

Sample Selection Effects and the Likelihood of Coups

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Abstract

A substantial body of research has examined coups, with much of it focusing on the factors that lead to coup attempts. However, consensus remains elusive regarding why coups are more prevalent in certain countries while less so in others. Previous scholarship exploring the determinants of coup attempts has often overlooked the crucial aspect of coup success. Given the severe consequences of a failed coup, coup plotters are unlikely to proceed unless they perceive a high chance of success. Thus, the expected outcome of a coup—whether successful or unsuccessful—is not merely incidental but serves as a pivotal determinant of coup attempts. The decision to stage a coup is a self-selected variable contingent upon the anticipated success rate of coups. This study employs a sample selection model (specifically, a two-stage probit model) to elucidate why coups are more common in some autocratic countries but rare in others. I contend that coup attempts are largely shaped by the likelihood of coup success, which, in turn, hinges on the power dynamics between coup perpetrators and incumbents. These power dynamics are influenced by the regime type and their distinct responses to internal and external shocks.

Keywords: Coup, Autocracy, 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 timeframe. 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 question of why coups occur more frequently in certain regions, countries, and periods, while being less common in others, has captivated scholars for decades. Consequently, scholars have delved into extensive research on coups. Despite numerous efforts in past studies to shed light on these disparities, a definitive model or set of determinants for analyzing coups remains elusive. As highlighted by Gassebner, Gutmann, and Voigt (2016), although approximately one hundred potential determinants of coups have been suggested, the fundamental question remains unanswered.

However, despite extensive research by scholars, the impact of anticipated outcomes on coup initiation has not received sufficient attention. When analyzing the determinants of coups, it’s crucial not to overlook the most significant characteristic of coups themselves. As noted 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.”(P.252) Due to their illegality, the consequences of a failed coup could be severe, with perpetrators risking imprisonment, exile, or even death. In some instances, the repercussions extend to the families of the coup perpetrators.

Despite the significant risks associated with coups, as shown in Table 1 since 1950, there have still been as many as 491 coups worldwide. Furthermore, more importantly, half of these coups have been successful. At first glance, coups seem to be a high-success-rate, high-reward political venture and speculation. However, compared to over 12, 000 country-years since 1950, the occurrence of 491 coups appears rather rare, accounting for less than 4%.

¹https://www.uky.edu/~clthyn2/coup_data/home.htm, accessed on 2024-04-14

The low occurrence rate and high success rate 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. Coup plotters carefully assess their chances before staging a coup. If they decide to proceed, it suggests that the conditions are relatively ripe, hence the fifty-fifty success rate. Plans with immature conditions and low chances of success are automatically filtered out. Fundamentally, launching a coup is not like participating in a general election, where failure in one election allows for another attempt in the next election. A coup is a high-stakes gamble where success brings substantial rewards, while failure may result in martyrdom. Failure, put differently, means permanent and absolute defeat. Furthermore, the outcomes of coups are typically decided within a matter of days, sometimes even mere hours. Unlike prolonged conflicts where victories or defeats may shift over time, the success of a coup is often sealed at its inception. Every detail must be meticulously planned and arranged beforehand.

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

Hence, the factors influencing the success rates of coups play a significant role in shaping coup attempts. This study employs a sample selection model to examine the factors affecting the success rates of coups and, consequently, the likelihood of coup attempts. I posit that the power dynamics among coup perpetrators, incumbents, and other ruling elites are pivotal in determining the success of coups. These dynamics are largely contingent on regime types, highlighting the pivotal role of regime types in shaping coup attempts.

This study offers two potential contributions to the existing literature: firstly, it highlights the significance of power dynamics within various regime types as critical factors influencing coup attempts; secondly, it demonstrates how sample selection models can enhance our understanding of coup attempts by taking into account the success rates of coups.

The subsequent section of this paper delves into previous research on coups. Following that, in Part 3, I present the research framework and propose hypotheses. Part 4 provides insights into the data and variables utilized in the study. The testing results are discussed in Part 5, followed by the conclusion in Part 6.

2 Theory

The majority of studies on coup risks primarily focus on identifying the causes and determinants of coup attempts. As mentioned earlier, despite the multitude of potential determinants proposed—numbering around one hundred ([Gassebner, Gutmann, and Voigt 2016](#))—only a few studies have discussed both coup attempts and coup success. Moreover, even fewer of these studies have specifically analysed the possible deterrent effect of coup outcomes on coup attempts. Additionally, the dynamics of power balance among various types of regimes are often overlooked in previous studies.

Coup plotters undertake coups with the intention of achieving certain benefits. Despite the high

risks involved, if the anticipated gains from a coup outweigh the risks, plotters may still proceed with their plans. So, how can we quantify these anticipated gains? The commonly referenced framework for assessing the expected benefits of coup plotters has been formalized by Leon (2013a) as follows:

$$\text{Expected Payoff} = \sigma V_S + (1 - \sigma)(V_I - C) \quad (1)$$

Here, V_S represents the return of a successful coup, V_I denotes the normal value paid by the incumbent in the status quo, C signifies the cost of the failed coup, and σ represents the probability of coup success. By rearranging the equation, we can derive:

$$\sigma(V_S - V_I) > (1 - \sigma)C \quad (2)$$

Based on these two equations, Aidt and Leon (2019) suggests that a coup is likely to be initiated when the anticipated benefits of a successful coup outweigh the potential costs of failure. it raises practical challenges in quantifying the values of V_S and C , which are not easily measurable in real-world terms. How can we measure the cost of losing freedom, life, even beloved family members if the coup fails. How can we measure the value of being the leader of a country if the coup succeeds? There is no such a market.

As V_S and C are impossible to measure in value, it does not mean the equations is useless. For one thing, the underlying logic of the equation remains robust and offers a valuable framework for comprehending the decision-making dynamics of coup plotters. For the other, there is no need to measure how much V_S and C are in exact value. One thing is for sure: both are priceless and we can take them rough equal. Furthermore, coup plotters are motivated by more than just economic gains or losses. Which means, coup plotters would not care much about V_S or C . As long as the coup succeeds, they win. This implies that in Equation 2, $V_S - V_I$ and C can be ignored. The factor that only matters is the probability of success of the coup.

Drawing from these equations, Aidt and Leon (2019) suggests that the decision to initiate a

coup hinges on whether the expected benefits of a successful coup outweigh the potential costs of failure. However, quantifying the values of V_S and C presents practical challenges, as they are not possibly measurable in real-world terms. How can one measure the cost of losing freedom, life, or even beloved family members if a coup fails? Similarly, how can the value of assuming leadership of a country be quantified if the coup succeeds? These are not commodities that can be traded in a market.

While V_S and C may be impossible to measure in precise terms, this does not render the equations useless. Firstly, the underlying logic of the equations remains robust and provides a valuable framework for understanding the decision-making process of coup plotters. Secondly, there is no need for precise measurements of V_S and C . It is sufficient to consider them as invaluable, with both potentially considered roughly equal. Additionally, coup plotters are driven by factors beyond mere economic gains or losses. As long as the coup succeeds, they win anyway. This suggests that in Equation 2, the values of $V_S - V_I$ and C can be disregarded, and the focus can solely be on the probability of the coup's success.

There are three dimensions when we analyse coup outcomes. The first dimension is straightforward: why some coups succeed while others fail (Quinlivan 1999; Kebschull 1994). The second dimension focuses on the potential influences: what happens after failed coups and successful coups. In particular, whether it helps the shifts towards democracy following successful coups. This debate is exemplified by the arguments between Michael Miller (Miller 2016) and Derpanopoulos, Frantz & Gedde (Derpanopoulos et al. 2016, 2017). However, the third dimension, which explores how the expected success of coups influences coup attempts, remains underexplored.

Among the limited discussions on the influence of coup success on coup attempts, J. Powell (2012) utilizes a selection model with global data spanning 1961 to 2000. Powell's findings suggest that coup-proofing strategies, such as balancing and providing resources to the military, reduce the likelihood of coups but increase their chances of success.

However, few of the aforementioned studies have explored the interdependence between coup attempts and coup success. In other words, as demonstrated in Equation 1 and Equation 2, they do

not consider the likelihood of coup success as a primary determinant of coup attempts.

If the likelihood of coup success is predetermined, what factors influence or potentially determine the success rates of coups? Much attention is understandably given to military strength, as it is believed that the control of military forces often determines the success of coups. Consequently, coup-proofing strategies are designed to either decrease the inclination of military forces to stage coups or to erect barriers that impede their success. For instance, studies by Leon (2013b) suggest that coups are more probable in nations where military spending as a percentage of GDP is low. J. Powell et al. (2018) also argue that increased military expenditures may decrease the propensity for coups among military factions. However, as J. Powell (2012) posits, while measures aimed at pacifying the military may diminish the likelihood of a coup being attempted, greater military resources may simultaneously enhance the probability of a coup's success.

In addition to military factors, research delves into other determinants as well. For instance, Bell (2016) contends that democracies are less susceptible to coups, yet coup attempts against democracies are more likely to succeed.

3 Research Framework and Hypotheses

4 Data and Variables

5 Results and Discussion

6 Conclusion

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