Power Dynamics and Coup Attempts: A Selection Mechanism Analysis

Zhu Qi
University of Essex
qz21485@essex.ac.uk

2024-06-03

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)[1] 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

[1] https://www.uky.edu/~clthyn2/coup_data/home.htm, accessed on 2024-06-03

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:

$$E(U) = p \times B + (1 - p) \times (-C) \tag{1}$$

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:

$$p \times B > (1 - p) \times C \tag{2}$$

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[2], the fate of the

[2]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:

$$p > (1 - p) \tag{3}$$

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

When discussing the balance of power, the first aspect that springs to mind is military prowess. It is evident that control over the military grants individuals the upper hand in coup attempts. This elucidates why military coups often take center stage in coup discussions. In much of the literature on coups, the terms "coup" and "military coup" are frequently used interchangeably, as many scholars argue that coups are orchestrated by military personnel through the use or threat of armed forces. J. M. Powell and Thyne (2011) summarise 14 studies on coups, with half of them attributing coup attempts solely to 'the armed forces'. Consequently, most attention, both from academic researchers and political leaders, is focused on the balance of power between civilian and military authorities, or among military factions. Strategies such as "Keeping the military content" (Aidt and Leon 2019, 15) or "providing them with resources" (Huntington 1991, 252) have been proposed to mitigate military intervention. Many coup-proofing strategies, informed by empirical research, aim to either decrease the military's inclination to stage coups or erect barriers to their success. For instance, studies by Leon (2013) suggest that nations with lower military spending as a percentage of GDP are more vulnerable to coups. Similarly, J. Powell et al. (2018) argue that increased military expenditures may diminish the likelihood of coups among military factions.

However, previous studies have often oversimplified the intricate balance of power within military forces. They have frequently assumed that the military operates as a monolithic entity, uniformly and decisively. Such a notion fails to capture the complexities of real-world dynamics.

It is crucial to acknowledge that the military is not always a unified entity. Regardless of its size, any military force is composed of various groups or factions, each with its own chain of command. Within these factions, mutual suspicion, competition, and vigilance are common, while moments of unity are rare. Due to the clandestine nature of coups and the need for secrecy, coup attempts are often orchestrated within small, tight-knit groups. Coup plotters are uncertain about the stances and intentions of other factions beforehand, and they are particularly worried that once the coup is initiated, other factions may not only refuse to support it but also actively oppose, intervene in, or even suppress it. As in the attempted coup in Niger in 2021, which occurred just two days before

the new presidential inauguration, the military unit that staged the coup was swiftly thwarted by Niger's security forces, resulting in the failure of the coup within an hour[3]. Therefore, the success of a coup heavily depends on the reactions of other military factions (Geddes 1999).

More importantly, the relationship between a government and its military varies significantly across different regime types. In democracies, civilian authority reigns supreme. The military is considered a national institution, bound by the constitution rather than individual leaders, whether military or civilian. For instance, the United States Armed Forces serve under the President's command but ultimately answer to the Constitution, ensuring they remain politically neutral.

In contrast, non-democracies present a more complex picture. The lines of authority are often either poorly defined in written documents or blatantly disregarded by those in actual power. Identifying the true leader of the military hinges on the specific regime type. To explore this further, we will utilize the foundational concepts outlined by by Geddes, Wright, and Frantz (2014) (GWF), which categorise autocratic regimes based on leadership origins and decision-making factors. These regimes fall into three broad categories: military regimes, personalist regimes, and dominant-party regimes. Democracies and monarchies will also be included in our analysis for comparative purposes.

Military Regimes

As defined by GWF, 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). Notably, political parties might still exist within military regimes, but they typically act as mouthpieces for the junta or align themselves with the military's directives to avoid being categorized as dominant-party regimes. Additionally, while a junta may appoint a senior officer as the head of state or utilize civilian administrators as intermediaries, the authority of these intermediaries over other officers remains limited, differentiating military regimes from personalist ones.

[3]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 2024-06-03.

Personalist Regimes

In a typical personalist regime, absolute power rests with a single dictator. This encompasses policy making, control over the military, and the authority to appoint top officials and successors. Personalist regimes often emerge under charismatic leaders, particularly founding figures of newly independent nations. Regimes like Rafael Trujillo's in the Dominican Republic (1930-1961), Idi Amin's in Uganda (1971-1979), and Jean-Bédel Bokassa's in the Central African Republic (1966-1979) exemplify personalist rule (Geddes 1999). In such regimes, political parties are either absent or completely subservient to the dictator. Importantly, the dictator may or may not have a military background, but the military itself falls under their control.

Dominant-Party Regimes

In a dominant-party regime, supreme power resides within the ruling party, with the leader acting as its representative and subject to its collective leadership. 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 dominant party is a well-organized and disciplined entity with its own ideology and political agenda used to unite and mobilize its members and supporters. While powerful leaders may emerge within such regimes, like Stalin in the Soviet Union (1924-1953) and Mao Zedong in China (1949-1976), they lack the absolute power to dismantle or replace the party altogether.

According to Geddes (1999), different factions within a regime – military officers, party cadres in dominant-party systems, and members of cliques in personalist regimes – have distinct interests. For instance, professional soldiers prioritize military survival and efficacy, party cadres seek to hold office, and members of cliques depend on supporting the incumbent leader for their own survival and relationships. While their strategies may differ, all ruling groups ultimately prioritize self-preservation and advancement.

The key distinction between military, dominant-party, and personalist regimes lies in the unique balance of power established by each. This power dynamic emerges during the power seizure process. The most competent group, be it a military junta, a political party, or a strongman, typically

rises to power due to the demanding nature of seizing control. Sudduth (2017) and Roessler (2011) analyse the purging of co-conspirators after power seizures, arguing that these purges are more likely in the early stages of new regimes.

Following internal purges and external challenges, a new power dynamic emerges among the factions within a regime, typically solidifying into one of three main types: military regimes, personalist regimes, or dominant-party regimes.

Dominant-party regimes are the most stable due to their institutionalized structure. A dominant party is a highly organized group with shared political beliefs, goals, and ideologies. This shared ideology fosters internal cohesion and a long-term vision, resulting in a robust structure with no single individual wielding absolute power. The military force aligns with the party itself rather than individual leaders, contributing significantly to greater regime stability compared to personalist or military regimes. Dominant-party regimes also manage leadership succession more effectively, as they typically regulate the process and enforce term limits. As demonstrated by Frantz and Stein (2017), 97% of country-years in dominant-party regimes have formalized institutional succession rules, compared to 77% in personalist regimes and a mere 59% in military regimes.

Personalist regimes also exhibit a degree of stability, as dictators usually emerge from intense internal and external competition, with the most competent, tough, and powerful individuals ultimately prevailing. Potential challengers have often been purged, resulting in a relatively stable status quo within the dictator's close circle. However, personalist regimes are vulnerable due to the sudden death of incumbents. Rarely is there a universally accepted successor during the chaos of power transitions, as incumbent dictators often purge potential rivals. This uncertainty can trigger coups. Thus, while personalist regimes maintain relative stability as long as succession is not an immediate issue.

In contrast, military regimes are typically the least stable. These regimes often rule through a junta, where power is shared equally among members. Mistrust and suspicion are common, leading to frequent conflicts over benefits and policies. Without a single authority figure, resolving these conflicts is challenging, as no member is willing to concede, and no senior authority can enforce

resolutions. For example, General Augusto Pinochet was chosen to lead the junta in Chile after the 1973 coup because his colleagues saw him as a safe choice due to his professionalism, respect for rules, and uncharismatic demeanor (Arriagada Herrera 1988). Although Pinochet later surprised them, this example illustrates that juntas are generally unstable leadership groups.

Table 2: Main features of different types of regimes

Regime Type	Center of Power	Institutionalized Leadership Succession	Power Transition
Military	Junta	59%	Based on agreement among junta members
Personalist	Dictator	77%	Dependent on dictator's health or lifepan
Dominant-party	Party	97%	Structured by the party's institutional frameworks

Source: GWF & Author

These differing power dynamics significantly impact the likelihood of coup attempts. Military regimes, in particular, have an inherent predisposition towards coups, as junta members typically command their own military factions, eliminating the need to organize an army for a coup. According to Table 3, military regimes face the highest risk, representing only 5.6% of country-years yet accounting for over 22% of coups. Personalist regimes follow, with 23% of coups despite comprising only 13% of country-years. Dominant-party regimes, with their stronger institutions and unified leadership, have the lowest incidence of coups, constituting 22.6% of country-years but responsible for only 16.7% of coups.

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

To account for the determinants of coup attempts, this study utilizes a sample selection model (Heckman 1979). While coup attempt rates vary across regimes, success rates tend to converge around 50% (Table 3). This convergence cannot be attributed to chance and suggests that coup attempts are strategically planned and self-selected, targeting situations with a perceived high chance of success. Consequently, a standard regression model would yield biased results. Therefore, we use a double `probit` model with sample selection, as employed by J. Powell (2012), for empirical analysis. The first stage (selection equation) examines the probability that a regime experiences a coup attempt, while the second stage (outcome equation) evaluates the probability of the success of those coups.

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:

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

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 $\mathbf{y_1}$ 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

To test our hypotheses, we use coup attempts and outcomes data from J. M. Powell and Thyne (2011) as the dependent variable. Successful coups are those in which the incumbent is removed from office for more than seven days. The dataset spans from 1950 to 2023, accounting for 491 coup attempts, of which 245 were successful. Descriptive statistics are presented in Table 1 and Table 3.

3.2.2 Independent variables

The primary independent variable in our analysis is the regime type. We follow the categories defined by Geddes, Wright, and Frantz (2014) (GWF). Our main focus is on military, personalist, and dominant-party regimes, with democracy and monarchy included as reference categories. Descriptive statistics are presented in Table 3.

3.2.3 Control variables

In selecting control variables, we draw on the research by Gassebner, Gutmann, and Voigt (2016), who test the robustness of 66 factors proposed in the empirical literature using a monthly sample of 164 countries from 1952 to 2011. They find that slow economic growth rates, previous coup experiences, and other forms of political violence are particularly conducive to inciting coups. Therefore,

our main control variables are economic performance, political violence, and the number of previous coups.

Economic performance: We use the current-trend (CT) ratio developed by Krishnarajan (2019) to measure economic performance. This metric calculates the ratio between the current level of gross domestic product per capita (GDP/cap) and the average GDP/cap level of the previous five years. For a country i at year t, the CT ratio is calculated as follows:

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

Since a given year's situation is primarily determined by the previous year, the variable is lagged by one year. The GDP per capita (in constant 2017 international dollars, PPP) is sourced from the V-Dem dataset provided by Fariss et al. (2022).

Violence: The violence index captures all types of violence and wars (internal or interstate), indicating the stability of the regime. This data is sourced from the Major Episodes of Political Violence (Marshall 2005).

Previous coups: This variable captures the number of previous coups in each country. In the double probit with sample selection model, the second-stage model cannot be identical to the first-stage model. Therefore, the first-stage model includes the number of previous coups, while the second-stage does not. Previous coups may have a greater impact on coup attempts, while once a coup is launched, the number of previous coups might not significantly explain the outcome.

4 Results and Discussion

4.1 Interpretation and Discussion

Using the R package `sampleSelection` (Toomet and Henningsen 2008), the findings from the double probit model, as presented in Table 4, provide valuable insights into the dynamics of coup attempts and their likelihood of success across different regime types:

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

	Coup Attempts	Coup Outcome
	(1)	(2)
Constant	−0.146	−1.519**
	(0.234)	(0.627)
Regime: Democracy	0.072	0.057
	(0.071)	(0.160)
Military	0.732***	0.497
	(0.084)	(0.330)
Monarchy	0.353***	0.177
	(0.120)	(0.278)
Personalist	0.344***	0.028
	(0.075)	(0.289)
Economic trend	−1.438***	0.135
	(0.223)	(1.259)
GDP per capita	−0.031***	−0.027**
	(0.002)	(0.012)
Political violence	0.048***	0.029
	(0.014)	(0.026)
Previous coups	−0.001***	
	(0.0002)	
Observations	9,605	9,605
Log Likelihood	−1,665.655	−1,665.655
ρ	0.709 (0.445)	0.709 (0.445)
Note:		*p<0.1; **p<0.05; ***p<0.01

As hypothesized, both the coefficients for military and personalist regimes are positive and significant at the 1% level, indicating a higher likelihood of experiencing coup attempts compared to dominant-party regimes, holding other factors constant. This higher propensity for coup attempts in military and personalist regimes aligns with our hypothesis that these regimes face distinct internal power dynamics, increasing the likelihood of coup attempts.

All control variables are statistically significant at the 1% level. As expected, better economic performance and higher levels of GDP per capita help reduce the risk of coups. Surprisingly, more previous coups appear to reduce the risk of coups, but this finding is not substantially significant. This indicates that even after accounting for various relevant factors, regime type remains a critical determinant of coup likelihood. This underscores the robustness of our findings and the importance of regime type in understanding coup dynamics.

In the outcome equation, most variables are not significant at the 5% level. This supports our hypothesis that coup attempts are highly selective at the attempt stage, thereby diminishing the influence of these variables on the coup outcome. Higher GDP per capita is negatively associated with the likelihood of coup success at the 5% significance level. This suggests that better economic conditions may bolster support for incumbent leaders, thereby reducing the chances of a successful coup against them.

The correlation coefficient (ρ) between the error terms of the selection and outcome equations is 0.7086 with a p-value of 0.111. Although positive, this correlation is not statistically significant, indicating that there may not be a strong correlation between the errors in the selection and outcome equations. This suggests that the selection bias might not be as severe as initially hypothesized.

Overall, the regression results indicate that the sample selection model is a well-specified choice for this research. The significant coefficients and theoretically consistent directions suggest that the model effectively captures key aspects of coup dynamics. Specifically:

- The direction and significance of the coefficients align with theoretical expectations. Regimes with less institutional stability, such as military and personalist regimes, are more likely to experience coup attempts.

- Better economic conditions not only reduce the likelihood of coup attempts but also decrease the likelihood of coup success.
- Coup attempts are not random events; they occur under specific conditions. Thus, treating the selection process (whether a coup attempt occurs) separately from the outcome (whether the coup is successful) effectively captures this non-randomness.
- The double probit with samle selection model is designed to correct for selection bias. The similar success rates of coups across different regimes, despite varying attempt rates, indicate potential selection bias. This supports the need for a sample selection model, as coup plotters are likely to attempt coups only when they perceive a high likelihood of success.

In conclusion, the use of a sample selection model is appropriate for this research, providing robust insights into the factors influencing coup attempts and their outcomes across different regime types. The results highlight the significant role of regime type in coup dynamics and the selective nature of coup attempts, thereby validating the theoretical framework and empirical strategy employed in this study.

5 Conclusion

The findings of this study underscore the critical role of regime type in determining the likelihood of coup attempts. Through the application of a double probit with sample selection model, this research highlights that coups are significantly more probable in military and personalist regimes compared to dominant-party regimes. The results suggest that the power dynamics inherent in different regime types influence the propensity for coups, with less institutional stability and more fragmented power structures increasing the risk.

Moreover, the study reveals that better economic conditions, while reducing the overall likelihood of coup attempts, paradoxically enhance the chances of coup success. This implies that economic resources can provide the necessary support for successful coups, even as they deter initial attempts.

The significant coefficients and the alignment of results with theoretical expectations validate the use of the sample selection model in this context. By accounting for the selection bias in coup attempts, the model offers robust insights into the factors influencing both the occurrence and success of coups. These findings contribute to a deeper understanding of coup dynamics, emphasizing the importance of regime type and economic conditions in shaping political stability.

In conclusion, this study provides a nuanced perspective on coup attempts and their outcomes, reinforcing the need to consider regime-specific characteristics and economic contexts in analyses of political instability. Future research could further explore the interplay between these factors and examine additional variables that may influence coup dynamics.

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