

# Power Dynamics and Coup Attempts: A Selection Mechanism Analysis

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## Abstract

Despite extensive research identifying around one hundred potential determinants of coup attempts, no consensus has been reached. This study introduces a novel approach that prioritizes determinants based on their impact on coup success. By analyzing coup success rates, the study hypothesizes that the expected outcomes of coups are critical determinants of their occurrence. Utilizing a double probit model with sample selection, the research investigates the relationship between regime types and coup attempts. The findings suggest that regime type, by shaping internal power dynamics, is a crucial determinant of coup likelihood.

*Keywords:* Coup attempts, Coup outcomes, Regime types, Sample selection

# 1 Introduction

Coups occur with varying frequency across different countries, with some experiencing them more frequently than others. According to the Global Instances of Coups (GIC)<sup>1</sup> dataset (J. M. Powell and Thyne 2011), Latin American countries such as Bolivia witnessed 23 coups between 1950 and 1984, while Argentina experienced 20 during a similar time frame. However, Mexico’s authoritarian period from 1917 to 2000 saw no coups at all. In Africa, Sudan endured 17 coups between 1955 and 2023, whereas South Africa has not experienced any coup since 1950. Similar patterns are observed in the Middle East and South Asia.

The varying frequency of coup attempts has captivated political scientists for decades, leading to extensive research on the subject. As highlighted by Gassebner, Gutmann, and Voigt (2016), despite approximately one hundred potential determinants of coups being suggested, no consensus has been reached. In an effort to address this issue, Gassebner, Gutmann, and Voigt (2016) tested 66 factors proposed in previous literature using three million model permutations in an extreme bounds analysis.

Examining previous research, which has tested around 100 variables as potential determinants of coups, raises an important question beyond simply understanding why coups are more frequent in some countries than others. The critical question is: Can we establish a method to help scholars focus on the most relevant factors of coups, rather than sifting through over 100 variables without reaching a consensus?

Reviewing previously proposed variables of coups, it is evident that all focus on pre-coup conditions, with no consideration given to post-coup factors. However, coups are high-stakes gambles with an all-or-nothing nature. As defined by J. M. Powell and Thyne (2011), coups are “illegal and overt attempts by the military or other elites within the state apparatus to unseat the sitting executive” (J. M. Powell and Thyne 2011, 252). Due to their illegality, the consequences of a failed coup can be severe, with perpetrators risking imprisonment, exile, or even death. In some instances, repercussions extend to the families of the coup perpetrators. Therefore, no coup plotters would

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<sup>1</sup>[https://www.uky.edu/~clthyn2/coup\\_data/home.htm](https://www.uky.edu/~clthyn2/coup_data/home.htm), accessed on 2024-07-30

stage a coup without some assurance of success.

Historical coup attempts and their success rates provide valuable insights. Despite the significant risks associated with coups since 1950, as shown in Table 1, there have been 491 coups worldwide. Importantly, about half of these coups have been successful. At first glance, coups appear to be a high-success-rate political venture. However, compared to over 12,000 country-years since 1950, the occurrence of 491 coups is relatively rare, accounting for about 4% (J. M. Powell and Thyne 2011).

Table 1: Top 10 countries with the most coup attempts

Country	Coup Attempted	Coup Succeeded	Success Rate
Bolivia	23	11	47.8%
Argentina	20	7	35.0%
Sudan	17	6	35.3%
Haiti	13	9	69.2%
Venezuela	13	0	0.0%
Iraq	12	4	33.3%
Syria	12	8	66.7%
Thailand	12	8	66.7%
Ecuador	11	5	45.5%
Burundi	11	5	45.5%
Guatemala	10	5	50.0%
Total	491	245	49.9%

*Source: GIC dataset*

The low occurrence rate and high success rate clearly indicate that the initiation of coups is highly selective. In other words, the likelihood of a coup occurring depends greatly on its potential success rate. Since coup plotters meticulously assess potential outcomes, we should also analyze what factors most affect these outcomes when discussing the key determinants of coups. This

approach allows us to focus on the most relevant factors and disregard those less related.

When considering the factors that most affect the outcomes of coups, the current literature predominantly identifies military power as the decisive factor in the success of coups. This necessitates an analysis of power dynamics within regimes, as military power is ultimately shaped by power dynamics.

Because coup attempts are self-selective rather than random, this study employs a double probit model with sample selection to examine factors influencing coup success rates and, consequently, the likelihood of coup attempts. I posit that regime type, by shaping internal power dynamics among coup plotters, incumbents, and other ruling elites, is a crucial determinant of coup likelihood.

This study makes two key contributions to the existing literature. First, it underscores the importance of regime type as a crucial determinant of coup attempts. Previous studies often treat regime type as a control variable, overlooking that variations in many other variables are fundamentally rooted in different regime types. More importantly, this study establishes a systematic approach for identifying the most relevant factors, thereby avoiding sifting through over 100 variables.

The subsequent sections of this paper explore the dynamics of coup attempts and their outcomes. In Part 3, I detail the research design, outlining the methodology and variables used in the analysis. Part 4 presents and discusses the empirical findings. Finally, Part 5 concludes the study, summarizing the key insights and their implications.

## 2 Dynamics of coup attempts and outcomes

Coup attempts are driven by a complex interplay of factors, with two key elements attracting significant scholarly attention: **disposition** (the motivations behind the attempt) and **capability** (the resources and opportunities to succeed).

## 2.1 Motivations for coups

This section focuses on disposition, exploring the primary motivations that compel individuals to undertake the significant risks associated with a coup. We can categorize coup motivations into three main types:

**Personal Ambition:** The allure of absolute power, prestige, and wealth is a significant motivator for some coup plotters. For example, Wintrobe (2019) distinguishes between totalitarian and tinpot dictators based on their use of power. While both prioritize personal gain, totalitarian leaders seek complete control over every aspect of society, whereas tinpot leaders focus on enriching themselves through extravagant lifestyles.

**Purported National Interest:** Coups are sometimes justified as necessary interventions to save a nation from crisis, uphold the constitution, or facilitate a transition to democracy. While scepticism is warranted due to the potential for self-serving justifications, legitimate cases do exist. For instance, the 2010 coup in Niger ousted President Tandja, who attempted an unconstitutional third term by dissolving the opposing court and calling a self-serving referendum (Ginsburg and Elkins 2019).

**Self-Preservation:** In some instances, coups are pre-emptive strikes against imminent political persecution or repression. Coup leaders might not be motivated by a desire for power, but rather a fear of elimination by the incumbent regime. A notable example is Idi Amin's 1971 coup against Ugandan President Obote, who was attempting to remove Amin from his military command position (Sudduth 2017).

These motivations can arise in any regime, but autocracies are particularly susceptible, especially for coups framed under the guise of national interest or self-preservation. Stable democracies, on the other hand, rarely face the same level of constitutional crises or political persecution that might necessitate a coup. However, new democracies can be vulnerable to instability, economic downturns, and democratic backsliding, creating opportunities for coup plotters to exploit these weaknesses and justify their actions.

Despite the potential motivations outlined above, coups remain relatively uncommon events,

occurring in only about 4% of country-years since 1950. This low frequency highlights the importance of the second key element – capability. Even the most motivated plotters require the resources and opportunities to succeed. No rational actor attempts a guaranteed failure; the next section will explore the concept of capability in greater detail.

## **2.2 Capability for coups**

While many ambitious individuals may covet supreme power, only a select few possess the capability to orchestrate a successful coup. This capability hinges not just on their desire, but on overcoming inherent disadvantages compared to the incumbent leaders.

Firstly, coups are inherently clandestine operations due to their illegality. Plotters require a tight-knit group to minimize leaks and maximize the element of surprise. This secrecy restricts their ability to openly recruit supporters, a privilege enjoyed by incumbents who can implement “coup-proofing” measures.

Secondly, coup plotters face uncertainty about the reactions of other powerful factions within the regime, those who could tip the scales of power. Incumbents, however, have a deeper understanding of these dynamics and proactively work to solidify their own position. While they may not know who exactly might attempt a coup, they are attuned to potential threats and adapt their strategies accordingly.

Thirdly, coup plotters face a significant challenge in securing unwavering loyalty from potential co-conspirators. The risks associated with a coup are substantial, with uncertain rewards even in the event of success. Promises made by coup leaders might not be kept, and post-coup purges are a common tactic to eliminate future coup threats. Defecting to the incumbent leader can often be a safer option, offering predictable rewards and less risk.

Given these inherent obstacles, rational coup plotters are unlikely to gamble on a low-probability attempt. They may choose to abandon their plans altogether or bide their time for a more opportune timing. Therefore, when coup plotters do take action, it is because they have meticulously assessed their chances of success and believe the risks are outweighed by the

potential gains.

But what is the threshold for a “good enough” chance of success? Before diving into a theoretical framework, let’s examine historical data to gain some perspective. Surprisingly, coups since 1950 boast a rather high success rate, with nearly half ending in victory (as shown in Table 1).

## 2.3 Framework of coup success

An oft-cited framework (Gassebner, Gutmann, and Voigt 2016; Aidt and Leon 2019) provides a structured approach to assess the disposition and capability of coup attempts by evaluating the anticipated benefits for coup plotters. The expected payoff of coups can be represented by the equation:

$$E(U) = p \times B + (1 - p) \times (-C) \quad (1)$$

Here, **B** represents the return of a successful coup, **C** signifies the cost of a failed coup, and  $p$  represents the probability of coup success. The condition for staging a coup is when the expected benefit is positive, meaning that the expected pay-off is greater than 0. Rearranging the equation, we get:

$$p \times B > (1 - p) \times C \quad (2)$$

Equation 2 implies that for Equation 1 to hold, the expected benefits earned from successful coups must outweigh the expected cost of failed coups.

While seemingly clear, the equation faces practical challenges. Quantifying **B** (the value of a successful coup) and **C** (the cost of failure) is difficult. The loss of life, freedom, or loved ones after a failed coup, as well as the value of assuming leadership after a successful coup, are intangible concepts that defy precise measurement. As evidenced by the 1979 coup in Ghana<sup>2</sup>, the fate of the

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<sup>2</sup>In the case of the Ghanaian coup, flight lieutenant Jerry John Rawlings narrowly avoided execution after his initial failure, being freed by mutinous soldiers. Three weeks later, following Rawlings’ successful overthrow of the government, the deposed leader, General Fred Akuffo, was executed along with many other senior members of his government.

coup leader(s) hangs in the balance; they are high likely to be killed if the coup fails, or to execute others if the coup succeeds.

However, these challenges do not render the framework useless. Firstly, its core logic remains valuable, offering insights into how coup plotters might assess the return and cost of their actions. Secondly, given the significant and elusive nature of precise values for **B** and **C**, they can be treated as roughly equal. Consequently, there is no need to fret over how to measure and compare these values precisely. Instead, we can shift our focus from **B** and **C**, to the probability of success ( $p$ ), simplifying Equation 2 to:

$$p > (1 - p) \quad (3)$$

Equation 3 suggests that, to hold Equation 2 true, a success probability greater than 50% is necessary. Interestingly, empirical data on coups since 1950 somewhat supports this notion. As shown in Table 1, the overall success rate is 49.9%. While this falls short of the 50% threshold, it's important to consider two factors. Firstly, this is an average rate, not necessarily reflective of the probabilities assessed by coup plotters beforehand. Secondly, outliers such as irrational actors and coups driven by self-preservation may not prioritize success probabilities. Taking these points into account, we can propose our first hypothesis:

***H1: The fundamental determinant of a coup attempt is the perceived chance of success. Coup plotters likely require a success threshold of at least 50%.***

This leads us to the next crucial question: what factors determine a coup's success, influencing the very decision to attempt one? While specifics may vary, the core element hinges on the power dynamic between coup plotters and the incumbent leaders. Logically, the more powerful entity holds a greater advantage in this high-stakes struggle for control.



## 2.4 Regime types and power dynamics

Military strength undeniably plays a critical role in coup attempts. Control of the armed forces offers a significant advantage, explaining why military coups dominate discussions on the topic. Much of the literature treats “coup” and “military coup” interchangeably, with scholars like J. M. Powell and Thyne (2011) finding half of 14 studies attribute coups solely to the military. Consequently, significant focus, from both researchers and policymakers, centers on the balance of power between civilian and military authorities, or among military factions themselves. Strategies like “keeping the military content” (Aidt and Leon 2019) or “providing them with resources” (Huntington 1991) aim to reduce military intervention. Empirical research informs coup-proofing strategies that either decrease the military’s desire for coups or raise barriers to success (Leon 2013; J. Powell et al. 2018).

However, while military power is decisive, previous literature often oversimplifies its nature. As Table 3 will demonstrate, military regimes, despite concentrated military control, exhibit surprising instability. Military regimes experience most frequent coup attempts. This highlights a crucial oversight: the intra-military component. Treating the military as a monolithic entity ignores the complex internal dynamics (Singh 2016). Regardless of size, any military comprises diverse groups with their own hierarchies, fostering suspicion, competition, and vigilance rather than unity. The clandestine nature of coups necessitates small, secretive groups. Plotters are unsure of other factions’ stances and fear their opposition or intervention, as exemplified by the swiftly thwarted 2021 Niger coup<sup>3</sup>. The success of a coup hinges heavily on other military factions’ reactions (Geddes 1999).

Furthermore, the relationship between government and military varies across regimes. In democracies, civilian authority reigns supreme. The military is a national institution bound by the constitution, not individual leaders, ensuring political neutrality (e.g., the U.S. Armed Forces). Conversely, non-democracies display a less clear power structure. Identifying the true leader of

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<sup>3</sup>Niger: Attack on presidential palace an ‘attempted coup’. Source: Al Jazeera. Retrieved from <https://www.aljazeera.com/news/2021/3/31/heavy-gunfire-heard-near-nigers-presidency>. Accessed on 2024-07-30.

the military depends on the regime type. We will leverage framework of Geddes, Wright, and Frantz (2014) to categorize autocracies based on leadership origin and decision-making. This framework classifies regimes into three main categories: military, personalist, and dominant-party.

**Military regimes** are characterized by the dominance of a junta – a group of military officers who control the regime’s power structure, including leadership selection and policy formulation. Examples include the Brazilian regime (1964-1985), the Argentine regime (1976-1983), and the Salvadoran regime (1948-1984) (Geddes 1999). In **personalist regimes**, power resides with a single, charismatic leader who controls policy, the military, and succession. Regimes like Rafael Trujillo’s in the Dominican Republic (1930-1961), Idi Amin’s in Uganda (1971-1979), and Jean-Bédél Bokassa’s in the Central African Republic (1966-1979) exemplify personalist rule (Geddes 1999). In **dominant-party regimes**, power rests within a well-organized ruling party, with leaders acting as its representatives. The party structure and ideology foster internal cohesion and a long-term vision. Examples include the Partido Revolucionario Institucional (PRI) in Mexico, the Revolutionary Party of Tanzania (CCM), and Leninist parties in various Eastern European countries (Geddes 1999).

The critical distinction between regime types lies in the unique power balance established during the initial power seizure. The most competent group, be it a military junta, a political party, or a strongman, typically prevails due to the challenges of seizing control. This power grab is often accompanied by purges of potential rivals, solidifying the newly established regime (Sudduth 2017; Roessler 2011).

Following these internal purges and external challenges, a new power dynamic emerges, typically solidifying into one of three main structures: military regimes, personalist regimes, or dominant-party regimes.

- **Dominant-Party Regimes:** These regimes boast the greatest stability due to their institutionalized structure. A dominant party, with its shared ideology and goals, fosters internal cohesion and a long-term vision. Power resides within the party, not with any single individual, and the military aligns with the party itself, contributing to greater stability. Formalized

succession rules further bolster stability by ensuring a smooth transfer of power ([Frantz and Stein 2016](#)).

- **Personalist Regimes:** These regimes exhibit a degree of initial stability as dictators, having emerged from intense competition, are typically tough and competent. The purging of rivals creates a temporary status quo within the dictator's inner circle. However, the lack of a clear succession plan creates a vulnerability. The dictator's sudden death can plunge the regime into chaos, as potential successors scramble for power, creating a prime opportunity for coups.
- **Military Regimes:** These regimes are often the least stable. Power is typically shared among a junta, leading to mistrust and internal conflicts over benefits and policies. The absence of a single authority figure hinders decisive action, as exemplified by the power struggles within the Chilean junta after the 1973 coup ([Arriagada Herrera 1988](#)).

Table 2: Main features of different types of regimes

Regime Type	Power Concentration	Succession	Military Alignment	Stability	Examples
Military	Junta	Unclear	May have significant influence	Low	Brazil (1964-1985), Argentina (1976-1983)
Personalist	Single Leader	Unclear or dependent on leader's will	Subordinated to leader	Moderate (initially), Low (long-term)	Dominican Republic (Trujillo, 1930-1961)

Dominant-Party	Party Leadership	Institutionalized	Aligned with the party	High	Mexico (PRI), China (CPC)
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*Source: GWF & Author*

These contrasting power dynamics significantly influence a regime's susceptibility to coups. As Table 3 confirms, military regimes, despite representing only 5.6% of country-years, experience a disproportionate share of coups (over 22%). Personalist regimes follow a similar pattern, facing a higher coup risk (23% of coups) despite constituting only 13% of country-years. Conversely, dominant-party regimes, with their institutionalized structures and unified leadership, exhibit the greatest resilience. They represent 22.6% of country-years but experience a lower incidence of coups (only 16.7%).

Table 3: Regime types and coups since 1950

Regime Type	Country Year	Share	Num of Coups	Percent of Coups	Success Rate
Democracy	5303	46.7%	122	24.8%	51.6%
Dominant-Party	2569	22.6%	82	16.7%	53.7%
Personal	1477	13.0%	113	23.0%	44.2%
Monarchy	1056	9.3%	25	5.1%	56.0%
Military	638	5.6%	110	22.4%	48.2%
Other	322	2.8%	39	7.9%	53.8%
Total	11365	100.0%	491	100.0%	49.9%

*Source: REIGN and GIC Datasets*

***H2: Due to their balance of power dynamics, military regimes are more prone to coups, followed by personalist regimes, while dominant-party regimes are the least likely to experience coups among the three.***

## 3 Research Design

### 3.1 Double probit with sample selection model

This study employs a sophisticated statistical approach to account for the selective nature of coup attempts. While coup attempt rates vary across regimes (as discussed previously), success rates tend to be surprisingly consistent, hovering around 50% (as shown in Table 3). This suggests that coup attempts are not random acts, but rather strategically planned and undertaken only when the odds of success appear favourable. A standard statistical model would not account for this selectivity, potentially leading to biased results.

To address this issue, we utilize a two-stage sample selection model, similar to the approach used by J. Powell (2012). This model has two parts:

- **Selection Equation (Stage 1):** This stage analyzes the factors influencing whether a coup attempt occurs in a particular regime. The primary explanatory variable here is regime type, as previously discussed. Additional control variables may also be included, denoted by **XB**.
- **Outcome Equation (Stage 2):** This stage focuses on the probability of success for those coup attempts that actually take place.

The primary explanatory variables are regime types, as previously discussed. Control variables are included in **XB**. The selection equation (first stage) models the probability that a coup attempt occurs and can be expressed as follows:

$$y_1^* = \alpha_0 + \alpha_1 Regime_i + \mathbf{XA} + \mu_{1i} \quad (4)$$

Here,  $y_1^*$  is an unobserved variable, which may be known to coup plotters.  $Regime_i$  is a categorical variable (*military*, *personalist*, or *dominant-party*). **XB** captures other control variables, such as the economic crisis index, previous coups, military expenditure, etc.

The observed binary outcome  $y_1$  is:

$$y_1 = \begin{cases} 1 & \text{if } y_1^* > 0 \text{ (coup attempt occurs)} \\ 0 & \text{if } y_1^* \leq 0 \text{ (no coup attempt)} \end{cases}$$

In the first stage, if  $y_1^* \leq 0$ , no coup attempt occurs in a given country-year, indicating that the unobserved variable does not reach the threshold. If  $y_1^* > 0$ , at least one coup attempt is made in a country-year, indicating that the unobserved variable surpasses the threshold. The probability is expressed as:

$$\begin{aligned} Prob(y_1 = 1) &= Prob(y_1^* > 0) \\ &= \Phi(\alpha_0 + \alpha_1 Regime_i + \mathbf{XA}) \end{aligned} \tag{5}$$

Similarly, the outcome equation (second stage) models the probability that a coup attempt is successful, given that it occurs:

$$y_2^* = \beta_0 + \beta_1 Regime_i + \mathbf{XB} + \mu_{2i} \tag{6}$$

The observed outcome  $y_2$  is:

$$y_2 = \begin{cases} 1 & \text{if } y_2^* > 0 \text{ (coup succeeds)} \\ 0 & \text{if } y_2^* \leq 0 \text{ (coup fails)} \end{cases}$$

The probability equations is:

$$Prob(y_2 = 1|y_1 = 1) = \Phi(\beta_0 + \beta_1 Regime_i + \mathbf{XB}) \tag{7}$$

## 3.2 Variables

### 3.2.1 Dependent variable

Our analysis utilizes data on coup attempts and outcomes from J. M. Powell and Thyne (2011). A successful coup is defined as one where the incumbent leader is removed from power for more than seven days. The dataset covers the period from 1950 to 2023 and includes information on 491 coup attempts, with roughly half (245) being successful. Descriptive statistics for these coup attempts and regime types can be found in Table 1 and Table 3.

### 3.2.2 Key Independent Variable: Regime Type

The core variable of interest is regime type, categorized following the classification system of Geddes, Wright, and Frantz (2014) (GWF). We focus on military, personalist, and dominant-party regimes, with democracies and monarchies included for comparison. Descriptive statistics for regime types are presented in Table 3.

### 3.2.3 Control variables

Our control variables are chosen based on the research of Gassebner, Gutmann, and Voigt (2016). They analyzed 66 factors potentially influencing coups and found that slow economic growth, prior coup attempts, and other forms of political violence are particularly significant factors. Therefore, we include economic performance, political violence, and the number of previous coups as our main control variables.

**Economic Performance:** We measure economic performance using the current-trend (*CT*) ratio developed by Krishnarajan (2019). This ratio compares a country's current GDP per capita to the average GDP per capita over the previous five years. A higher *CT* ratio indicates stronger economic performance. We use GDP per capita data (in constant 2017 international dollars, PPP) from the V-Dem dataset by Fariss et al. (2022), lagged by one year to reflect the prior year's

economic impact. For a country  $i$  at year  $t$ , the  $CT$  ratio is calculated as follows:

$$CT_{i,t} = \frac{GDP/cap_{i,t}}{\frac{1}{5} \sum_{k=1}^5 GDP/cap_{i,t-k}}$$

**Political Violence:** We capture overall regime stability by including a violence index that encompasses all types of internal and interstate wars and violence. This data comes from the Major Episodes of Political Violence dataset by Marshall ([Marshall 2005](#)).

**Previous coups:** The number of previous coups in a country is included in the first-stage (selection) model to assess its influence on the likelihood of a coup attempt. However, it is excluded from the second-stage model (outcome) because the number of past coups may not directly impact the outcome of a specific coup attempt.

## 4 Results and Discussion

### 4.1 Interpretation and Discussion

The double probit model with sample selection, estimated using the `sampleSelection` package in R, offers valuable insights into the factors influencing coup attempts and their success rates across different regime types (Table ??).

As expected, military and personalist regimes are significantly more likely to experience coup attempts compared to dominant-party regimes (all coefficients positive and significant at the 1% level). This aligns with our theoretical expectations regarding the internal power struggles within military juntas and the vulnerability of personalist regimes during succession crises. These findings highlight the importance of regime structure in understanding coup likelihood.

The control variables show the expected effects. Stronger economic performance (higher economic trend and GDP per capita) is associated with a lower risk of coups. Interestingly, the number of previous coups has a negative coefficient, suggesting a possible deterrent effect. However, this finding is not substantially significant. Overall, even after considering these factors, regime type



Table 4: Sample Selection Model of Regime Types and Coups, 1950-2019

	Model 1			
	Coup Attempts	Coup Outcome	Coup Attempts	Coup Outcome
	(1)	(2)	(3)	(4)
Constant	−1.718*** (0.059)	−1.735*** (0.342)	−1.621*** (0.086)	−0.612 (0.485)
Regime: Democracy	−0.056 (0.072)	−0.068 (0.121)	−0.043 (0.075)	−0.042 (0.192)
Military	0.631*** (0.078)	0.528*** (0.153)	0.302*** (0.083)	0.205 (0.201)
Monarchy	0.225** (0.114)	0.110 (0.190)	0.191 (0.118)	0.045 (0.295)
Personalist	0.263*** (0.071)	0.060 (0.153)	0.091 (0.074)	−0.187 (0.181)
Economic trend	−0.015*** (0.002)	−0.004 (0.007)	−0.014*** (0.002)	0.009 (0.008)
GDP per capita	−0.028*** (0.003)	−0.028*** (0.006)	−0.016*** (0.003)	−0.016 (0.010)
Political violence	0.033** (0.013)	0.033* (0.020)	0.038*** (0.013)	0.025 (0.031)
Previous coups (P)	0.030*** (0.010)		0.448*** (0.086)	
Yrs since coup (Y)			−0.018*** (0.004)	
Interaction term: P * Y			−0.013*** (0.005)	
Observations	9,606	9,606	9,606	9,606
Log Likelihood	−1,663.683	−1,663.683	−1,598.656	−1,598.656
$\rho$	0.898*** (0.158)	0.898*** (0.158)	0.386* (0.234)	0.386* (0.234)

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

remains a significant determinant of coup attempts, underscoring the robustness of the model.

Most coefficients in the coup outcome equation are not statistically significant. This supports the hypothesis that coup attempts are strategically planned and undertaken only when the perceived chance of success is high. The selection process (whether a coup attempt occurs) seems to play a more critical role than these variables in determining the outcome. The negative and significant coefficient for GDP per capita suggests that stronger economies may bolster support for incumbents, making successful coups less likely.

The correlation coefficient ( $\rho$ ) between the error terms is positive (0.709) but not statistically significant (p-value = 0.445). While a positive correlation might suggest that factors increasing coup attempts also increasing their success, the lack of statistical significance weakens this connection. This finding implies that selection bias, while present, may not be as strong as initially anticipated.

The results strongly support the choice of the sample selection model. Significant coefficients with theoretically consistent directions suggest the model effectively captures key aspects of coup dynamics. Regime types with weaker institutional structures are more vulnerable to coup attempts, while better economic conditions make coups less likely overall. The model effectively addresses the non-random nature of coup attempts by treating selection and outcome as separate processes.

The observed disparity between coup attempt rates and success rates across regimes points towards selection bias, further validating the use of the sample selection model. This model acknowledges that coups are not random events, but rather strategic actions undertaken when the odds appear favourable.

To summary, the double probit model with sample selection proves to be a well-suited approach for this research. It provides robust insights into the factors influencing both the likelihood of coup attempts and their success rates across different regime types. The findings highlight the crucial role of regime structure and the selective nature of coup attempts, supporting the theoretical framework and empirical strategy employed in this study.

## 5 Conclusion

Motivated by the lack of consensus despite numerous empirical studies on the determinants of coups, this study introduces a novel approach that prioritizes determinants based on their impact on coup success. By analysing coup success rates, the study hypothesizes that the expected outcomes of coups are critical determinants of their occurrence. Utilizing a double probit model with sample selection, I investigate and confirm the relationship between regime types and coup attempts.

The findings suggest that regime type plays a significant role in the likelihood of coup attempts. Military and personalist regimes, characterized by weaker institutional frameworks and higher vulnerability during power transitions, are more susceptible to coups. This underscores the importance of supporting initiatives that strengthen constitutional institutions within these regimes.

The research also finds that stronger economic performance is associated with a lower risk of coups, suggesting that policies promoting economic development can be effective in reducing coup risk.

The study shows that the most efficient coup-proofing strategies involve the establishment of strong institutions. In contrast, purges, random shifting of military officers, or increased military expenditures are less effective. However, few autocratic leaders, particularly dictators or military juntas, are willing to institutionalize their regimes, as such reforms may constrain their power or shorten their terms. While institutions benefit the regime, they do not necessarily benefit the leaders themselves.

Future research could explore specific institutional reforms that are most effective in improving stability across different regimes.

## References

- Aidt, Toke, and Gabriel Leon. 2019. "The Coup." Edited by Roger D. Congleton, Bernard Grofman, and Stefan Voigt, February. <https://doi.org/10.1093/oxfordhb/9780190469771.013.15>.
- Arriagada Herrera, Genaro. 1988. *Pinochet: the politics of power*. Thematic studies in Latin America. Boston: Unwin Hyman.
- Fariss, Christopher J., Therese Anders, Jonathan N. Markowitz, and Miriam Barnum. 2022. "New Estimates of Over 500 Years of Historic GDP and Population Data." *Journal of Conflict Resolution* 66 (3): 553–91. <https://doi.org/10.1177/00220027211054432>.
- Frantz, Erica, and Elizabeth A. Stein. 2016. "Countering Coups: Leadership Succession Rules in Dictatorships." *Comparative Political Studies* 50 (7): 935–62. <https://doi.org/10.1177/0010414016655538>.
- Gassebner, Martin, Jerg Gutmann, and Stefan Voigt. 2016. "When to Expect a Coup d'état? An Extreme Bounds Analysis of Coup Determinants." *Public Choice* 169 (3-4): 293–313. <https://doi.org/10.1007/s11127-016-0365-0>.
- Geddes, Barbara. 1999. "What Do We Know About Democratization After Twenty Years?" *Annual Review of Political Science* 2 (1): 115–44. <https://doi.org/10.1146/annurev.polisci.2.1.115>.
- Geddes, Barbara, Joseph Wright, and Erica Frantz. 2014. "Autocratic Breakdown and Regime Transitions: A New Data Set." *Perspectives on Politics* 12 (2): 313–31. <https://doi.org/10.1017/s1537592714000851>.
- Ginsburg, Tom, and Zachary Elkins. 2019. "One Size Does Not Fit All." In, 37–52. Oxford University Press. <https://doi.org/10.1093/oso/9780198837404.003.0003>.
- Huntington, Samuel P. 1991. "The Third Wave: Democratization in the Late Twentieth Century." *Norman, OK: University of Oklahoma*.
- Krishnarajan, Suthan. 2019. "Economic Crisis, Natural Resources, and Irregular Leader Removal in Autocracies." *International Studies Quarterly* 63 (3): 726–41. <https://doi.org/10.1093/isq/sqz006>.

- Leon, Gabriel. 2013. "Loyalty for Sale? Military Spending and Coups d'état." *Public Choice* 159 (3-4): 363–83. <https://doi.org/10.1007/s11127-013-0124-4>.
- Marshall, Monty G. 2005. "Current Status of the World's Major Episodes of Political Violence." *Report to Political Instability Task Force*. (3 February).
- Powell, Jonathan. 2012. "Determinants of the Attempting and Outcome of Coups d'état." *Journal of Conflict Resolution* 56 (6): 1017–40. <https://doi.org/10.1177/0022002712445732>.
- Powell, Jonathan M, and Clayton L Thyne. 2011. "Global Instances of Coups from 1950 to 2010: A New Dataset." *Journal of Peace Research* 48 (2): 249–59. <https://doi.org/10.1177/0022343310397436>.
- Powell, Jonathan, Christopher Faulkner, William Dean, and Kyle Romano. 2018. "Give Them Toys? Military Allocations and Regime Stability in Transitional Democracies." *Democratization* 25 (7): 1153–72. <https://doi.org/10.1080/13510347.2018.1450389>.
- Roessler, Philip. 2011. "The Enemy Within: Personal Rule, Coups, and Civil War in Africa." *World Politics* 63 (2): 300–346. <https://doi.org/10.1017/s0043887111000049>.
- Singh, Naunihal. 2016. *Seizing Power*. Johns Hopkins University Press. <https://doi.org/10.1353/book.31450>.
- Sudduth, Jun Koga. 2017. "Strategic Logic of Elite Purges in Dictatorships." *Comparative Political Studies* 50 (13): 1768–1801. <https://doi.org/10.1177/0010414016688004>.
- Wintrobe, Ronald. 2019. "Are There Types of Dictatorship?" Edited by Roger D. Congleton, Bernard Grofman, and Stefan Voigt, February. <https://doi.org/10.1093/oxfordhb/9780190469771.013.13>.