not necessarily the only aim of a real coup d'état by citizens. Emerging conglomerates and wealthy urban areas have the experience of supporting coups by citizens in the past. However, their aim is not to hand over their property to others. Some studies exist that show the diversity of citizens' demands with models and simulations (e.g. Ishii, 2020). This study shows that even if citizens' demands are diverse, it is essential for citizens with inferior military power to collaborate with the military or parts of the military to successfully carry out a coup, and that collaboration with the military influences the subsequent political system. Based on the military's

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contribution to the coup, the military that participated in the coup seeks a stronger voice in the new government, and other politicians within the new government cannot ignore the views of the military. It also shows that the stronger the influence of the military, the more stable the political system arises. A stable political regime in this study means that it is established at the expense of citizens’ rights and welfare, including the economy. It assumes a state in which the resources held by the state are close to the minimum resource $S$ that guarantees a stable life after resources are distributed among citizens.

The cost of a failed coup against a closed authoritarian or electoral authoritarian ruler, including rulers with both legislative and executive powers, is likely to be death, making it very risky to be involved in a coup. The model in this study also includes the different risks to citizens who participate in coups for each existing political system.

This study implies that regimes created by coups, even if the coup is aimed at democracy, will transform into authoritarian political regimes. It is not surprising that citizens who carry out coups have a short-term desire to win the coup as a reason for aligning themselves with the military, despite their desire for democracy and peace. However, just as citizens, out of a feeling of respect for the right to freedom and equity, would stage a coup within their own country, they are aware of the current situation in which a small military state without nuclear weapons in its foreign and domestic relations is at a disadvantage in various economic negotiations against a military power with nuclear weapons so that freedom and equity are guaranteed even between states. To some extent, they may also feel the need to co-operate with the military in the long term. If citizens have a belief in the military's ability to solve problems such as border disputes against the backdrop of military power, and if they believe that it is necessary in the long term to produce a strong president, i.e. a closed authoritarian state or an electoral authoritarian state, to achieve this, then citizens' cooperation with the military in the coup process is it makes sense in the long term. Even if free speech and various rights by citizens are deprived, this means that many citizens are fine with the deprivation of free speech and various rights, as long as their lives, property rights and domestic peace are guaranteed against the backdrop of military power. Historically, in the French and Russian revolutions, as well as in the Xinhai Revolution in China, citizens staged coups in the early stages, but with the cooperation of the military, they succeeded. In the long term, authoritarian regimes were created by rulers with military power, rather than democratic regimes. Closed authoritarianism and electoral authoritarianism deprive people of their right to know, so they are less likely to complain about politics if they do not know.

The model of this study also shows that to sustain democracy, resources must be above the minimum to guarantee a stable life after sharing resources among citizens. It shows that if resources exist only below the resources ($S$) necessary for the survival of the state, no matter how much citizen support

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there is for democratisation, in the long term the country will return to authoritarianism and democratic institutions will not be chosen.

The inclusion of military regimes in addition to closed authoritarianism, electoral authoritarianism and democracy is also a feature of this study’s model of ruling politicians and political regimes. Electoral authoritarianism is also divided into two categories. Sole rule, such as a strong presidential system, and one-party rule, is grouped as a closed authoritarian presidential system and divided into a formal parliamentary cabinet system. The parliamentary cabinet system in this study is not a one-party dictatorship but is a stable system with a largely fixed prime minister. Through formal elections, there is always a party with a majority, from which the military-directed prime minister is determined. The authoritarian presidential system also allows the military to choose politicians whose policies are close to those of the military. Compared to a parliamentary cabinet system, a presidential system or one-party rule has fewer members in government and therefore a larger per capita distribution of resources. Therefore, once a ruler is a closed authoritarian or electoral authoritarian, he or she chooses closed authoritarianism, even if the cost of military intervention in policy is included for the ruler. This study finds that the military has less influence in a parliamentary cabinet system than in a presidential system, even if the same electoral authoritarianism is used. The reason is that in a one-party dictatorship or presidential system, it is more difficult to oppose ideas and policies dictated by the military than in a parliamentary cabinet system. In a parliamentary cabinet system, the military-supporting groups hold the majority of seats in parliament, so policies are almost certainly implemented, but the small number of politicians who disagree with the military’s views makes it difficult to implement policies that are excessively favourable to the military or that increase the military’s military build-up to the point where it seriously impacts on civilian life. Therefore, the influence of the military is also smaller than in a one-party dictatorship or presidential system as a closed authoritarian system.

The military also had an impact on the probability of a successful coup d’état. The stronger the influence of the military in a political system, the stronger the military power of the ruler and the lower the probability of a successful coup by the citizens. Furthermore, the risk of a failed coup by citizens is also greater.

Analysing how political regimes change from one initial state to another in terms of path dependence, Miller (2012) differs from this study in that he shows that political regimes can be freely chosen. Rather, this study implies that once a political regime is determined, it becomes stable through institutional complementarity if the characteristics of the political regime are exploited. The characteristics of political regimes are that all but democracy are backed by military power and democracy is thoroughly educated in civilian control.

Furthermore, this study assumes a variety of electoral authoritarianism and a variety of closed authoritarianism, rather than a dichotomy between

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authoritarian and democratic states, or a trichotomy including Miller’s (2012) electoral authoritarianism. This is consistent with previous research. The model assumes diverse political regimes and a continuum of possible political regime shifts. It not only assumes a large separation between the rulers’ ideal policy z and the citizens’ ideal policy x, but also that the rulers allow themselves to change the political system if they adopt a compromised policy, if their support through elections is much lower than in the past, and if they believe that the threat of a coup d’état is very high. It means. In any political system, the ruler initially tries to maintain the initial political system. However, the policies that can be implemented while maintaining the political system are limited. For example, assume that the initial regime is an electoral authoritarian system where only the president is elected. However, when the citizens no longer tolerate the ruler making policy decisions alone, and the threat of coup d’état increases, the ruler will formally tolerate the active role of the citizens, provided that the ruler himself can remain the ruler at the beginning. Citizens move to a parliamentary cabinet system when they want a parliament to be held and when citizens want to elect multiple parties and multiple politicians. When citizens do not tolerate only a formal parliament, even if a parliamentary cabinet system is introduced, they move to a democratic system. The democratic system in this study includes the presidential system, the parliamentary cabinet system and everything in between, including the anti-presidential system, and not formal elections. It differs from electoral authoritarianism in the sense that it conducts essential elections. Essential elections mean that the election results are fair and politicians are elected based on the election results. Also, executive and legislative powers are separated. The continuity of the political system is ensured by the size of the r_ that the ruler presents to the citizens.

However, the reality of the increasing number of consecutive electoral authoritarian states and the diversification of electoral authoritarianism, reflecting

In this study, the game is to choose a politician by the military in the first term and to decide whether to stage a coup in the second term; a third term is not envisaged, but by comparing the stability of the political system The second can be predicted. For example, a state with less than S necessary for state survival will become authoritarian again in the third term, as citizens revolt and democratise in the second term, but civil life does not improve.

2. Previous review
2.1. Electoral authoritarianism
Miller (2020) conducted an empirical analysis of the hypothesis that the transition to electoral authoritarianism (EA) balances the international incentives for dictators to adopt elections with the costs and risks of controlling elections. The results showed that international leverage in favour of democratisation, captured by dependence on democracies through
trade relations, military alliances, international government organisations and aid, would lead to the adoption of EA, while socio-economic factors that facilitate voter control, such as low average income and high inequality, would also shift to EA. It held that democratisation entails the loss of dictatorial power and can therefore be explained mainly by regime fragility rather than international engagement or socio-economic factors.

Geddes et al. (2014) stated that a dictatorship is a set of formal and informal regimes, with rules for choosing leaders and policies. They point out that the reason for the existence of informal rules is that the concealment of the rules for choosing dictatorships satisfies the powerful, except the current ruler. It states that many states are fragile and have a high probability of emerging democracies, even if they are dictatorships. It argues that political regimes after the fall of a dictatorship and conflict behaviour in dictatorships vary widely from country to country. There are numerous studies on mechanisms in autocratic regimes (Chiozza & Goemans, 2003; Debs & Goemans, 2010; Weeks, 2014). A major problem in autocratic regimes is informational uncertainty (Tullock, 1987; Wintrobe, 1990; 1998), which Wintrobe (1990, 1998) referred to as the "Dictator's Dilemma". Formal elections are introduced because information uncertainty makes it impossible for a dictator to remain a strong dictator in the future, otherwise, he would be under constant threat of a coup d'état. To resolve information uncertainty, elections are introduced to reveal information about citizens' policy demands (Case, 2006; Geddes, 2006; Magaloni, 2006; Miller, 2011). Such electoral authoritarianism makes policy concessions at the cost of averting a coup. There are several other reasons behind the introduction of electoral authoritarianism.

Pure rituals to deceive international observers (Carothers, 1999; Hyde 2011), transmission of ideology (Hermet, 1978), monitoring of local leaders (Barkan & Okumu, 1978; Zaslavsky & Brym, 1978), transmission of regime control (Geddes, 2006; Magaloni, 2006; Simpser, 2008), spreading aid to citizens to maintain elite loyalty (Lust-Okar, 2006; Magaloni, 2006; Blaydes, 2011), the behaviour and capacity of local leaders (Barkan & Okumu, 1978; Blaydes, 2011; Malesky & Schuler, 2011), including the military (Geddes, 2006; Cox, 2009), confirming the strength and popularity of rival factions.

Miller (2011) finds from an empirical analysis that the ruling party's electoral defeats have been accompanied by policy concessions, in particular increased education and social welfare spending and reduced military spending.

2.2. Dictatorship and the party

Autocratic ruling parties are important institutional actors in contemporary history.

Many studies argue that autocratic parties are strategically designed to increase elite cohesion and extend autocratic power and durability (Geddes, 1999; Smith, 2005; Magaloni, 2006, 2008; Brownlee, 2007; Svolik, 2012). Other studies have examined how the ruling party is involved in policy choices.
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(Magaloni, 2006; Magaloni & Kricheli, 2010), democratisation (Magaloni, 2006; Slater & Wong, 2013; Wright & Escrivà-Folch, 2012), late democratic It examines politics in the context of principles (Grzymala-Busse, 2002; Riedl, 2014; Loxton, 2015). The first dataset of autocratic ruling parties is Geddes (1999). He categorised autocratic states into one-party dictatorships, individualism, militarism and their hybrids. In addition, Keefer (2012); Svolik (2012) included annual data on ruling parties in dictatorships, but both identified several problems Archigos (Goemans, Gleditsch, & Chiozza, 2016) created a data set of autocratic rulers, but Miller (2019) created a dataset of autocratic ruling parties. The data showed that it is the full class of ruling parties that make dictatorships more stable. Less than 40% of ruling parties were founded by incumbent dictators or military officers, and only 30% came to power as such. Indeed, the average time between a political party being established and coming to power is 10.8 years. An analysis of whether dictatorships with political parties are more durable confirms that dictatorships without multiple parties and with a ruling party (e.g. monarchies with an ineffective parliament) are more durable, while those with multiple parties are less durable. Parties with the highest use of violence (revolutionary parties and parties invited by foreigners) were found to be the most durable. On the other hand, parties that came to power through elections were the least durable. There is a large body of literature examining the function of autocratic parties vis-à-vis dictatorships and regimes (Zolberg, 1966; Huntington, 1968; Geddes, 1999; Smith, 2005; Magaloni, 2006, 2008; Brownlee, 2007; Magaloni & Kricheli, 2010; Levitsky & Way, 2010; Svolik, 2012; Wright & Escrivà-Folch, 2012). In particular, political parties are said to mediate elite conflicts and create hierarchical structures for elite recruitment and career investment. In this way, elites remain loyal and regimes become more cohesive and stable (e.g. Brownlee, 2007; Magaloni, 2008; Reuter & Remington, 2009; Svolik, 2012). Parties also maintain popular control by policing loyalties, building support through propaganda and clientelism, recruiting and mobilising party followers and providing clear electoral labels (e.g. Zolberg, 1966; Ames, 1970; Magaloni, 2006; Magaloni & Kricheli, 2010). Strong parties also enable dictatorships to make credible promises and improve investment and growth (Gehlbach & Keefer, 2011). Building on this theoretical work, empirical studies have shown that party-based regimes are more stable than other dictatorships (Geddes, 1999; Smith, 2005; Slater, 2006; Hadenius & Teorell, 2007; Brownlee, 2007, 2009; Magaloni, 2008). Dictatorial parties are often created and empowered as a strategic project of the dictator (e.g. Smith 2005; Reuter & Remington, 2009; Svolik, 2012; Reuter, 2017). Some dictatorial ruling parties were established by the incumbent dictator for regime strengthening purposes such as elite cooptation and legitimacy building. However, more than 60% of ruling parties were not founded by dictatorships, but have antecedents and founding purposes such as revolution, independence or colonial electoral competition. As Smith (2005) and Levitsky & Way (2012) point out, there is significant heterogeneity in the durability of autocratic ruling parties. Most

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recent studies addressing this heterogeneity have focused on the strategies and sophistication of leaders, including their choice of institutional rules (Magaloni 2006, 2008; Brownlee, 2007; Levitsky & Way, 2010; Way, 2015).

Smith (2005) emphasises the role of financial and political constraints in the origins of the ruling party. When parties faced powerful challengers (e.g., rival parties or colonial powers) and did not have easy access to rents, they were forced to build strong institutions to survive; Slater (2006) similarly argues that strong parties derive from high mass mobilisation at the time of coming to power and elites are more likely to be able to use centralised It is argued that they are forced to invest in a party state.

Levitsky & Way (2012, 2013) found revolutionary parties to be particularly durable, with revolutionary parties having greater coercive power after the war and gaining stronger unity through shared struggles. Revolutionary parties also tend to destroy or absorb potential rivals, particularly armies and states, in the process of coming to power; Lyons (2016) points to ruling parties developing from civil wars and rebellions, arguing that protracted war and victory without a negotiated peace settlement can produce powerful autocratic parties. Like Huntington (1968), Levitsky & Way (2012, 2013) and Lyons (2016) emphasise, the use of coercive force when gaining power can fundamentally shape party strength, its relationship with national security and regime repression.

2.3. Political regimes, economic growth and economic liberalisation

A survey of the relationship between economic growth and political regimes exists in Przeworski et al. (2000). Winters (2004) outlines the relationship between trade liberalisation and economic growth. The literature on economic liberalisation and economic growth includes De Haan et al. (2006), which also note that instability and volatility in growth rates are important, especially in developing countries (De Haan, 2007).

Hausmann et al. (2005) found that changes in political regimes have little to do with economic liberalisation, while Jong-A-Pin, & De Haan, (2008). found that accelerated economic growth is often caused by changes in political regimes, but mostly by economic liberalisation. They found that the longer a political regime, whether democratic or autocratic, lasts, the less the probability of transition to a more democratic system.

Imam & Salinas (2008) noted that an analysis of 22 West African countries showed that external shocks, economic liberalisation, political stability and proximity to the coast, rather than changes in political regimes, were the drivers of accelerated economic growth Timmer & De Vries (2009) found that economic growth was driven by intra-sectoral Tavares & Wacziarg (2001) found that the positive side of democracy’s impact on economic growth can be explained by increased transparency and accountability and higher economic performance, but the negative side is that democratic The consensus that institutions require may delay the response to shocks and the
implementation of legislation Doucouliagos & Ulubasoglu (2008) concluded, based on a meta-analysis, that there is no clear evidence that democracy leads to economic growth. Subsequently, the conclusions changed somewhat when moving from traditional cross-sectional analysis to time series analysis: Jerzmanowski (2006) found that democracy reduces the propensity for crises to occur, but also limits the frequency of crises, while Cuberes & Jerzmanowski (2008) found that democracy is associated with higher The growth rate was assumed to be.

Clague et al. (1996) found that the lack of democratic rights did not affect growth, but the length of time a particular regime has been in power. They stated that it did not matter whether the regime was democratic or autocratic. It was held that a state that becomes a democracy temporarily has the same effect as a dictatorship plundering, as it tries to obtain a large budget. However, in permanent democracies, the situation was assumed to be different.

Based on path dependency, this study also assumed that the initial institutions would be strengthened. In other words, it assumes that the duration of a particular political system and regime is long-term.

Jong-A-Pin (2009) found that countries with more stable political regimes grew faster on average than those without, while Jong-A-Pin & Yu (2010) found that leadership change accelerated economic growth in politically unstable countries Ross (2001a, 2001b, 2009), Ulfelder (2007), Collier & Hoeffler (2009), Alexeev & Conrad (2009) and Tsui (2010) show a negative relationship between resource abundance and democracy. This study includes in its model the disparity between the minimum amount of resources demanded by the public and the actual amount of resources; Haggard & Kaufman (1997) and Geddes (1999) emphasise the role of the regime’s budgetary constraints. Several empirical studies compare regime durability with the potential for revolution. Also, many empirical studies exist on democratisation from closed dictatorships to electoral authoritarianism, discussing regime durability and revolutionary potential (Geddes 1999, 2006; Gandhi & Przeworski 2007; Brownlee 2007, 2009; Lindberg 2009).

2.4. Democratization

Miller (2013) showed four factors contribute to democratisation, and Acemoglu & Robinson’s (2001, 2006) model includes all four of them: first, democratisation is a result of autocratic The idea is that it is the product of strategic choices by elites (Acemoglu & Robinson 2001, 2006; Rosendorff 2001; Boix 2003; Lizzeri & Persico 2004; Llavador & Oxoby 2005). Cases in which democracy is established purely by forces from below are extremely rare (Karl, 1990); O’Donnell & Schmitter (1986) emphasise divisions within the dominant elite. Ultimately, however, they argue that democratisation occurs when the dominant faction strategically supports democracy; the main motivation for the second dictator to choose democracy is the threat to the people. revolt (Weingast, 1997; Acemoglu & Robinson 2001, 2006; Boix
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2003), while Collier (1999) found that democratisation is often a combination of elite choice and popular pressure.

The third factor in democratisation is the existence of class struggle over redistribution (Acemoglu & Robinson 2001, 2006; Rosendorff 2001; Boix 2003, 2008; Ansell & Samuels 2010). There are also policy disputes (Lizzeri & Persico 2004; Llavador & Oxoby 2005; Gandhi & Przeworski 2006; Desai et al. 2008). This is due to the implicit threat of redistribution for elites once democratisation takes place, leading to intense struggles with non-elite classes; Boix (2003) argues that from a redistributive perspective, democracy is more likely to reduce this redistributive threat when inequalities are small. Redistribution is implemented at a lower level, making elites more likely to accept democracy.

The fourth factor for democratisation is that dictatorships may offer policy concessions to prevent revolts and coups, but often lack institutional structures, so citizens do not trust that promises will be kept. Institutions such as the Legislative Assembly should be established to ensure that citizens can trust them. For elites, see North & Weingast (1989); Congleton (2001); Myerson (2008); Wright (2008). For political parties, Magaloni (2008); Gehlbach & Keefer (2011).

2.5. Previous research on the model


Cox (2009) modelled the adoption of autocratic elections as a response to information, focusing on negotiations between autocrats and armed rivals. Opposition protests and government repression (Ellman & Wantchekon, 2000; Przeworski, 2009) and autocratic parliaments (Gandhi & Przeworski, 2006; Gandhi, 2008; Boix & Svolik, 2010) and political parties (Magaloni, 2008; Gehlbach & Keefer, 2011), although there is also literature modelling the adoption of political parties, most of which focuses on elite bargaining.


Miller (2013) modelled not only the dependence of income changes on whether the political regime was initially autocratic or democratic but also the heterogeneity of autocratic regimes given the degree of autocracy. Furthermore, including changes in the rewards of holding political power rather than the opportunity costs of challengers, changes in political regimes...
included electoral authoritarianism that conceded policy through electoral signals rather than a binary transition to democratisation. It also incorporated information asymmetries regarding revolutionary possibilities. This study also incorporated information asymmetries and modelled diverse political regimes by splitting the EA of Miller (2013) into two and incorporating military regimes. We also modelled military support as a factor that strengthens the political regime, and conversely, we added multiple factors to the political regime transition, including the cost of strengthening the military’s voice, the threat of a coup, the gap between the minimum resources required by the public and the actual resources, the degree of policy compromise with the civilian population and the military’s policy compromise with the new Added to the model.

3. The model

3.1. Basic elements

The game involves two players. The autocrat (subscript a) and a representative citizen (subscript c). Play begins with the autocrat faces subgames, which responds to any of the five distinct regime types. (1) Closed Authoritarianism (CA), (2) Electoral Authoritarianism (Presidential System) (EAp), (3) Electoral Authoritarianism (Parliamentary Cabinet System) (EAc), (4) Democracy (Dem), (5) Military Government (Mil).

The ruler gains a direct benefit R>0 from having greater power than CA or EA. When the ruler is a Democracy Dem, citizens gain direct benefits, $D_c>0$. When the ruler is a democratic ruler and there is no domestic civil unrest, the ruler gains a hand benefit, $D_a>0$, through building and promoting relations with foreign countries.

In each sub-game, $\gamma \in \mathbb{R}$, which encompasses all socio-economic policies, is chosen by citizens under democracy and the ruler under CA/EA. (In some of the Propositions below, to understand the results of the analysis, it is assumed that the ruler has a utility function containing the squared distance between his ideal and real policies and a point representing his policy ideal) The point on the policy of the ruler’s ideal is $z<0$ and is known by both the representative citizen and the ruler. The citizen’s ideal policy point is $x$, unknown by the ruler, and believed by the ruler to lie in a uniform distribution between 0 and $\bar{x}$ ($>0$). $\bar{x}$ implies uncertainty about the citizen’s preferences. Let $z$ be the policy value of the ruler relative to citizens, and $z$ denotes the level of inequality since economic inequality implies the intensity of the conflict.

Given a policy offer, one actor chooses to rebel or not. The likelihood of the ruler is $\theta$ for CA, $\theta'$ for EA and $\alpha$ for Dem. actor i faces a cost $c_i>0$ for each, with an additional cost $k_i>0$ if civil war occurs and the actor is defeated. The ruler may launch a coup d’état in the case of democracy. If a civil uprising or a coup by the ruler fails, the regime type and policies remain unchanged. If successful, the winner can change regime type and determine policy; one round ends the game.
In summary, in CA the ruler offers $y$ and the citizens decide whether to revolt; in Dem the citizens offer $y$ and the ruler decides whether to stage a coup; in EA it differs slightly in terms of citizen signalling, with the ruler formulating a constrained but ideal policy; in CA the ruler offers $y$ and the citizens decide whether to revolt; in Dem the citizens offer $y$ and the ruler decides whether to stage a coup; in CA the ruler offers $y$ and the citizens decide whether to revolt; in Dem the citizens decide whether to stage a coup; in EA the citizens offer $y$ and the ruler decides whether to stage a coup; in Dem the citizens decide whether to stage a coup. If citizens support the regime, the ruler does not transfer authority and can extract policy concessions $y_2 \geq y_1$. This choice is made through electoral signalling, where dissatisfied citizens elicit policy concessions by voting against them. A constrained offer is presented, citizens choose between a gain or a policy concession and the commitment is fulfilled. Finally, citizens choose whether to revolt. $\bar{y}_d$ is the upper limit of policy compromise possible to maintain closed authoritarianism. If a compromise within $\bar{y}_d \geq y$ can avoid a citizen coup, the CA can be maintained. If a coup cannot be avoided without the ruler making compromises of $y_2$ or $y_1$ below, then an electoral authoritarian presidency.

$$\bar{y}_{ed} \geq y_2 \geq y_1 \geq \bar{y}_d$$

After the change to an electoral authoritarian presidential system, a further $\bar{y}_{ep}$ or less but $\bar{y}_{ed}$ or more policy compromises are required before moving to an electoral authoritarian parliamentary cabinet system.

$$\bar{y}_{ep} \geq y_4 \geq y_3 \geq \bar{y}_{ed}$$

After the change to an electoral authoritarian parliamentary cabinet system, if further $\bar{y}_{ep}$ or more policy compromises are required, the transition is made to democracy.

$$y_5 \geq \bar{y}_{ep}$$

I make three assumptions concerning the model’s parameters.

**Assumption 1**

$$(1 - \theta(M)) < \frac{-\theta(M) \left\{ -k_c + R_d(M) + f_d(S - S) \right\} - c_c}{D_c + P(S < S)(\rho M - m) + f_{Dem}(S - S)}$$

If above assumption is violated, the citizen will always revolt under CA or EA. If the autocrat know this, the autocrat will choose between CA with $y = z$ and democracy.

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Assumption 2

\[ z > \frac{R_d(M) + c_t + \theta(k_R^d - R_d(M))}{1 - \theta(M)} - D_c - P(S < S)(\rho M - m) - f_{dem}(S - S) + R + M(z_M - z) + (1 - \theta(M))f_d(S - S) + R_d(M) + c_a - \theta(M)(R - m - R_d(M)) + (1 - \theta(M))(-k_a) \]

Assumption 3

\[ d < d_m \]

If \( z \) is sufficiently negative, we get an uninteresting equilibrium in which the autocrat chooses CA and \( y = z \) even thought it provokes all citizen types to revolt. This assumption eliminates that possibility.

The more \( m \) increases the cost a ruler loses by having a stronger voice in the military, the smaller the benefit of the ruler winning the coup. On the other hand, an increase in military power \( m \) increases the likelihood of crushing a coup by the citizens. Also, \( R_d(M) \) is a function of the military’s profit \( M \). The more \( M \) is, the more the military build-up reduces the domestic resources \( f_d(S - S) \) produced through the authoritarian state’s production function, as it has a negative sign of lost state profits through the military build-up. The military build-up reduces utility through civilian consumption by using the resources produced for military purposes. In the long run, the use of resources for military build-up also has the potential to increase the probability of a coup being suppressed by the military build-up increases, but the probability of a coup by citizens increases.

Historically, in China, the Sun Yat-sen failed coups many times until the Xinhai Revolution of 1911 by the Sun Yat-sen, and in Japan, the Choshu domain many times until the Boshin war of 1867 led by the Choshu domain. There have been failed coup attempts, including the Russian Revolution of 1917, by which time Lenin was in exile in another country due to the failed coup attempts he had previously carried out. Thus, even though coups have failed, there is a history of coups have occurred many times, and this study model this history.

The solution concept is perfect Baysian equilibrium, which requires subgame-perfection and Baysian updating over type.

3.2. First turn of closed authoritarianism and electoral authoritarianism

3.2.1. Military

On its first turn, the military chooses the politician whose policy is closest to the military’s policy \( y_M \). The smaller \( (z_M - z) \) is, the more the military’s profit \( M \) increases.

\[ u_M = M(z_M - z) > M \text{ if } S < S \]
\[ u_M = M(z_M - z) = M \text{ if } S \geq S \]

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Below the minimum level of state resources \( S \) required by the people, for example, even in a democratic system, the military itself influences politics, for reasons such as disappointment at the low competence of democratically elected politicians, to achieve political stability and intensive investment on the back of the state’s military power. Assume that the aim would be more desirable for the state. \( S \) Assume that if the resources of the state exist beyond \( S \), it can put up with a system in which even if policy failures continue under a democratic system, the people themselves should be held responsible because they are failures caused by politicians elected by the people. Let \( M \) be the minimum military force required for national defence. The military’s gain \( u_M \) is equal to the military’s profit \( M \). The policy \( z_M \) demanded by the military means a military build-up and an increase in military expenditure. The relationship between the military’s policy \( z_M \) and the ruler’s ideal policy \( z \) is as follows.

\[
z_M = z + \varepsilon
\]

3.3. Second turn
3.3.1. Closed authoritarianism

In CA, the autocrat offers a policy \( y \). The citizen then chooses whether to revolt, with a \( 1 - \theta \) probability of success. If the citizen does not revolt, \( y \) is implemented, the citizen gets \( -f(x - y) \), and the autocrat gets \( R - f(y - z) \). In the event of revolt, each actor \( i \) loses \( c_i \).

If the autocrat wins, the citizen loses \( k_c \). The autocrat retains \( R \), and policy \( y \) is implemented. If the citizen wins, the autocrat loses \( k_a \) and retains the loss from \( y \), whereas the citizen gains \( D_c \) and implements the policy \( x \).

\( S \) is the current national resource and \( S \) is the minimum national resource required by the population. \( S \) is the minimum national resources available to provide the minimum services demanded by the people from the state. A state can have less than \( S \) resources. In other words, \( S - S < 0 \) is possible. \( f_d \) is a function of the amount of state resources that can be used and produced by closed authoritarianism. \( f_d(S - S) \) is the product of increased production by utilising, through closed authoritarianism, the amount of resources beyond the resources that the people, at a minimum, demand from the state. the greater \( S - S \), the greater the amount produced. \( R_d(M) \) is a function of the military’s profit \( M \). The greater \( M \), the more Through military build-up, the state loses profit. In other words, the sign of \( R_d(M) \) is negative. Citizens lose their gains through the use of resources by the military for the military build-up, both in the case of no coup and in the case of a closed authoritarian political system in which a coup is initiated but defeated. In cases where a rebellion occurs and the ruler wins, the military has a stronger voice. The cost to the ruler of a stronger military voice is \( m \). Through military build-up, the ruler increases the probability of increasing the police force and winning the civil war. The probability of winning a coup by citizens, \( \theta \), is a decreasing function of \( m \). If \( S < S \) when citizens stage a coup, the probability of some
military support is $\varphi$. If some military support, a democratic system is created after citizen victory, but military influence $m$ is also created.

The utility function for the citizen is the following.

$$u_C(y) = \begin{cases} R_d(M) - f(x - y) + f_d(S - \overline{S}) & \text{if no revolt} \\ -c_C + \theta(M)\{-k_C - f(x - y) + R_d(M) + f_d(S - \overline{S})\} \\ + (1 - \theta(M))\{D_c + P(S < \overline{S})(\rho M - m) + f_{Dem}(S - \overline{S})\} & \text{if revolt} \end{cases}$$

The utility function for the autocrat is the following.

$$u_A(y) = \begin{cases} R - f(y - z) + M(z_M - z) + f_d(S - \overline{S}) + R_d(M) & \text{if no revolt} \\ -c_A - f(y - z) + \theta(M)(R - m - R_d(M) + f_d(c)) + (1 - \theta(M))(-k_a + f_{Dem}(S - \overline{S})) & \text{if revolt} \end{cases}$$

The military will not participate in the coup with the citizens, and the military may stage its own coup.

The utility function for the military is the following.

$$u_M(y) = \begin{cases} R_d(M) - f(z_M - y) + f_d(c) & \text{if no revolt} \\ -c_C + \theta(M)\{-k_C - f(z_M - y) + R_d(M)\} + (1 - \theta(M))\{D_c + f_d(S - \overline{S})\} & \text{if revolt} \end{cases}$$

The subgame equilibrium is captured in the following proposition.

**Proposition 1**

The following constitutes the sole equilibrium in the closed authoritarianism subgame.

Let $d = \frac{R_d(M) + c_C + \theta(k_C - R_d(M))}{1 - \theta(M)} - D_c$.

1. If $z \geq \overline{x} - d$, the autocrat chooses $y = z$. Otherwise, the autocrat chooses $y = y^*$, constrained from above by min$(\overline{x} - d, d)$, where

$$y^* = z + \frac{-R - M(z_M - z) - f_d(S - \overline{S}) - R_d(M)}{4\overline{x}}$$

$$c_a - \theta(M)\left(R - m - R_d(M) + f_d(S - \overline{S})\right) - (1 - \theta(M))(-k_a) + \frac{4\overline{x}}{4\overline{x}}$$

2. The citizen revolts if and only if $|x - y| > d$
3. The military revolts if and only if $|z_M - y| > d_m$
Rulers must be aware of both civil and military insurgencies. When the difference between military policy $z_M$ and civilian policy $y$ is large, it becomes difficult for rulers to adjust. When $\frac{\partial u_C^A}{\partial y}$ and $\frac{\partial u_C^A}{\partial z_M}$ are both large, the possibility of the military supporting a civilian coup d’etat arises. Revolutions resulting from a joint struggle between the military and citizens can be identified all over the world, such as the French Revolution in the 8th century, the Russian Revolution in the 20th century and the Xinhai Revolution that overthrew the Qing dynasty in China, which resulted in the military’s Yuan Shikai obtaining power, and the Prague Spring in the 21st century. A discussion of military regimes is given in a later section.

3.3.2. Electoral authoritarianism

(1) Electoral Authoritarianism (Presidential System)

In EA, the autocrat implements a binding policy deal that is contingent on the citizen’s choice of payoff or policy concession. The payoffs are identical to those in CA, with the exception that the autocrat wins with probability $\theta'$ and there is a transfer of $r$ from the autocrat to the citizen.

The utility function for the citizen is the following.

$$u_C^A(y) = \begin{cases} 
R_{ed}(M) - f(x - y) + f_{ed}(S - S) & \text{if no revolt} \\
-c_c + \theta'(M) (-k_{ed} - f(x - y) + R_{ed}(M) + f_{ed}(S - S)) + (1 - \theta'(M)) (D_c + P(S < S) (\rho M - m) + f_{Dem}(S - S)) & \text{if revolt}
\end{cases}$$

The utility function for the autocrat is the following.

$$u_A^A(y) = \begin{cases} 
R - f(y - z) + M(z_M - z) + f_{ed}(S - S) + R_{ed}(M) & \text{if no revolt} \\
-c_a - f(y - z) + \theta'(M) (R - m - R_{ed}(M)) + (1 - \theta'(M)) \{( -k_a) + f_{Dem}(S - S)\} & \text{if revolt}
\end{cases}$$

$f_{ed}$ is a function of the amount of state resources utilised and produced by the presidency in electoral authoritarianism. $f_{ed}(S - S)$ is the product of the increased use of resources by electoral authoritarianism over and above the resources that the people demand from the state at a minimum. the more $M$, the more $R_{ed}(M)$ the state loses through a military build-up. Not only the citizens, but also the rulers, i.e. the sign of $R_{ed}(M)$ is negative. Citizens lose their gains through the use of resources by the military for a military build-up, both in cases where a coup does not occur and in cases where a coup does occur but is defeated because the political system is electoral authoritarian. The cost of electoral authoritarianism is smaller than the cost of closed authoritarianism through military build-up ($0 > R_{ed}(M) > R_d(M)$ ). Electoral authoritarianism denies rulers against an arms build-up that citizens believe is excessive through elections. Electoral authoritarianism
discourages arms build-up. the available productivity of state resources depends on the political system, $f_{dem} > f_{ed} > f_d'$.

**Proposition 2**

The following constitutes the sole equilibrium in the Electoral Authoritarianism (Presidential System) subgame.

$$d' = \frac{R_d(M) + c_a + \theta(k_g^d - R_d(M)) - (1 - \theta(M))(D_0 + P(S \leq S)(\rho M - m) + f_{Dem}(S - S))}{1 - \theta(M)} + R + M(z_M - z) + (1 - \theta(M))f_d(S - S) + R_d(M) + c_a - \theta(M)(R - m - R_d(M)) + (1 - \theta(M))(-k_a)
$$

$$\pi = c_a + (1 - \theta')(R - m - R_{ed}(M) + k_a - f_{Dem}(S - S))$$

1. The autocrat offers $y = y_1$ and $r = r_1$ if the citizen chooses payoff and $y = y_2$ and $r = 0$ if the citizen chooses concession. The autocrat always offers $r_1 = -z(y_2 - y_1)$.

   - If $\bar{x} \leq z + d'$, the autocrat offers $y_1 = y_2 = z$.
   - If $\frac{\bar{x}}{2} + z < x < -\frac{\pi}{2}$, there exists a threshold $b < -\frac{\pi}{2}$ such that the autocrat offers $y_2 = y_2'$ and $y_1 = y_1'$, where

$$y_1' = \frac{z + y_2'}{2}$$

   - otherwise, the autocrat offers $y_1 = y_2 = z + \frac{\pi}{2x}$

1. If $y_1 = y_2$, the citizen chooses concession if and only if $r_1 = 0$. Otherwise, the citizen chooses concession if and only if

$$x > \frac{1 - (y_2 - y_1)}{2(y_2 - y_1)} \{-(y_1 - z)^2 - (y_2 - z)^2 + R + f_{ed}(S - S) + R_{ed}(M) + y_2\}$$

2. The citizen revolts if and only if $|x - y| > d'$

**2) Electoral Authoritarianism (Parliamentary Cabinet System)**

$f_{ep}$ is a function of the amount of state resources used and produced by the parliamentary cabinet system in electoral authoritarianism. $f_{dem} > f_{ep} > f_{ed} > f_d'$. Also $0 > R_{ep}(M) > R_{ed}(M) > R_d(M)$. The Prime Minister, the ruler of the parliamentary system, is elected by the parliamentary majority party. The military cannot choose all members of parliament, but the ruler is chosen from the military. However, the ruler does not benefit from the military build-up, so $M(z_M - z)$ is not included in the ruler’s utility function. However, even if a coup were to occur, the increase in $M$ due to the military build-up increases the probability that the ruler will win.

T. Ishii, JSAS, 9(2), 2022, p.79-112.
The utility function for the citizen is the following.

\[
\begin{align*}
    u_c^{CAP}(y) &= \begin{cases} 
    R_{ep}(M) - f(x - y) + f_{ep}(S - \bar{S}) & \text{if no revolt} \\
    -c_c + \theta^{ep}(M)(-k_c + f(x - y) + R_{ep}(M) + f_{ep}(S - \bar{S})) & \text{if revolt} \\
    + (1 - \theta^{ep}(M))(D_c + P(S < \bar{S})(\rho M - m) + f_{Dem}(S - \bar{S})) & 
    \end{cases}
\end{align*}
\]

The utility function for the autocrat is the following.

\[
\begin{align*}
    u_a^{CAP}(y) &= \begin{cases} 
    R - f(y - z) + f_{ep}(S - \bar{S}) + R_{ep}(M) & \text{if no revolt} \\
    -c_a - f(y - z) + \theta^{ep}(M)(R - m - R_{ep}(M)) + (1 - \theta^{ep}(M))((-k_a) + f_{Dem}(S - \bar{S})) & \text{if revolt} 
    \end{cases}
\end{align*}
\]

**Proposition 3**

The following constitutes the sole equilibrium in the Electoral Authoritarianism (Parliamentary Cabinet System) subgame.

\[
d'' = \frac{R_{d(M)} + c_c + \theta^{ep}(k_c^{ep} - R_{d(M)}) - (1 - \theta^{ep}(M))(D_c + P(S < \bar{S})(\rho M - m) + f_{Dem}(S - \bar{S}))}{1 - \theta^{ep}(M)} + R + \\
(1 - \theta^{ep}(M))f_d(S - \bar{S}) + R_{d(M)} + c_a - \theta^{ep}(M)(R - m - R_{ed}(M)) + \\
(1 - \theta^{ep}(M))(-k_a) + \pi = c_a + (1 - \theta^{ep})\{R - m - R_{ed}(M) + k_a - f_{Dem}(S - \bar{S})\}
\]

1. The autocrat offers \( y = y_4 \) and \( r = r_4 \) if the citizen chooses payoff and \( y = y_3 \) and \( r = 0 \) if the citizen chooses concession. The autocrat always offers \( r_4 = -z(y_4 - y_3) \).

   - If \( \bar{x} \leq z + d'' \), the autocrat offers \( y_3 = y_4 \).
   - If \( \frac{z}{2} + d'' < \bar{x} < -\frac{3}{2} \) there exists a threshold \( b < -\frac{3}{2} \) such that the autocrat offers \( y_3 = y_3^* \) and \( y_4 = y_4' \), where
     \[
     \begin{align*}
     \min \left( \bar{x} - d'' - \frac{z}{2} + 3d' \right) &= y_4^* \\
     \frac{z}{2} + \frac{98}{16} \pm \frac{16}{16} \sqrt{\bar{x}^2 - \frac{16}{9} \{z\bar{x} + c_a + (1 - \theta')(R - m - R_{ed}(M) + f_{Dem}(S - \bar{S}) + k_a)\}} & \text{if } \bar{x} < b \\
     y_3^* &= \frac{z + y_2^*}{3} & \text{otherwise}
\end{align*}
     \]

   - otherwise, the autocrat offers \( y_3 = y_4 = z + \frac{\pi}{2x} \)

2. If \( y_3 = y_4 \), the citizen chooses concession if and only if \( r_4 = 0 \). Otherwise, the citizen chooses concession if and only if

   \[
   x > \frac{1 - (y_2 - y_1)}{2(y_2 - y_1)} \{-(y_3 - z)^2 - (y_4 - z)^2 + R + f_{ed}(S - \bar{S}) + R_{ed}(M) + y_4\}
   \]

3. The citizen revolts if and only if \( |x - y| > d'' \)

T. Ishii, JSAS, 9(2), 2022, p.79-112.
Under a given $\bar{x}$, $x$ is divided into three areas. In the area closest to 0, citizens choose to gain and do not revolt. In the area in the middle, citizens choose policy compromise and do not revolt. In the largest area, citizens choose policy compromise and revolt.

Specifically, in areas where $\bar{x}$ is central, the ruler partially transfers the policy-making process and offers $y_3 < y_4$. In areas where $\bar{x}$ is not central, the ruler sets $y_3 = y_4$, the same strategy as in CA. Subsequently, there are also optimal $y_3$ and $y_4$ within the framework of $\bar{x}$ and a threshold value of $x$ at which citizens revolt; as in CA, maximum compromise occurs at the median value of $\bar{x}$; as in CA, at the limit where the ruler gets a guarantee not to revolt, $\bar{x}$ is discontinuous.

### 3.3.3. Democracy

In a democracy, the citizen offers a policy $y$. The autocrat then chooses whether to revolt, with an $\alpha$ probability of success. The payoffs are a mirror image of the payoffs in CA.

The utility function for the citizen is the following.

\[
\begin{align*}
  u_{c, Dem}(x, y) &= \begin{cases} 
    D_c - f(x - y) + f_{Dem}(S - S) & \text{if no coup} \\
    -c_c - f(x - y) + \alpha(-k_{Dem} + f_d(S - S)) + (1 - \alpha)(D_c + P(S < S)(\rho M - m) + f_{Dem}(S - S)) & \text{if coup}
  \end{cases}
\]

The rebel army that causes the coup shall be the military. The utility function for the military is the following.

\[
\begin{align*}
  u_{a, Dem}(y) &= \begin{cases} 
    D_a - f(y - z) + f_{Dem}(S - S) & \text{if no coup} \\
    -c_a + \alpha(R + f_d(S - S) + R_M(M)) + (1 - \alpha)(-k_a - f(y - z) + f_{Dem}(S - S)) & \text{if coup}
  \end{cases}
\]

\[f_{Dem}' > f_{ep}' > f_{ed}' > f_d'.\text{ Also } 0 > R_{ep}(M) > R_{ed}(M) > R_d(M) > R_M(M)\]

because democracy is a system in which resources are widely distributed among citizens and because the financial benefit of the individual ruler is the remuneration for his/her labour as a politician as stipulated by the rules.

The analysis differs from CA because it assumes perfect information when citizens make policy decisions. They also know with certainty when $y$ is coup d'etat. As a consequence, citizens choose $y=x$ when they do not revolt. They also choose the largest $y$ sufficient to avoid a coup if $x$ is in the central area. If $x$ is large enough, they know in advance that a coup will occur and prefer to choose $y=x$. These areas correspond to integrated, non-integrated and unstable democracies.

As $m$ is the cost to the ruler of strengthening the military's voice, military regimes are not included in the model as the military itself is the ruler.
Proposition 4

The following constitutes the sole equilibrium in the Democracy subgame.

\[ d''' = R_{M}(M) + c_{a} + \alpha(k_{c}^{Dem} - R_{M}(M)) - D_{a} - P(S < \underline{S})(\rho M - m) - f_{Dem}(S - \underline{S}) \]

\[ + R + M(z_{M} - z) + (1 - \theta(M))f_{a}(S - \underline{S}) + R_{d}(M) + c_{a} - \theta(M)(R - m - R_{d}(M)) + (1 - \theta(M))(-k_{a}) \]

1. The citizen chooses the policy \( y \) such that

\[ \begin{align*}
    y_{5}' & = \begin{cases}
        z + d'' & \text{if } z + d'' < x < z + d' \\
        + \sqrt{c_{c} + \alpha(D_{c} + k_{c}^{Dem} + P(S < \underline{S})(\rho M - m) + f_{Dem}(S - \underline{S}) - f_{a}(S - \underline{S})} & \text{otherwise}
    \end{cases}
    \\
    \geq z + d''
\end{align*} \]

2. The autocrat coups if and only if

\[ |y - z| > d''' \]

Coups occur in equilibrium when

\[ x \geq z + d'' \]

\[ + \sqrt{c_{c} + \alpha(D_{c} + k_{c}^{Dem} + P(S < \underline{S})(\rho M - m) + f_{Dem}(S - \underline{S}) - f_{a}(S - \underline{S})} \]

3.3.4. Military Government

The utility function for the citizen is the following.

\[ u_{c}^{M}(y) = \begin{cases}
    R_{m}(M) - f(z_{M} - y) + f_{m}(S - \underline{S}) & \text{if no revolt} \\
    -c_{c} + \theta''(M)\{-k_{c} + R_{m}(M) + f_{m}(S - \underline{S}) - f(z_{M} - y)\} \\
    + (1 - \theta''(M))\{D_{c} + P(S < \underline{S})(\rho M - m) + f_{Dem}(S - \underline{S})\} & \text{if revolt}
\end{cases} \]

For the autocrat, the utility function is the following.

\[ u_{a}^{M}(y) = \begin{cases}
    R - f(y - z_{M}) + M(z_{M} - z_{M}) + f_{m}(S - \underline{S}) + R_{m}(M) & \text{if no revolt} \\
    -c_{a} - f(y - z_{M}) + \theta''(M)\{R - R_{m}(M) + f_{m}(S - \underline{S})\} + (1 - \theta''(M))(-k_{c}^{m} + f_{Dem}(S - \underline{S})) & \text{if revolt}
\end{cases} \]

The Subgame perfect Equilibrium is captured in the following proposition.

Under military regimes, m costs are unnecessary because politicians and the military are the same. Also, since politicians and the military are the
same, there is no difference in policy and \( z_M \) is achieved. The military does not compromise with the civilian policy \( y \). Also, unlike closed authoritarian rulers who build up their military to maintain their power, military regimes aim to respond not only domestically but also externally, e.g. to counter foreign invasions or to expand their military presence abroad, so the military build-up is greater \( (R_d(M) < R_m(M)) \). Productivity is also lower than in closed authoritarianism and lower than in any political system \( (f_m(S - S) < f_D(S - S)) \).

The risk to life in the event of a failed coup is:

\[
 k_c^m > k_c^d > k_c^{ep} > k_c^{Dem}. \]

**Proposition 5**

The following constitutes the sole equilibrium in the military government subgame. Let

\[
d^m = \frac{R_m(M) + c + \theta(k_c - R_m(M))}{1 - \theta(M)} - D_c - P(S < S)(\rho M - m) - f_{Dem}(S - S). \]

1. If \( z \geq \bar{x} - d \), the autocrat chooses \( y = z \). Otherwise, the autocrat chooses \( y = y_m^*, \) constrained from above by \( \min(\bar{x} - d, d) \), where

\[
y_m^* = z_M + \frac{-R - f_m(S - S) - R_m(M)}{4 \bar{x}} + \frac{c_a - \theta''(M)(R - M(z_M - z_M) - R_m(M) + f_m(S - S)) - (1 - \theta''(M))(-k_c^m + f_{Dem}(S - S))}{4 \bar{x}}. \]

2. The citizen revolts if and only if
\[
|x - y| > d^m \]

**3.4. Regime change**

For the ruler, the political system is a given at the beginning of the game.

Given the difficulty of expressing this in limited terms, we formulate a general proposition for regime choice using the uncertain situation of \( \bar{x}, z \) indicating inequality, \( D_a \) the reward of democracy, and \( \theta, \theta', \alpha \) the strength of the dictator. Consider how regime choice varies in equilibrium: if EA and CA are non-discriminatory, the ruler is assumed to choose CA.

The first result shows the relationship between \( \bar{x} \) and \( D_a \) and regime choice.

**Proposition 6**

Fix all parameters except \( \bar{x} \) and \( D_a \).

- For any \( D_a \), CA is chosen for sufficiently large \( \bar{x} \). CA is also chosen for low \( \bar{x} \) and \( D_a \).
- If EA occurs in equilibrium, it is chosen for a middle range of \( \bar{x} \).
- If \( D_a \) is sufficiently large, democracy is chosen if and only if \( \bar{x} \) is below a threshold, which is increasing in \( D_a \).
3.4.1. Stability by a political system

This section examines the stability of each of the political regimes in the previous section.

Stability is checked in three different ways: first, by comparing the expected gains of those carrying out the coup. The political regimes are compared in terms of the behavioural principles of those who decide to carry out a coup based on expected gains, regardless of whether the coup is successful or not.

The second is the gain of the ruler if the coup does not occur, as opposed to the gain of the citizens if the coup does not. The most disenfranchised citizens in the absence of a coup would naturally be a military regime, followed by a closed authoritarian regime, followed by an electoral authoritarian presidential regime, an electoral authoritarian parliamentary cabinet regime and the most desirable for the citizens would be a democracy. This is evident from elements of each political system model, such as the possibility of compromise and the existence of a space for citizens to express their will. On the other hand.

The extent to which rulers are willing to seriously resist a coup d’état affects their gains, in the view of this section. On the other hand, many historical situations can be identified where citizens are undeterred and repeat coups no matter how many times coups fail. Even if a coup could be put down by military force, repeated coups may cause rulers to acknowledge their poor governing capacity. Despite the absence of coups, a political system may not be stable if the ruler does not have enough interests to insist on remaining in power. This is tested by comparing the ratio of the gains of citizens in the absence of a coup to the gains of the ruler in the absence of a coup for different political regimes, to examine the stability of political regimes.

The third is the gain of citizens in the case of no coup against the cost to citizens in the case of a coup. Many studies assume that decisions are made based on expected gains, but in military regimes and closed authoritarianism, those who participate in coups may be killed. As political prisoners, they may not live a free life for the rest of their lives. In electoral authoritarianism, on the other hand, they may not be killed. Consider people who make decisions based on the risk of a failed coup, rather than on expected gains.

As above, stable political regimes from the perspectives of three groups of people: those who act based on expected gains, those who consider the benefits of a coup based on the relationship between the gains of citizens and rulers in the absence of a coup, and those who focus on the risks of a coup, respectively. Considerations.

3.4.2. Expected payoff

Closed Authoritarianism

No revolt > Revolt
The following equation can be derived from the above equation.

\[ f(x - y) > c_c + \theta(M)k_c^{ed} + \frac{\{R_d(M) + f_d(S - S) - D_c - f_{dem}(S - S)\}}{1 - \theta(M)} \]

Electoral Authoritarianism (Presidential System)
No revolt > Revolt

\[ R_{ed}(M) - f(x - y) + f_{ed}(S - S) > -c_c + \theta'(M)\{k_c^{ed} - f(x - y) + R_{ed}(M) + f_{ed}(S - S)\} + (1 - \theta'(M))\{D_c + f_{dem}(S - S)\} \]

The following equation can be derived from the above equation.

\[ \{1 - \theta'(M)\}{R_{ed}(M) - f(x - y) + f_{ed}(S - S) - D_c - f_{dem}(S - S)} + c_c > 0 \]

\[ f(x - y) > c_c + \theta'(M)k_c^{ed} + \frac{\{R_{ed}(M) + f_{ed}(S - S) - D_c - f_{dem}(S - S)\}}{1 - \theta'(M)} \]

Electoral Authoritarianism (Parliamentary Cabinet System)
No revolt > Revolt

\[ R_{ep}(M) - f(x - y) + f_{ep}(S - S) > -c_c + \theta^{ep}(M)\{k_c^{ep} - f(x - y) + R_{ep}(M) + f_{ep}(S - S)\} + (1 - \theta^{ep}(M))\{D_c + f_{dem}(S - S)\} \]

The following equation can be derived from the above equation.

\[ f(x - y) > c_c + \theta^{ep}(M)k_c^{ep} + \frac{R_{ep}(M) + f_{ep}(S - S) - D_c - f_{dem}(S - S)}{1 - \theta^{ep}(M)} \]

Democracy
No revolt > Revolt

\[ D_a - f(y - z) + f_{dem}(S - S) > -c_a + \alpha\{R + f_a(S - S) + R_M(M)\} + (1 - \alpha)\{-k_a - f(y - z) + f_{dem}(S - S)\} \]

The following equation can be derived from the above equation.

\[ f(y - z) > \frac{c_a - \alpha\{R + f_a(S - S) + R_M(M)\} - (1 - \alpha)\{-k_a - f(y - z) + f_{dem}(S - S)\} + D_a + f_{dem}(S - S)}{\alpha} \]

Military Government
No revolt > Revolt

T. Ishii, JSAS, 9(2), 2022, p.79-112.
The following equation can be derived from the above equation.

\[
f(z_m - y) > c_c + \theta''(M)k_c^m + \frac{f_m(S - \bar{S}) - f(z_m - y) + f_c(S - \bar{S})}{1 - \theta''(M)}
\]

In order to assume that the disparity between the different policies sought determines whether a coup will take place, \(f(x - y)\) is taken to be the left-hand side of the equation. As long as the inequality holds, there is no revolt. The denominator, the probability of a successful coup, is smallest for military regimes, and increases in the following order: closed authoritarianism, electoral authoritarian presidential system, electoral authoritarian parliamentary system and democracy. The most unstable system is democracy and the most stable is a military regime.

3.4.3. The relationship between citizens’ and rulers’ gains in the absence of a coup

Closed Authoritarianism

\[
\{R - f(y - z) + M(z_m - z) + f_d(S - \bar{S}) + R_d(M)\}/\{R_d(M) - f(y - z) + f_d(S - \bar{S})\}
\]

Electoral Authoritarianism (Presidential System)

\[
\{R - f(y - z) + M(z_m - z) + f_{ed}(S - \bar{S}) + R_{ed}(M)\}/\{R_{ed}(M) - f(x - y) + f_{ed}(S - \bar{S})\}
\]

Electoral Authoritarianism (Parliamentary Cabinet System)

\[
\{R - f(y - z) + f_{ep}(S - \bar{S}) + R_{ep}(M)\}/\{R_{ep}(M) - f(x - y) + f_{ep}(S - \bar{S})\}
\]

Democracy

\[
\{D_a - f(y - z) + f_{Dem}(S - \bar{S})\}/\{D_c - f(x - y) + f_{Dem}(S - \bar{S})\}
\]

Military Government

\[
\{R - f(y - z_M) + M(z_m - z_M) + f_m(S - \bar{S}) + R_m(M)\}/\{R_m(M) - f(z_M - y) + f_m(S - \bar{S})\}
\]

The denominator, the citizen gain, is smallest for military regimes and is larger for closed authoritarian regimes, electoral authoritarian presidential regimes, electoral authoritarian parliamentary cabinet regimes and democracies, in that order. The gain of the ruler, the numerator, depends on the sum of the military-backed gain \(M\), productivity \(f_d(S - \bar{S})\) and resources.

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used for military build-up $R_d(M)$. If the individual ruler increases his military power-backed gain $M$ to maintain his power at the expense of the state’s productivity and resources, the ruler’s gain in the short term will be the opposite of the aforementioned sequence of citizen gains. Military rulers have the largest gains, followed by closed authoritarian rulers. Democratic rulers have smaller gains. No clear answer can be found, as the numerator depends on the status of the political system. However, judging from the denominator, if the gains of the rulers are divided by the gains of the citizens, the largest in the military regime, which is the political system that requires the military regime to maintain power the most, and citizens are also dissatisfied.

3.4.4. People who focus on the risks of a coup d’etat.

Closed Authoritarianism

$$-c_c + \theta(M)\{-k_c^e - f(x - y) + R_d(M) + f_d(S - \Sigma)\}$$

Electoral Authoritarianism (Presidential System)

$$-c_c + \theta'(M)\{-k_c^{ed} - f(x - y) + R_{ed}(M) + f_{ed}(S - \Sigma)\}$$

Electoral Authoritarianism (Parliamentary Cabinet System)

$$-c_c + \theta^{ep}(M)\{-k_c^{ep} - f(x - y) + R_{ep}(M) + f_{ep}(S - \Sigma)\}$$

Democracy

$$-c_c - f(x - y) + \alpha(-k_c + f_d(S - \Sigma))$$

Military Government

$$-c_c + \theta''(M)\{-k_c^m + R_m(M) + f_m(S - \Sigma) - f(x_m - y)\}$$

For those who focus on risk, the costs of closed authoritarianism are subtracted from the costs of military regimes to make a comparison between military regimes and closed authoritarianism and are identified by variable. Since $\theta'' > \theta'$ is negative, plus or minus sign of $\{\theta''(M) - \theta'(M)\}(-k_c^m - k_c^d)$ is negative.

The risks of military regimes are therefore greater. If citizens fail, there are costs such as the death penalty and political prisoners, which are very large compared to other political regimes. Since $R_m(M) < R_{ed}(M) < 0$, $\theta''(M)R_m(M) - \theta'(M)R_{ed}(M)$ is also negative. $R_m(M) < R_{ed}(M)$ means that military regimes are more likely to use resources for military purposes than closed authoritarianism, meaning that fewer resources remain in the hands of citizens.

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Since $f_M(S - \xi) < f_d(S - \xi) \cdot \theta''(M) f_M(S - \xi) - \theta'(M) f_d(S - \xi)$.

A comparison of the costs for coup plotters in different political regimes is as follows.

Military Government > Closed Authoritarianism > Electoral Authoritarianism(Presidential System) > Electoral Authoritarianism (Parliamentary Cabinet System) > Democracy

For risk-conscious people, military regimes offer the most stability, as coups are very risky. The least, stable is democracy. Given that the means of coup d’état is backed by violence, the model in this study is consistent with intuition.

4. Discussion

This study provides theoretical conditions for a stable political system. The model explains the recent trend in international politics towards a return to authoritarianism.

While the formal model by Meller (2012) and others divided political regimes into three categories - closed authoritarianism, electoral authoritarianism and democracy - and rulers made their choices, this study considers that there is an initial political regime based on path dependency. The features of this study’s model include the inclusion of the military as a player, the fact that the state only has less than the minimum resources to guarantee a stable life in reality after resources are distributed among citizens, which affects the political system, the inclusion of military regimes, and the inclusion of electoral authoritarianism as a presidential system (including one-party dictatorship) and parliamentary cabinet. The two main features of the political system are: the division of the system into two parts; and changes in the political system according to the magnitude of policy compromises. This study has the trade-off that military support for the rulers simultaneously encourages military build-up, resulting in closed authoritarianism, electoral authoritarianism and stabilising military regimes, while at the same time giving the military a stronger voice, which is a cost for the rulers. Democracies that are not aligned with the military are shown to be unstable. Furthermore, the process of winning a coup by citizens increases the probability of success of the coup, as citizens work with the military. However, after a new democratic government is formed, the military’s voice is strengthened, meaning that the policies of the non-military coup victors are not always realised. This explains why democracy is a political system that is difficult to sustain. The ruler strikes a balance by making policy compromises with both the military and the public. Closed authoritarianism is threatened by coups due to lack of information, and full democracy is fragile. Democracy cannot be sustained if it is achieved through a coup d’état but with the support of the military. Despite the assumption of a path-dependent model, electoral authoritarianism is a stable system in countries where the initial political system is strengthened, but where the balance between citizens and the military is struck and the amount of real
resources is not sufficient for the number of resources demanded by the citizens. The model is consistent with the findings of many empirical studies, including the introduction of elections by authoritarian states due to resource endowments and uncertain information, and reflects the political regimes and political economy environments of diverse states.

This study showed that the presence of the military stabilises closed authoritarianism, electoral authoritarianism and military regimes, but at the same time means that democratic stability is weak.

The probability of a successful coup d’état increases if the military participates in the coup, while the probability of a successful civilian coup decreases with the military build-up if the military influences politics in a way that the military does not participate. Furthermore, one of the findings of this study is that the more equal a society is, the more closed authoritarian regimes become. Furthermore, in closed authoritarian regimes, the ruler gains the support of the military. As rulers are determined by their support for rulers who implement the policies desired by the military, politicians also have no incentive to deviate significantly from the policies desired by the military. The reason is that it undermines their own support base. Only in a stable society of equality can the soil for closed authoritarianism be nurtured. Closed authoritarianism is also maintained when there are sufficiently large inequalities. This means that the probability of a coup d’état is high, and rulers will maintain a system in which the chances of suppressing a coup d’état are high, unless they achieve a major redistributive policy. These results are consistent with Miller (2012).

Closed authoritarianism is not only a system that makes it easier to build up military power but also a system that maintains closed authoritarianism, such as legal restrictions on human rights, such as the prohibition of demonstrations - a system that is very effective in maintaining the power of the ruler. Furthermore, military regimes are easy to maintain if they are early political regimes. The reason is that politicians are at the same time military officers, so strong measures to build up the military and maintain security are top policy priorities. In a closed authoritarian system, the military selects politicians with policies close to those of the military, so arms build-up is not always the top priority. Politicians have to take into account other authorities besides the economy and the military, and there are policies that the politicians themselves want. In contrast, in military regimes, the military build-up is the top priority, even in situations involving a lack of funding for the military build-up, so coups are strongly suppressed and speech is controlled, and once a military regime is in place, it is difficult to get the political system changed. Democracy persists to the extent that inequality is small, state resources are high and citizens understand the magnitude of the benefits to be gained from democracy.

Many past cases have shown that in the event of a coup d’état, the military’s cooperation can result in a military government, with the military having an increased voice in the process. To avoid a military regime, it is necessary to institutionalise the rule that even in the event of a coup d’état...
by civilians, the police will respond, and only if the coup is so radical that the police suffer casualties, the military, which is more capable than the police in protecting itself, will be allowed to intervene on a limited basis, including by limiting the types of weapons it can use. The study suggests that this should be the result. The military’s suppression of civilian coups leads to acts that threaten human rights. Military participation in revolutionary action should also be avoided, as the fruit of coups is the strengthening of authoritarian states that destroy democracy and threaten human rights.

Authoritarian rulers and the president as an electoral authoritarian ruler may prohibit demonstrations and legally create political prisoners. These legal systems for the maintenance of one’s power, the associated violation of rights and the prohibition of demonstrations as a preliminary step to carrying out a coup, significantly reduce the probability of a coup’s success, because what reduces the probability of a coup’s success is mainly the military build-up, but also the military-backed legal system for the maintenance of power. This can also include improvements. These legal developments not only suppress free speech but also impede the realisation of a more prosperous life through politics than the status quo. The development of legal systems is also a cost to citizens by authoritarian and electoral authoritarian states.

Closed authoritarianism and electoral authoritarianism, because they are ruled by the few, require only a small distribution of benefits to those in power on the part of the rulers, but on the other hand, they do not take into account the views of opponents, which means that there are many opponents. For this reason, the rulers of authoritarian and electoral authoritarian states have essential links with the military. To keep the opposition in check, speech control alone is not enough. For ordinary citizens, where they do not have armed forces and do not have the financial resources to finance political activities, speech controls have a certain effect. However, when a second and a third power after the rulers within power are combined, it becomes difficult for the traditional rulers to rule. Therefore, the rulers need to show the overwhelming difference in power - military power - against the second power by connecting with the military.

As democracy does not have a direct stake in the military, the support base of democratic rulers is weakened, suggesting that politicians who can deliver the policies demanded by the military will be the rulers, i.e. that a transition to an authoritarian state is inevitable. Democracy is also the preferred system for suppressing coups, as the military and rulers must be able to identify opponents to their policies and decentralise power in order to defeat coups individually. To this end, it was suggested that the best course of action for rulers is to move to electoral authoritarianism. Democracy institutionalises the transfer and decentralisation of power at the same time as the empowerment of citizens is achieved. This not only increases the probability of a successful coup by the military but also lowers the cost of suppressing rebellion because power is decentralised. In addition,
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if a coup leads to a transition to a democratic system, the legitimacy of the elected rulers in that system may not remain sufficiently high. The reason is that even if the ruler is active in a non-electoral way, i.e. in a coup, and wins the elections, there is still a need to legitimise the coup in the process of victory. The effect of the success of the coup on the electoral outcome would not be negligible. As a result, new coups will also be legitimised and politics will become unstable.

Powerful presidents in electoral authoritarianism are established with the support of the military. In other words, the more rational the president is in predicting the future decline in his or her support and the emergence of a strong opposition in the future, which will eventually come, the more a semi-presidential system is chosen, which introduces both a presidential and a parliamentary cabinet system. In this study’s model, if the military nominates the president in secret and the military influences policy, then it is an electoral authoritarian presidential system. This presidential system also includes states that are almost a one-party dictatorship as a parliamentary cabinet system, or where the power of the parliament is very weak and the power of the president is very strong. These are semi-presidential systems. On the other hand, the stronger the democratic forces are, the more strongly citizens want a democratic system based on the separation of powers and civilian control, and the more strongly the military denies its influence in politics, the more electoral authoritarian the parliamentary cabinet system becomes. Even if the Prime Minister is replaced, all Prime Ministers are under the influence of the military. If a presidential election is honestly held, a presidential system is chosen if there is a high probability of winning the election and at the same time an optimistic president and military that do not expect a large drop in future approval ratings. As the expected decline in future approval rating increases, a semi-presidential system would be chosen, and a parliamentary cabinet system would be introduced if the expected decline is very large. The model in this study finds the policy compromise \( y \) required to maintain each political system: there is a CA threshold \( y_d \) between the optimal \( y^* \) of the CA and \( y_e \) of the EA presidential system, and a threshold \( y_{ed} \) between \( y_e \) of the EA parliamentary cabinet system and the EA presidential system exists. Above \( y_{ep} \) is democracy.

\[
(y^* \geq y_{ep} \geq y_4 \geq y_3 \geq y_{ed} \geq y_2^* \geq y_1^* \geq y_d \geq y^* \geq y_{m} \geq y^* _m)
\]

This study shows that the presence of the military stabilises closed authoritarianism, electoral authoritarianism and military regimes, but at the same time shows that democratic stability is weak. The minimum conditions for a stable democracy are (1) the entrenchment of democratic education of civilian control in the civilian population and the military, (2) the existence of a certain degree of regime change through elections, (3) a minimum of livelihood or more economic benefits, in our view. The above will stabilise

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the political system of democracy, as the sense of influence, the people feel over the state through elections outweighs the costs of coups d'état.

Also, even assuming formal elections through electoral authoritarianism, armed solutions and human rights violations are likely to occur when the military has strong links with politicians. In addition to the three above, ways in which the international community can work together to stabilise democratic regimes include Avoiding electoral authoritarianism by not only asking authoritarian states to establish a separation of powers, which tends to be formal, but also by restraining the military (separation of military power), weakening domestic military forces through the deployment of a certain number of domestic military personnel to the UN and strengthening UN forces, which are always held by the UN, human rights violations by major powers and The establishment of an international system that allows interference in the internal affairs of states to deal with conflicts, and the passage of international law to eradicate electoral fraud, such as imposing international penalties for fraudulent elections under the UN Charter, etc., are considered necessary to deal with authoritarian states, since the bad effects of fraudulent elections are being brought about by a president who is born through rigged elections.
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