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Does the way democracy is obtained matter for economic development?
Estimating the effect of transition to democracy with a Coup

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Does the way democracy is obtained matter for economic development? Estimating the effect of transition to democracy with a Coup

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Abstract

This paper studies the effects of transition to democracy with a coup conditional on the occurrence of a transition to democracy. Additionally, the study by Meyersson (2016) is extended by analyzing the effects of successful coups conditional on an attempted coup. Finally, a case study is carried out for the coup at Honduras in 2009. The results show that those countries that transition to democracy with a coup achieve a GDP per capita growth rate 1/3 lower in the next 10 years than those who do it without this type of event. Regarding the effects of successful coups, these are differentiated, when they overthrow an autocratic regime the effect is positive, while when they overthrow a democratic regime their effect is negative. The results for the case study are consistent with the last one, the impact of the coup at Honduras in 2009 on GDP per capita growth rate was negative although minor, which can be explained by the nature of said event. The results suggest that democracy and the way in which it is obtained matters; however, its effect on long-term development continues to be positive.

Keywords: Coups, Development, Institutions, Conflicts, Transitions

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1 Introduction

Interest in coups and their effects continues to be on the agenda of several academics, this due the number of this type of events that have been registered worldwide, and that these continue to occur. This can be explained by their link with institutional changes. Coups are usually associated with modifications in the institutional framework of a country, either ensuring that said arrangement is maintained or promoting a change in it, thus causing a regime transition.

The aforementioned is consistent with the components raised by institutional theory of social conflict, which suggests that due to its final consequences a change in institutions¹ usually occurs with a social conflict associated with this process. This considering that institutions affect the distribution of political power and resources of a society. Which is why the agents try to modify them in their favor when they have the opportunity. However, political elites will analyze any potential changes in the institutional framework and will oppose them whenever they represent a risk to their future political power (Acemoglu, Johnson and Robinson, 2005).

An example of the elements raised above is the coup at Honduras in 2009², known as the first coup d'état of the 21st century in Latin America whose main trigger was the movement through which it was sought to modify the constitution of the Republic. This represented a potential change in the country's institutional framework³, thus constituting a threat to the future political power of groups outside the executive, reason for which they executed a technical coup to the executive⁴.

The points mentioned above help to better understand why 338 coup attempts have been registered between 1960-2009, of which more than half have been successful. Africa

¹Are the humanly designed restrictions that establish a stable structure (but not necessarily efficient) to the political, economic and social interactions of individuals in a society (North, 1991).

²It's important to note that even though this did not represent a political regime transition, it's classified as a successful coup according to the definition of Powell and Thyne (2012).

³Modifying the institution through which the other institutions are created.

⁴Concept usually associated with a break in the constitutional order, due to the overthrow of one of the powers of the State.

and Latin America are the regions with the highest number of attempted coups, registering 47% and 26% of the total of such events, respectively. Additionally, 47 of these coups are associated with a transition between political regimes, 39 with transitions to autocracy and 8 with transitions to democracy (Powell and Thyne, 2012).

There is a vast literature dedicated to the study of coups and their consequences, but little of this is focused on the analysis of their effects on the economic development of countries. Meyersson (2016) studies the effects of a successful coup conditional on the occurrence of a coup attempt, the treated group is those countries that registered a successful coup, and the control group those countries with a coup attempt, the author finds evidence that these types of conflicts are relevant for the long-term development of countries, finding differentiated effects conditional on the regime that is overthrown. When the pre-coup regime is classified as democracy, the effect is negative, while when the regime is classified as autocracy, the effect is positive.

On the other hand, Acemoglu et al. (2019) find that those countries that transitioned to democracy exhibit higher levels of economic growth in the long-term than those that remain in a non-democratic regime. But they do not delve into the analysis of the forms through which the transitions from one regime to another occur.

The studies by Meyersson (2016) and Acemoglu et al. (2019) are closely linked, this considering that transitions to autocracy usually occur with a coup, and these in particular have negative effects on development in the long term. In this way, it is reasonable that these countries present lower levels of development in the long term compared to those that transition to democracy. However, the role played by coups as a mechanism for the transition to democracy has not been fully addressed.

In this sense, this thesis seeks to estimate the effect of transitioning to democracy with a coup on development in the long term. To estimate interest effects, the methodology implemented by Meyersson (2016) is followed, taking into consideration the following elements:

a) The previously cited author's study is extended, incorporating data for coups between 1960-2009, b) The effect of transitioning to democracy with a coup on development is estimated following a similar specification, and c) A case study will be carried out to estimate the effect of the coup at Honduras in 2009 through a synthetic control estimate.

The results obtained for the extension of the study of Meyersson (2016) are consistent with those of the author (Tables 2, 3 and 4). The effects of coups on growth are differentiated conditional on the political regime that they overthrow. However, it should be noted that not all coefficients are statistically significant. Results are robust to splitting the sample by alternative democracy measures. Moreover, extending the analysis to matching yield similarly robust results.

Nevertheless, when the effects of successful coups involving a regime transition are analyzed, the coefficient of interest obtained is negative (see table 5, column 4). Nonetheless, the total effect continues to be positive. This can be explained due the fact that in this case coups represent a profound change in the institutional framework.

Conditional on the existence of a transition to democracy, the effect of transitioning to democracy with a coup is negative. Taking into account the results presented in table 5, it would be expected that those countries that transitioned to democracy with a coup reach a GDP per capita growth rate around 1/3 lower in the next 10 years compared those countries that made the transition to democracy without a coup associated with said process.

The results obtained for the case study of the coup at Honduras in 2009 are consistent with the results for successful coups in countries classified as democracy prior to the occurrence of these events (section 4.1). However, this is lower to the one presented in section 4.1, which can be explained by the nature of the coup in Honduras, which, being a technical coup, did not imply a profound change in the institutional framework.

In this sense, the document is ordered as follows; section 2 presents the literature review related to the research topic, section 3 describes the database and the specification to be

used to estimate the effects of interest, section 4 presents the results for successful coups and transitions to democracy with a coup, section 5 shows results for the case study and finally in section 6 concludes.

2 Literature Review

Coups are normally associated with modifications in the institutional framework of a society, either ensuring that said framework is maintained or promoting a change in it. In this sense, although it is relevant to consult the literature that studies the effects of coups, it is also relevant to consult the literature that studies how the institutional framework of a society is defined and the role of institutions in its economic performance.

Institutions play a fundamental role in the development levels of society. Affecting not only the potential aggregate growth of the economy, but also a variety of economic outcomes, including the distribution of resources in the future (Acemoglu, Johnson and Robinson, 2005). Because of this, there is vast literature that focuses on the study of institutions as the main source of differences in economic growth between countries and within them (Acemoglu Johnson and Robinson, 2005; Acemoglu and Dell, 2010; Dell, 2011; Brunh and Gallego, 2012; Acemoglu, García-Jimeno and Robinson, 2015).

There are several approaches that explain how the institutional framework of a society is defined and its evolution over time, for the purposes of this study, due to the elements it raises, the institutional theory of social conflict is considered. This theory suggests that due to its final consequences a change in institutions usually occurs with a social conflict associated with this process. This considering that institutions affect the distribution of political power and resources of a society, through the definition of the location of *De Jure*⁵ and *De Facto*⁶ political power. Which is why the agents try to modify them in their favor

⁵Refers to that power which originates in the political institutions of a society .

⁶Refers to those individuals who possess political power not by law, but through the use of violence (i.e. armed groups) or pressure mechanisms (protests, media, etc) that are costly economically.

when they have the opportunity. Nevertheless, political elites seek to maintain their political power over time, which is why they analyze all potential changes in the institutional framework and will oppose them whenever they represent a risk to their future political power (Acemoglu, Johnson and Robinson, 2005).

Several academics have dedicated efforts to studying the relationship between coups and democratization, finding that coups are not systematically correlated with democratization, on the contrary, the perpetrators of coups tend to oust dictators only to impose new ones (Derpanopoulos et al., 2016).

In line with the aforementioned, Thyne and Powell (2014) analyze the differences in longevity between the democracies that occurred with a coup d'état and those that have been obtained in the absence of this figure, finding that there is no meaningful difference in regard to democratic longevity based on whether or not the state had a recent coup prior to democratizing.

There is quite a lot of literature dedicated to the study of coups and their consequences, but little of this is focused on the analysis of their effects on the economic development. Londregan and Poole (1990) find evidence that the level of development affects the probability of having a coup. However, they do not find evidence that coups affect the development levels of the countries.

On the other hand, Meyersson (2016) examines the effect of coups on economic development through the study of the coups registered in the period 1955-2001, the author finds evidence that these types of events do have an effect on the long-term development of countries, finding differentiated effects on the development of countries conditional on the type of regime that is overthrown. In countries that were relatively more democratic, a successful coup is associated with negatives effects in growth of GDP per capita. In more autocratic countries, the author found smaller and more imprecisely estimated positive effects.

Bennett, Bjørnskov and Gohmann (2019) focus their analysis on what happens to the quality of judicial institutions around coup attempts, finding that successful coups are asso-

ciated with a degradation of the institutions of a society.

The elements described above allow a better understanding of the literature that focuses on the analysis of the relationship between economic performance and political regimes.(Barro, 1996; Przeworski et al., 2000; Papaionnou and Siourounis, 2008; Acemoglu et al., 2019). This under the premise that the incentives defined by the institutions created in democracy are different from those defined in autocracy, since the latter regime tends to have fewer restrictions on the use of political power, and therefore agents have less incentive to invest. The most recent of the studies cited above presents empirical evidence in favor of democracy as growth-generating, finding that those countries that move from a non-democratic regime to a democracy achieves about 20 percent higher GDP per capita in the next 25 years compared to countries that remain in non-democracy (e.g. Portugal and South Korea).

The role played by coups as a mechanism for the transition to democracy has not been fully addressed. Nevertheless, considering the literature presented in this section, it is reasonable to expect that those countries that transition to democracy with a coup in the long term will exhibit lower levels of development than those that do so in the absence of this figure, given that these have negative effects on the institutional framework of a society.

The following section presents a description of the data and the specification to be used to test this hypothesis.

3 Methodology

To address the research question, the methodology implemented by Meyersson (2016) is followed, however, some of the robustness exercises performed by the author will not be developed due to the availability of data for some of the additional controls used in these exercises. Additionally, for the case study to be developed, the effect of interest is estimated through the implementation of the synthetic control method. The data and the specification to be implemented are described below.

3.1 Data

The database used is made up of a panel of 164 countries for the period 1960-2019. However, the analysis period of this study will be limited to 1960-2009, due to the interest of estimating the long-term effects on growth. Table 1 presents a summary of the main variables included in the analysis.

The measures for occurrence of coups are taken from Powell and Thyne (2012), who define a coup as an illegal and open attempt by the military or other elites within the state apparatus to overthrow the acting executive. They also define a coup as successful if the perpetrators were able to seize and hold power for at least seven days. Thus differentiating between failed and successful coups. Between 1960-2009 there are a total of 338 coup attempts of which more than half have been successful. Africa and Latin America are the regions with the highest number of attempted coups, registering 47% and 26% of the total of such events, respectively. Additionally, 47 of these coups are associated with a transition between political regimes, 39 with transitions to autocracy and 8 with transitions to democracy.

The main focus will be on per capita GDP growth, the information corresponding to this variable and the population are obtained from the Penn World Table⁷. The outcome of interest is the growth rate of GDP per capita between $t - 1$ and $t + 10$. Growth is calculated using the year before the coup attempt as the basis to avoid contaminate the outcome variable by the immediate effects of the coup. This ten year window after the coup is also a result of the trade-off between estimating long-term developmental effects leaving a sample large enough for analysis (Meyersson, 2016).

To control for the military power and size, military expenditure as a proportion of GDP and the ratio of military personnel to the total population are included. The information related to these variables was obtained from the COW National Materials Capacities⁸.

As a proxy of the institutional environment, the past levels of the Polity Index as well as

⁷Data available on: <https://www.rug.nl/ggdc/productivity/pwt/pwt-documentation>

⁸Data available on: <https://correlatesofwar.org/COW2%20Data/Capabilities/nmc3-02.htmdata>

its lagged change are included. Its conceptual scheme is unique in that it examines concomitant qualities of democratic and autocratic authority in governing institutions, rather than discreet and mutually exclusive forms of governance. This perspective envisions a spectrum of governing authority that spans from fully institutionalized autocracies through mixed, or incoherent, authority regimes (termed "anocracies") to fully institutionalized democracies. The "Polity Score" captures this regime authority spectrum on a 21-point scale ranging from -10 (hereditary monarchy) to +10 (consolidated democracy). The Polity scores can also be converted into regime categories in a suggested three part categorization of "autocracies" (-10 to -6), "anocracies" (-5 to +5 and three special values: -66, -77 and -88), and "democracies" (+6 to +10) (Center of Systemic Peace, 2021).

The measure of democracy and regimes transitions are taken from Acemoglu et al. (2019). The authors create a dichotomous measure for democracy, taking data from different sources, including Freedom House and PolityIV, and defining that a country is democratic if any of these sources classify it as such, and in those cases in which there is no information. , they verify if said country was classified as democratic by Cheibub, Gandhi and Vreeland (2010) or Boix, Miller and Rosato (2012), who extend the dichotomous variable created by Przeworski et al. (2000). Additionally, they create a variable to identify transitions and reversals to democracy, thus identifying events of democratization and events of return to autocracy.

Finally, with the data obtained from Powell and Thyne (2012) and Acemoglu et al. (2019), a dichotomous measure of transitions to democracy with a coup associated to said process is constructed. This measure takes the value of 1 if there is a transition to democracy with a coup in the country i in year t , and takes the value of 0 if there is a transition to democracy in the country i in year t . Of the 118 transitions to democracy identified by Acemoglu et al. (2019), 8 of them were involved in a coup associated with said process. 90% of these occurred in Africa, Cyprus (1974), Ghana (1979), Guinea-Bissau (1999), Niger (1999, 2010), Sierra Leone (1996), Uganda (1980) and Peru (1963).

3.2 Specification

One of the main identification problems in estimating the effects of coups on development is separating them from the factors that make them more likely to occur. When making a comparison at the country-year level, it can be seen that the differences between those countries without and with coups are statistically significant.

In this sense, to reduce some of the imbalance in the controls, the comparison is made between those with a successful versus a failed coup given an attempted coup, which would imply making a comparison between more similar cases, in relation to whether this was carried out with all cases (Table 1).

To estimate the effects of interest, the following specification will be used:

$$\Delta y_{i,t+10} = \alpha + \beta S_{it} + \gamma X_{i,t-1} + \gamma_r + \zeta_t + \varepsilon_{it} \quad (1)$$

Where $\Delta y_{i,t+10} \equiv \ln(y_{i,t+10}) - \ln(y_{i,t-1})$ is the difference in the natural logarithm of GDP per capita between the year $t + 10$ and $t - 1$ in the country i , S_{it} is a dichotomous variable that takes the value of 1 if there is a successful coup in the country i in year t , $X_{i,t-1}$ is a vector of controls in the period $t - 1$, γ_r and ζ_t are fixed effect by region and year respectively.

The identification assumption is that conditional on an attempted coup and the set of controls $X_{i,t-1}$, any other factor that affects the success of a coup has no effect on the growth prospects of the economy $E[\varepsilon_{it} | S_{it}, X_{i,t-1}] = 0$.

Additionally and similar to the previous specification, to estimate the effect of transitioning to democracy with a coup the following will be used:

$$\Delta y_{i,t+10} = \alpha + \beta D_{it} + \gamma X_{i,t-1} + \gamma_r + \zeta_t + \varepsilon_{it} \quad (2)$$

Where $\Delta y_{i,t+10} \equiv \ln(y_{i,t+10}) - \ln(y_{i,t-1})$ is the difference in the natural logarithm of GDP per capita between the year $t + 10$ and $t - 1$ in the country i , D_{it} is a dichotomous variable

that takes the value of 1 if there is a transition to democracy with a coup in the country i in year t and 0 if there is a transition to democracy in the country i in year t , $X_{i,t-1}$ is a vector of controls in the period $t - 1$, γ_r and ζ_t are fixed effect by region and year respectively. In this sense, the coefficient of interest is β .

The identification assumption is that conditional on a transition to democracy and the set of controls $X_{i,t-1}$, any other factor that affects the success of a coup has no effect on the growth prospects of the economy $E[\varepsilon_{it}|D_{it}, X_{i,t-1}] = 0$. In this sense, the control group is made up of those countries that made their transition to democracy without a coup.

These transition processes are very diverse, we can find cases in which transitions occur through negotiation processes with autocratic governments⁹ that culminate in calling democratic elections, in others these occur due to the decline of the power of the governing groups, likewise, there are cases in which transitions occur through a consultation process.

Even when the transitions to democracy are very heterogeneous, limiting the analysis to only those observations with transitions to democracy slightly reduces the observable imbalance that exists when considering the full sample, thus allowing comparison between more similar observation units.

4 Results

This section discusses the results obtained for the estimates made with equations (1) and (2), as well as, the matching estimates of the average treatment effect for the parameters of interest. The first 2 subsections present the results obtained for the extension of the study by Meyersson (2016), and the last 2 the results obtained for the transitions to democracy with a coup.

⁹Which are usually military groups.

4.1 Effect of Successful Coup on GDP per capita 1960-2009

This subsection discusses the estimates presented in table 2, which were estimated through equation (1). This table is divided into panels A and B, the first includes the full sample, while in panel B the sample is limited to those years with attempted coups.

The analysis of a subsample of coup attempts allows to reduce the imbalance a little in the controls and thus have comparisons of treatment and control groups with more similar characteristics. Additionally, the sample is split between those more democratic opposite those more autocratic. The odd columns include only controls for fixed effects of years and regions, while the even columns additionally include the controls described in the previous section.

In panel A including the full sample, the estimated coefficients for all the regimes (columns 1-2) and for autocracies (columns 5-6) are very close to zero, are not statistically significant, and sensitive to the incorporation of controls. Regarding democracies (columns 3-4) the coefficients are 12.3 and 6 percent, and they are statistically significant.

The panel B including only those observations with coup attempts, where in the first two columns it can be seen that by including all political regimes a successful coup has a small effect on growth, with very small and statistically insignificant coefficients. Similar to the results obtained by Meyersson (2016), separating the sample between democracies and autocracies, estimates with opposite signs are obtained. However, in this case even when the estimated coefficient for democracies maintains the same sign, as for autocracies the coefficient maintains the same sign and is statistically significant at 10%. In columns 3-4 for countries considered more democratic, the estimate is -5.1 percent without and -4.6 percent with covariates. In this case, the results obtained are not as sensitive to the inclusion of covariates compared to those of the previously cited author, who obtained an estimate of -8.5 percent without and -14.2 percent with covariates. Regarding the countries considered more autocratic (columns 5-6), the estimate is 4.7 percent without and 15.4 percent with covariates, only the latter is statistically significant, this estimate is sensitive to the inclusion

of the covariates.

As indicated above, even when the coefficients for those countries considered more democratic, the signs and magnitudes of the coefficients are similar to those estimated by Meyersson (2016), who points out that this difference is due to the fact that the coups in democracies and autocracies you represent very different forms of political shocks. The effects of a successful coup when the subsample for more autocratic countries is analyzed are positive because they may represent the modus operandi for leader turnover may thus marks the effect a new ruler, with possible positive growth consequences. In the relatively more democratic countries, it is possible that the sharp institutional changes driving the growth effects. Considering that according to Bennett, Bjørnskov and Gohmann (2019) coups are associated with the elimination of certain restrictions, and according to Acemoglu, Johnson and Robinson (2005), as there are fewer restrictions associated with the exercise of power, agents have less incentive to invest¹⁰, which would translate into negative effects on growth.

Table 3 includes a robustness check of the results presented above. In panel A, the sample is divided between those countries considered more democratic versus more autocratic using alternative measures of democracy. In columns 1 and 2, the sample is split by whether a country had been a democracy as defined by Acemoglu et al.(2019) for any of the last 5 and 10 years respectively. Column 3 splits the sample by whether countries were democratic in period $t-1$. In columns 4 and 5 the sample is split by whether a country had been a democracy as defined by Polity's sub-indices (was positive or not) for any of the last 5 and 10 years respectively.

In the case of the sample of democracies in all the estimates the signs are maintained, the estimate continues to be negative, and none of them deviates meaningfully from the value obtained in table 1, unlike the result of column 2 which indicates that the effect is -9.4 percent and it is statistically significant at 10%. For the autocracy sample the estimate is consistent with the results of table 1, the sign remains positive, and the variation in magnitude is

¹⁰This is due to the commitment problem associated with the use of political power (Acemoglu, 2003)

approximately 3%, and only two of the estimates are not statistically significant.

Panel B includes results with sample split using alternative variables. Column 1-4 splits the sample by median GDP per capita (column 1), population (column 2), past five-year growth (column 3) respectively. Additionally, column 4 divides the sample whether the coup occurs before or after the end of the cold war in 1989¹¹. As can be seen in the results of panel B, in none of these alternative sample splits are there any statistically significant growth effects of successful coup, with the exception of the last one, in which the effect is positive and statistically significant, which may be due to the fact that the 55% of successful coups after 1989 are to regimes pre-classified as autocracies, this is consistent with what has been presented In the table 2.

4.2 Matching Results for Successful Coups

Table 4 includes the estimates made by matching, this method takes advantage of the complete sample for construct control units more comparable to those experiencing coups. The identification assumption of matching is that conditional on the covariates coup assignment is independent of potential growth.

Panel A includes estimates for full sample, panel B for democracies and panel C for autocracies. Columns 1-2 splits the sample the democracy measure constructed by Acemoglu et al. (2019), changing the number of nearest neighbor matches from one to four respectively. Column 3 splits the sample using the measure of democracy given by the Polity index. In column 4 the sample is restricted to those observations with coup attempts. According to the results obtained, the coefficients are not statistically significant. When the sample is restricted to only those observations with coup attempts, results consistent with those estimated in table 1 are obtained, the effect of a successful coup is positive or negative conditional on the political regime that is overthrown. The coefficient associated with autocracies is positive and statistically significant and very close in magnitude to that obtained

¹¹Marinov and Goemans (2013) suggest the effects of coups may systematically differ depending on whether the coup occurred during or after the Cold War.

in table 1.

4.3 Effect of Transitions to Democracy with a Coup

Table 5 presents the results for the estimates obtained with equation (2). The estimates are made using the full sample (column 1-2) restricting the sample to those observations with coup attempts (3-4), to those observations with transitions from one political regime to another (columns 5-6), and finally to those observations only with transitions to democracy (column 7-8). Similar to table 1, the odd columns include only controls for fixed effects of years and regions, while the even columns additionally include the controls described in section 3.

As can be seen in the estimates, even though the coefficients obtained for each of the previously described subsamples are not statistically significant (except for the last one), their signs are consistent with the hypothesis raised in section 2, transitioning to democracy with a coup d'état associated with said process has a negative effect on long-term growth. In columns 1-2 including the full sample, the estimate is -9.7 percent without and 7.5 percent with covariates. When the sample is limited to observations with attempted coups, the estimate is 5.7 percent without and -2.9 percent with covariates (columns 3-4). The magnitude of the estimates increases considerably when the sample is restricted to those observations with transitions between political regimes, -14.5 percent without and -18.9 percent with covariates (columns 5-6). The estimates obtained by restricting the sample only to observations with a transition to democracy are very sensitive to the inclusion of covariates, this is -11.2 percent without and -33.5 percent with covariates, the latter is statistically significant at 10% (columns 7-8).

In this sense, the interest effect associated with the research question of the present thesis is the content in columns 7-8, particularly column 8 (-33.5 percent). This represents that those countries that transition to democracy with a coup reach a GDP per capita growth rate 1/3 lower than those countries that do so without it.

In subsection 4.1 it was found that the effects of a successful coup when the subsample for more autocratic countries is analyzed are positive. Nevertheless, the effects of successful coups that imply a transition of the political regime its negative (-2.9 percent). However, the total effect is 12.5 percent, this continues to be positive but lower than 15.4 percent (see table 2, column 6).

4.4 Matching Results for Transitions

Table 6 shows the estimates of the effect of the transitions to democracy with a coup by matching. In columns 1-2 the estimates are made with the entire sample changing the number of nearest neighbor matches from one to four respectively. Column 3 restricts the sample to observations with attempted coups. In column 4 the sample is restricted only to observations with transitions from one political regime to another. Finally, column 5 includes only those observations in which transitions to democracy have been registered.

According to the estimates made, the coefficients are not statistically significant, however the signs obtained for the transitions to democracy with a coup d'état associated with said process are negative for the full sample and all defined subsamples, these results are consistent with the results of table 5. However, it should be noted that in this case the magnitude of the effect has a lesser variation and is concentrated around -15 percent. This could suggest taking a more conservative position regarding the estimated effect in column 8 of table 5. Considering that by matching the estimated effect when the sample is restricted to transitions to democracy is -16.1 percent, while in table 5 it is -33.5 percent.

5 Case Study: Coup d'etat at Honduras in 2009

5.1 Background

A common factor in many of the coups that are part of the previously developed analysis is the presence of a political or economic crisis. In the case of Honduras, the beginning of

2009 was marked by a high level political tension, the elements developed below allow us to understand the reasons.

The constitution of Honduras has restrictions on the exercise of executive power by a person who has previously held said position, among them the constitution establishes:

i) alternation in the exercise of the Presidency of the Republic is mandatory and violating this rule constitutes a crime of treason; ii) inciting, promoting or supporting the re-election of the President of the Republic implies the loss of citizenship; iii) whoever has held the executive power may not be President or Vice President of the Republic; iv) the aforementioned provisions cannot be amended by the usual processes, their modification may be carried out through the implementation of a constituent process.

The articles that contain these elements are called petrous, this last provision is of vital importance to understand the political and social tension in Honduras in the months prior to the 2009 coup.

Additionally, it is relevant to note that the election of authorities is carried out in two periods and at three levels¹². In a first period, the candidates are elected from within each of the political parties (internal elections), and in a second period, the authorities are chosen from among the winning candidates (general elections).

During 2009, general elections were to be held for the election of the authorities who would take office in January of the following year. At the beginning of 2009, the President of the Republic José Manuel Zelaya promoted a movement through which he intended to carry out a citizen consultation called “popular citizen consultation on the fourth ballot box”, which consisted of consulting the population if they agreed or not that, at the time of the general elections in november of that year, a fourth ballot box was installed in the voting centers (hence the name of the consultation), through which the population would be consulted if they agreed or not with the convening of a National Constituent Assembly

¹²Municipal, parliamentary and presidential, which is why three ballot boxes are installed in the voting centers.

that would culminate in the repeal of the current constitution. However, it should be noted that, according to the constitution of the Republic, the president's powers do not include the convening of a plebiscite or a consultation of this nature. This fact, coupled with the proximity of the president with the so-called "Socialism of the XXI Century", at that time promoted by Hugo Chávez, caused a high level of social tension.

The aforementioned events generated various confrontations between the executive power against the legislative and judicial, this considering that for other political groups it represented a potential change in the country's political institutions, especially by eliminating the current restrictions associated with the exercise of the executive, through the modification or repeal of the so-called petrous articles of the constitution, and thereby extend his term of office as president of Honduras and his eventual re-election.

Due to the facts previously exposed during the first months of the year, various mobilizations were carried out in the country, for and against said consultation, as well as various efforts from different sectors to stop the consultation that was scheduled to take place on June 28. (the last Sunday of the month). The same day it was scheduled to take place, a technical coup was given to the president of the republic dismissing him and the president of the national congress taking command of the presidency of the republic. This fact generated one of the most relevant social conflicts in Honduras in recent decades.

5.2 Synthetic Control

This method was developed by Abadie and Gardeazabal (2003), who sought to estimate the effect of terrorism in the Basque Country. Nevertheless, there was no region of Spain with similar characteristics to be used as a control. In this sense, the authors constructed a "synthetic control" that best approximates the characteristics of the treated unit, based on a weighted average of the units belonging to the control group.

The method consists in finding the vector $\mathbf{W}^*$ of dimension $j \times 1$ that minimizes $(X_1 -$

$X_0W)'V(X_1-X_0W)$, subject to: $w_j \geq 0 \forall j \in J$ and $\sum_{j=1}^J w_j = 1$. The vector W^* defines the combination of the control units that most closely approximates the treated unit conditional on the pre treatment characteristics contained in the vectors X_0 and X_1 .

Covariates used to calculate the synthetic control are GDP per capita, growth in GDP per capita, log population, and the number of previous coups. Additionally, in order for the synthetic control to be as close as possible to the characteristics of Honduras, the group of untreated units was limited to countries pre-treatment classified as democracies and that belong to the Latin American and Caribbean region.

The results obtained through the estimation of the synthetic control are presented in figure 5. According to these, the coup at Honduras in 2009 represented an accumulated loss of \$1,302 in GDP per capita in the next 10 years, equivalent to 27% of the GDP per capita registered in the year prior to the aforementioned event. In terms of the growth rate of GDP per capita between the year $t+10$ and $t-1$, the effect of the coup is -0.30 pp, this is negative and consistent with the effect estimated in section 4.1 (-4.6 percent) for successful coups in countries classified as democracies, however, it is much lower than the previous one (around the 15th part of it).

The difference between these results can be explained by the nature of the coup in Honduras, considering that being a technical coup to the Executive did not represent a meaningful change in the country's institutional framework. Unlike the coups studied in the previous section, of which 88% implied a transition of political regime¹³ and therefore a deeper change in the institutional framework.

6 Conclusions

The results in this thesis, suggest that the way in which democracy is obtained matters for long-term economic development, the effect of transitioning to democracy with a coup

¹³From democracy to autocracy.

conditional on the occurrence of a transition to democracy is negative.

Taking into account these results and those obtained by Acemoglu et al. (2019), it would be expected that those countries that transitioned to democracy with a coup achieves about 13.3 % higher GDP percapita in the next 25 years compared to countries that remain in non-democracy. That is, around 1/3 lower than those countries that made the transition to democracy without a coup associated with said process.

The difference may be due to the fact that in this case the coups represent a profound change in the institutional framework, and according to Bennett, Bjørnskov and Gohmann (2019), these types of events are associated with a degradation of institutions, which translates into negative effects on long-term growth when compared to those countries that transition to democracy without a figure of this type¹⁴.

Coups continue to be present on the public agenda, considering that they continue to occur, Honduras is an example of this. The results obtained for the case study are consistent with the results for successful coups of its type (coups against those regimes precoup classified as democratic). The impact of coup at Honduras in 2009 on GDP per capita and its growth rate was negative, however, this was minor than that found in section 4.1. These differences may be due to the fact that in the case of Honduras the event analyzed did not imply a profound change in the institutional framework, because although this was a successful coup there was no transition of the political regime, unlike the events analyzed in the section 4.1 in which 88% represents a regime transition, and therefore a more profound change in institutional arrangements.

As has been analyzed in this thesis, there is evidence on the effects of coups on the economic development of countries, and one of the main transmission channels is their effects on formal institutions. However, its effect on informal institutions such as culture or trust has not yet been addressed, thus constituting a potential research field to be addressed in the future.

¹⁴This is consistent with the findings by Acemoglu, Johnson and Robinson (2005) when the effects of "good versus bad" institutions are analyzed.

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Tables

Table 1: Summary Statistics of Cases with and without Coups and Transitions to Democracy

	All	Country-years with		Difference	Country-years with Transitions		Difference
					to Democracy with		
		No Coups	Coups	(3)-(2)	No Coups	Coups	(6)-(5)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Mean	Mean	Mean	Mea	Mean	Mean	Mean
				SE			SE
Log GDP percapita (t-1)	8.788	8.80	8.01	-0.789*** (0.097)	8.34	7.60	-0.740** (0.339)
Δ GDP percapita btw t-1 and t-2	0.018	0.02	0.00	-0.016*** (0.005)	-0.01	-0.04	-0.024 (0.033)
Δ GDP percapita btw t-1 and t-5	0.07	0.08	0.04	-0.037*** (0.013)	0.01	-0.03	-0.039 (0.073)
Δ GDP percapita btw t-1 and t-10	0.17	0.18	0.12	-0.062*** (0.022)	0.09	0.03	-0.067 (0.101)
Log population (t-1)	15.59	15.60	15.49	-0.107 (0.153)	15.87	15.50	-0.371 (0.583)
Number previus coups	1.96	1.91	5.63	3.725*** (0.201)	3.36	5.88	2.511** (1.121)
Military exp /GDP (t-1)	5.40	5.44	3.90	-1.533*** (0.202)	5.24	3.69	-1.544** (0.698)
Military pers./pop ('000) (t-1)	5.93	5.95	5.13	-0.820 (0.525)	5.27	4.12	-1.149 (1.743)
Δ mil. exp/GDP btw t-1 and t-2	0.07	0.07	0.06	-0.012 (0.027)	0.04	-0.01	-0.049 (0.155)
Polity index (t-1)	0.83	0.91	-2.32	-3.236*** (0.603)	-0.42	-2.14	-1.723 (1.891)
Δ Polity index btw t-1 and t-2	0.04	0.04	0.19	0.142*** (0.046)	0.25	0.97	0.717 (1.018)
Social unrest (t-1)	0.26	0.26	0.44	0.187*** (0.037)	0.60	0.38	-0.225 (0.182)
Num transition to autocracy	.42	0.41	1.01	0.600*** (0.056)	1.05	1.75	0.695* (0.365)
Observations	7,113	6,817	296	7,113	110	8	118

Notes: Column 1 shows a summary of the statistics for all the observations, column 2 summarizes the statistics of the cases without coups, in this case the period t-1, is defined as the first lag of the variable, column 3 summarizes the statistics of the cases with coups a successful and failed coups, and columns 5 and 6 summarize the statistics for transitions to democracy with and without coups. The symbol Δ represents the change between $t - 1$ and $t - s$ period, with $s \in (2, 5, 10)$.

Table 2: Effect of Successful Coup on GDP per capita 1960-2009

Outcome is Growth per Capita between t+10 and t-1						
	All Regimes		Democracies		Autocracies	
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: All years						
Success Coup	-0.0547	-0.00764	-0.123	-0.0648	-0.0413	0.00359
	(0.0189)	(0.0228)	(0.0273)	(0.0293)	(0.0259)	(0.0324)
R-squared	0.176	0.328	0.164	0.335	0.218	0.393
Obs	7,113	4,585	3,497	2,572	3,616	2,013
Panel B: Coup Attempts years						
Success Coup	0.000572	0.0526	-0.0510	-0.0461	0.0476	0.154
	(0.0333)	(0.0499)	(0.0456)	(0.0579)	(0.0488)	(0.0794)
R-squared	0.370	0.545	0.613	0.841	0.417	0.658
Obs	296	189	99	66	183	100
Region and Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	No	Yes	No	Yes	No	Yes

Notes: In all columns the outcome is the difference between periods t+10 and t-1. Panel A includes results using the full sample (164 countries) while Panel B includes the result restricting the sample only for years with coup attempts (80 countries). The odd columns include fixed effects by year and region, and the even columns also include the following variables in t-1: log income per capita, growth in the income per capita, log population, military expenditure per GDP, military personnel, the Polity index and social unrest index. Columns 1-2 includes all political regimes, columns 3-4 includes only those observations where the last 5 years included at least one year in which Acemoglu et al. (2019) classified it as a democracy. Column 5-6 includes observations that in any of the past 5 years has not been classified as democracies. Robust standard errors are in parenthesis

Table 3: Sample Splits Alternative Democracy Measures

Outcome is Growth per Capita between t+10 and t-1				
Panel A: Alternative Democracy Measures				
	≥ 1 as Democracy		<i>Democ</i> $\geq$ <i>Autoc</i>	
	Last 5 yrs	Last 10 yrs	Dem t-1	Last 5 yrs Last 10 yrs
	(1)	(2)	(3)	(4) (5)
More Democratic				
Success Coup	-0.0461	-0.0943*	-0.0301	-0.0287 -0.0611
	(0.0579)	(0.0548)	(0.135)	(0.0422) (0.0478)
Observations	66	82	47	79 105
More Autocratic				
Success Coup	0.154*	0.186*	0.117	0.180* 0.198
	(0.0794)	(0.109)	(0.0741)	(0.0898) (0.131)
Observations	100	82	115	88 62
Panel B: Placebo interactors				
	Above/Below Median		Before/After	
	GDP pc	Pob	Past growth	1989
	(1)	(2)	(3)	(4)
Above Median			After 1989	
Success Coup	-0.133	0.0394	-0.0293	0.0555
	(0.292)	(0.0682)	(0.115)	(0.122)
Observations	35	98	61	59
Below Median			Before 1989	
Success Coup	0.0917	-0.0372	0.0843	0.115**
	(0.0661)	(0.0747)	(0.0788)	(0.0570)
Observations	134	67	104	123

*** p<0.01, ** p<0.05, * p<0.1

Notes: In all columns the outcome is the difference between periods t+10 and t-1 for those years with coup attempts (80 countries). In the first two columns of Panel A the sample is split by whether a country had been a democracy as defined by Acemoglu et al. (2019) for any of the last 5 and 10 years in columns 1 and 2 respectively. Column 3 splits the sample by whether countries were democratic in period t-1. In columns 4 and 5 the sample is split by whether a country had been a democracy as defined by Polity's sub-indices (was positive or not) for any of the last 5 and 10 years respectively. In column 1 of Panel B, the sample is split by median GDP per capita, columns 2, 3 and 4 splits the sample by median population size, median lagged five-year growth rate, and whether the coup occurs before or after the year 1989 respectively. Robust standard errors are in parenthesis.

Table 4: Matching Estimates

Outcome is Growth per Capita between t+10 and t-1				
Standard Covariates				
	N=1	N=4	Polity	Coup Attempts
	(1)	(2)	(3)	(4)
Panel A: Full Sample				
Coup	-0.0717	-0.0775*	-0.0717	-0.0717
	(0.0507)	(0.0397)	(0.0447)	(0.0507)
Panel B: Democracies				
Coup	-0.178*	-0.145*	-0.139	-0.0957
	(0.102)	(0.0877)	(0.111)	(0.0620)
Panel C: Autocracies				
Coup	-0.0171	-0.0467	-0.0130	0.121*
	(0.0463)	(0.0473)	(0.0447)	(0.0638)

*** p<0.01, ** p<0.05, * p<0.1

Notes: the table shows matching estimates of the average treatment effect N denotes the number of matching used. In all columns the outcome is the difference between periods t+10 and t-1. Panel A includes all political regimes (164 countries), Panel B only the subsample of precoup democracies (128 countries) and Panel C includes only the subsample of precoup autocracies (36 countries). The covariates used for matching are log income per capita, growth in the income per capita, log population, military expenditure per GDP, military personnel, the Polity index an social unrest index. Robust standard errors are in parenthesis.

Table 5: Effect of transitions to democracy with coups

Outcome is Growth per Capita between t+10 and t-1								
Variables	Full Sample		Coups Attempts		Regimes Transitions		Democracy Transitions	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Coup Dem	-0.0989 (0.0884)	-0.0703 (0.103)	0.0574 (0.0861)	-0.0290 (0.162)	-0.145 (0.100)	-0.189 (0.151)	-0.112 (0.103)	-0.335* (0.166)
R-squared	0.175	0.328	0.370	0.541	0.390	0.605	0.391	0.830
Observations	7,113	4,585	296	189	170	90	98	46
Covariates	No	Yes	No	Yes	No	Yes	No	Yes
Region and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*** p<0.01, ** p<0.05, * p<0.1

Notes: In all columns the outcome is the difference between periods t+10 and t-1. The odd columns include fixed effects by year and region, and the even columns also include the following variables in t-1: log income per capita, growth in the income per capita, log population, military expenditure per GDP, military personnel, the Polity index and social unrest index. Columns 1-2 includes all observations (164 countries), columns 3-4 includes only the subsample with coup attempts (80 countries), columns 5-6 includes only the subsample with regimes transitions (89 countries) according to Acemoglu et al. (2019), column 7-8 includes only the subsample with transitions to democracy (86 countries). Robust standard errors are in parenthesis

Table 6: Matching Estimates

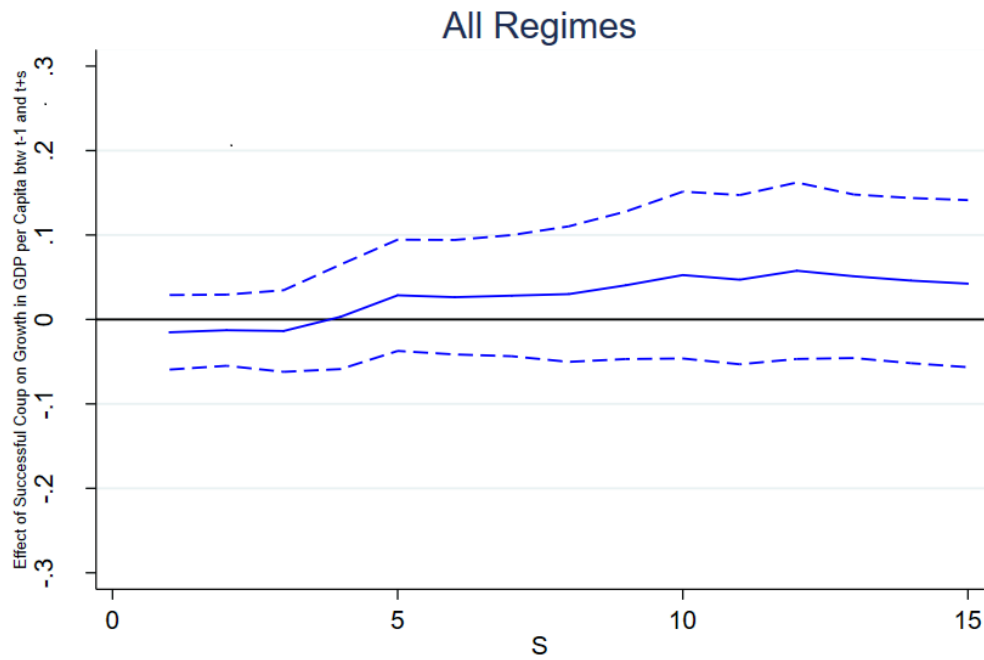
Outcome is Growth per Capita between t+10 and t-1					
	Standard Covariates		Coup	Regimes	Democracy
	N=1	N=4	Attempts	Transitions	Transitions
Variables	(1)	(2)	(3)	(4)	(5)
Coup Dem	-0.133	-0.0672	-0.135	-0.146	-0.161
	(0.145)	(0.129)	(0.125)	(0.115)	(0.126)
Observations	4,585	4,585	190	107	63

*** p<0.01, ** p<0.05, * p<0.1

Notes: the table shows matching estimates of the average treatment effect, N denotes the number of matching used. Treatment corresponds to variable D_{it} described in section 3.2. In all columns the outcome is the difference between periods t+10 and t-1. Columns 1-2 includes the full sample (164 countries), column 3 only the subsample with coup attempts (80 countries), column 4 only the subsample with regimes transitions (89 countries) and column 5 includes only the subsample with transistio to democracy (86 countries). The covariates used for matching are log income per capita, growth in the income per capita, log population, military expenditure per GDP, military personnel, the Polity index an social unrest index. Robust standard errors are in parenthesis.

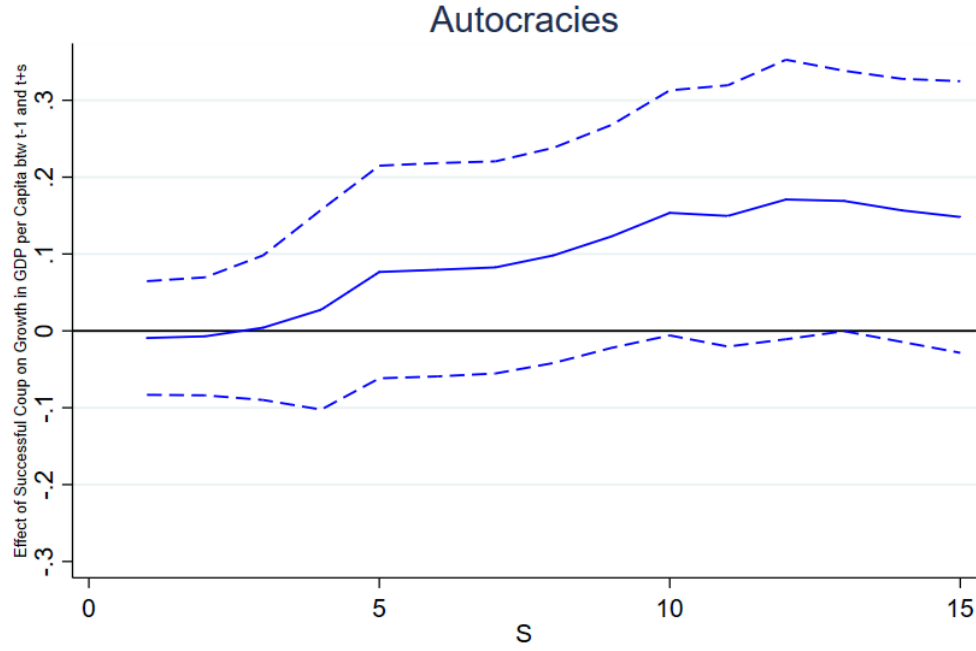
Figures

Figure 1: Effect of Successful Coup for All Regimes



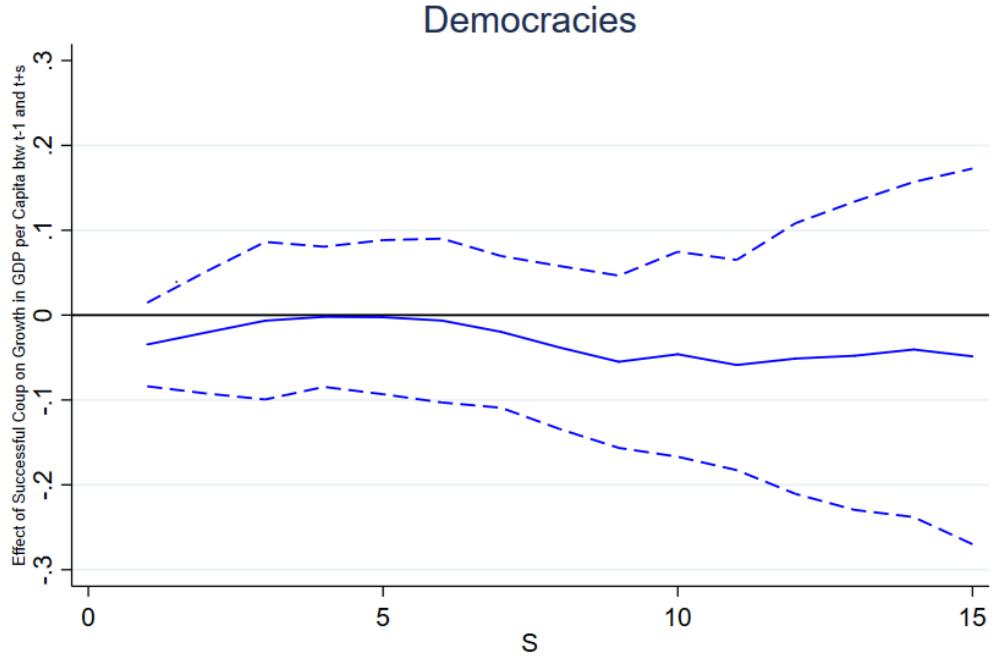
Notes: Figure shows regression estimates of a successful coups on Growth in GDP per Capita, for the sample including all political regimes. Each annual point in any graph is the corresponding effect of a successful coup on growth in GDP per capita between $t - 1$ and $t + s$ with s denoted in the x-axis. Controls are the same as in Table 2.

Figure 2: Effect of Successful Coup for Autocracies



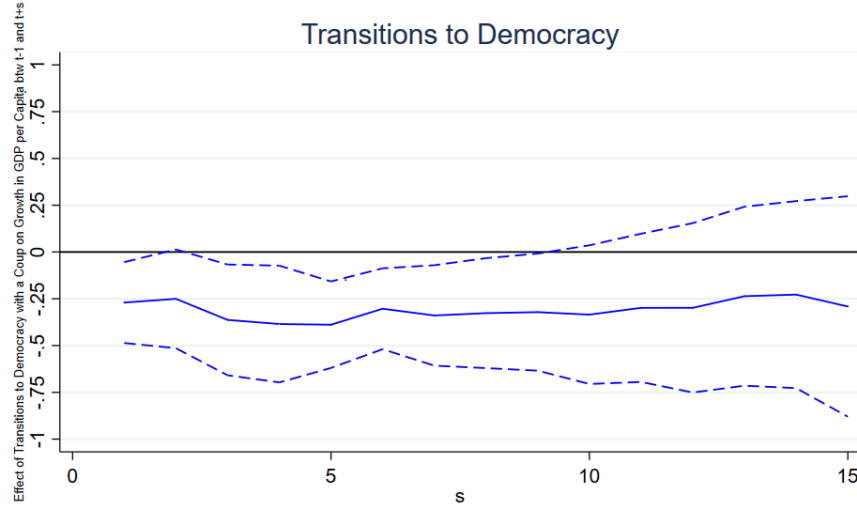
Notes: Figure shows regression estimates of a successful coups on Growth in GDP per Capita, for the sample of pre-coup autocracies. Each annual point in any graph is the corresponding effect of a successful coup on growth in GDP per capita between $t - 1$ and $t + s$ with s denoted in the x-axis. Controls are the same as in Table 2.

Figure 3: Effect of Successful Coup for Democracies



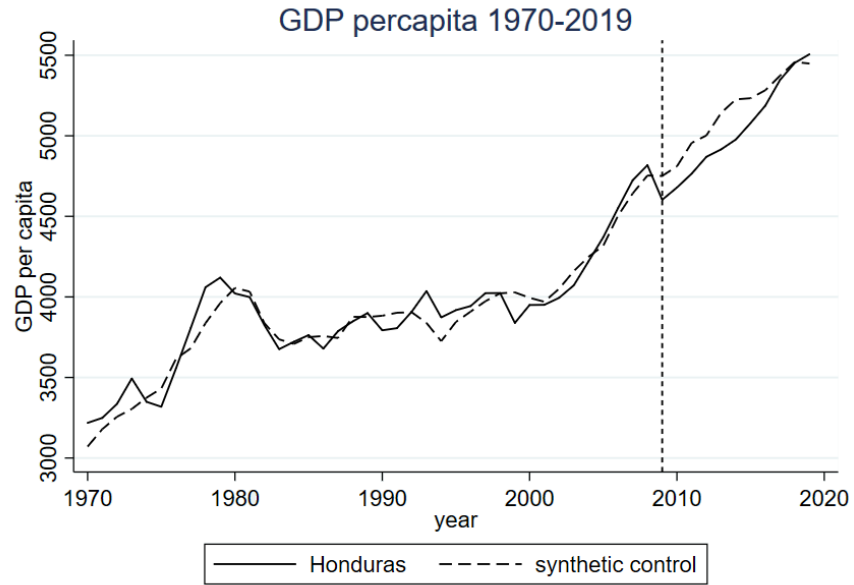
Notes: Figure shows regression estimates of a successful coups on Growth in GDP per Capita, for the sample of pre-coup democracies. Each annual point in any graph is the corresponding effect of a successful coup on growth in GDP per capita between $t - 1$ and $t + s$ with s denoted in the x-axis. Controls are the same as in Table 2.

Figure 4: Effect of Transitions to Democracy with a Coup



Notes: Figure shows regression estimates of a transition to democracy with a coup on Growth in GDP per Capita, for the sample of democracy transitions. Each annual point in any graph is the corresponding effect of a transitions to democracy with a coup on growth in GDP per capita between $t - 1$ and $t + s$ with s denoted in the x-axis. Controls are the same as in Table 2.

Figure 5: Synthetic Control for Coup at Honduras in 2009



Notes: Figure show the GDP per capita (black line) and a synthetic control. Covariates used to calculate the synthetic control are GDP per capita, growth in GDP per capita, log population, and the number of previous coups.