



# Policy change and coups: The role of income inequality and asset specificity

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## Abstract

Building on the models developed by Boix, Acemoglu, and Robinson on the relationship between economic structures and regime change, we develop a theory that emphasises structural characteristics of societies and the effects of policy change in such circumstances. We posit that significant policy change in an unequal or asset-specific society induces coups against the incumbent political leader by the losing faction of the elites seeking to prevent or cut losses associated with the policy shifts. Our empirical analysis indicates that the risk of a coup rises considerably during a period of a significant policy change in a society with a skewed distribution of income and one dominated by asset-specific production, such as oil, mining, and agriculture.

## Keywords

Coup, regime change, inequality, fixed assets, political instability, event history analysis

## Introduction

Despite the remarkable wave of democratisation that hit many corners of the world in the late twentieth century, coups remain one of the key sources of government instability in much of the developing world. What explains the timing and causes of coups? We define a coup as a seizure of executive power by the use or threat of force by some segment of the political elites. Many prior studies have identified structural conditions, such as poverty, economic structure, social mobilisation, political pluralism, and previous coup experiences, as root causes of coups (Belkin and Schofer, 2003; Huntington, 1968; Jackman, 1978; Londregan and Poole, 1990; O’Kane, 1993; Stone, 2004). Others have examined organisational and personal grievances and ambitions of the

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military and its officers, regime legitimacy, international conditions and short-term economic fluctuations as factors influencing the susceptibility of a country to coups (Belkin and Schofer, 2003; Bueno de Mesquita et al., 1992; Genna and Hiroi, 2007; Hiroi and Omori, 2013; Huntington, 1957; Luttwak, 1969; Svobick, 2012; Thyne, 2010; Thompson, 1980).

Our study contributes to this body of literature by providing a new empirical theory of coups that incorporates both short-term triggers and long-term structural risks, thereby generating an explanation about not only why coups occur but also when they are likely to be attempted. Building on and extending the models developed by Boix (2003) and Acemoglu and Robinson (2006) on the relationship between economic structures and regime change, we argue that coups are most likely to occur during the periods of significant policy change, or expectation thereof, in highly unequal societies and in societies whose central economic activities are in the specific asset sectors.<sup>1</sup> A major policy change in a highly unequal and/or specific asset society precipitates a coup because the elites' stakes in policy are high. The high cost of policy shifts motivates the losing faction of the elites to attempt to overthrow the incumbent to forestall or reverse the change.

We model coups as repeatable events and use an event history analysis to examine their onsets on a cross-section of 146 countries from 1960 to 2007. Our analysis indicates that the risk that a coup will be attempted rises considerably during a period of significant policy change in a society with a skewed income distribution and one dominated by specific asset production.

This article is organised as follows. The next two sections present a theory of coups that emphasises the motivational factors arising from a society's structural characteristics. We then discuss variables, data, and methodology. Following the presentation of our data analysis, we examine the implications of our theory for coup traps.

## Policy change in an unequal society

A coup is carried out by a small but critical segment of the insiders of power and is a risky operation for the perpetrators. It is risky because failed coup conspirators are typically executed, jailed or otherwise forced into exile and, by its nature, conspirators cannot rely on the explicit support of the masses even when latent support may exist for the removal of incumbent political leaders. Why would the members of the elites undertake such a risky operation? Conversely, granted that in any regime there are individuals with political ambitions or grievances against the current leadership, why don't we observe more coups? While previous studies have focused on permissive preconditions, our approach emphasises the interaction between structural preconditions and policy shifts that motivate negatively affected elites to oust the incumbent political leaders.

Our approach begins by assuming that in all societies some people are better off than others, which generates varying degrees of conflict. Compared to more homogeneous, equal societies, polarised societies raise the margin of conflict of interests over the status quo versus possible policy change, because the difference in one's welfare when one is on the winning side and when one is not can be substantial for the latter. The sources of societal polarisation may lie in ethnic, class or other divisions; however, much of the grievances and interests is usually tied to economic interests – more specifically, differential distributions of income among groups.<sup>2</sup>

A significant policy change in such a society can be destabilising because its costs to the losers are very high. In the literature on regime change, inequality is shown to hinder democratisation because of its redistributive costs to the elite. For example, Boix (2003) and Acemoglu and Robinson (2006) argue that because of the redistributive consequences of regime choice, with democracy being pro-majority and thus more redistributive than autocracy, democratisation occurs when the cost of redistribution to the elite diminishes and that of repression increases.<sup>3</sup> Thus, extreme inequality between groups exacerbates the conflict of interests, raising the stakes for the ruling elites to maintain the status quo and others to pursue reforms.

The elites and their allies in highly unequal societies *do* have strong interests in maintaining the status quo: they have much to lose from adverse policy change because of the large, sometimes very large, income gap that exists between them and the masses. For example, any effective redistributive policy in a society with large numbers of the poor would considerably damage the interests of the economic elites, because such a policy would effectively entail appropriation of substantial wealth from the elites. As a result, there is a powerful incentive for members of the ruling elites in an unequal society to remain in government in order to maintain influence over policy. The unsuccessful factions of the elites who become marginalised are thus strongly motivated to overthrow the incumbents, to prevent or reduce their welfare losses – even though attempting a coup entails substantial risks.

In contrast, the losses that the elites in a relatively equal society expect to suffer as a result of a major policy change are much smaller. Under such circumstances, and given the serious consequences and risks of a coup, to attempt a coup is not worthwhile. Thus the impact of a policy change is likely to differ between highly unequal and relatively equal societies as a result of the differential costs that a policy change will impose on the losers.

For example, coups in Brazil in 1964 and Chile in 1973 – both highly unequal societies – were launched by the military, with the support of certain political and economic elites, against left-leaning populist presidents implementing significant socioeconomic changes. Prior to his being ousted, Brazilian President João Goulart announced a series of economic measures, such as plans for nationalising the country's oil refineries and measures of income redistribution benefiting Brazilian workers and popular sectors. Similarly, President Salvador Allende of Chile nationalised banks and other large industries and enlarged the land distribution program before suffering an airstrike on the presidential palace by the country's armed forces (Larrain and Meller, 1991). As these examples illustrate, such policy changes in an unequal society are likely to motivate the disgruntled members of the elites to depose the incumbent to forestall or reverse the changes. In fact, coups may occur even without an actual change in policy. Discontented members of the elites may decide to topple incumbents before they effectively undermine their interest.

## **Asset specificity, policy change and coups**

It has been pointed out that an abundance of a natural resource is, paradoxically, a 'curse' because societies enjoying an abundance of natural resources are typically governed by autocratic leaders and suffer frequent political instability (see, for example, Beblawi, 1987; Ross, 2001; Collier and Hoeffler, 2002; Boix, 2003; Acemoglu and Robinson, 2006).<sup>4</sup> We posit that significant policy change in a society that relies on asset-specific investments increases the society's coup risk (that is, the risk of a coup taking place).

Asset specificity refers to the extent to which investments used for one purpose can be redeployed for another purpose. For example, investments in oil drilling, mining, and agriculture – all examples of asset-specific (also referred to as 'fixed asset') investments – are highly transaction-specific and not readily able to be redeployed; but investments in financial assets can be redirected for other purposes without difficulty. As such, the owners of fixed asset investments, such as land, mines and oil fields, have much higher stakes in fostering and maintaining favorable policy environments than, say, those who control financial assets because of the lack of viable, swift exit options in the face of an adverse policy change.

Because of the lack of immediate exit options, holders of fixed assets suffer much greater losses from negative policy changes than holders of flexible assets who, by definition, can easily redeploy their assets. This absence of effective exit options in the event or expectation of adverse conditions provides a strong incentive to the losers to depose political leaders implementing, or suspected of intending to pursue, the policy change. In contrast, even in the face of a substantial policy change,

	High inequality/ asset specific	Low inequality/ not asset specific
Policy change	High	Low
No policy change	Low	Low

**Figure 1.** Coup probability given policy change and society's economic character.

if the society's major productive assets are liquid and mobile, and/or can be easily redeployed, flexible-asset holders may find it more cost-effective either to protest against the government, by withdrawing or withholding their investments in the country, or acquiesce to policy changes by redirecting their assets to sectors where they can make a profit in the new policy environments.

The 1953 coup against Iranian Prime Minister Mohammad Mosaddeq demonstrates the link between a coup and substantial policy change in an asset-specific society. This coup was planned by interests linked to the Anglo-Iranian Oil Company, with the backing of the United States and Great Britain. In 1951 Mohammad Mosaddeq led the process of nationalisation of the oil company by the Iranian parliament and subsequently became prime minister: two years later, Mosaddeq was deposed in a coup (Mokhtari, 2008). Similarly, the coup against Guatemalan President Jacobo Árbenz Guzmán in 1954 occurred after his government confiscated uncultivated land from the U.S.-controlled United Fruit Company.

Thus, major reforms in asset-specific societies provide powerful incentives to the disgruntled members of the elites to depose the government to prevent or reverse the policy change, because their assets are not easily redeployable, which makes them extremely vulnerable to the negative effects of policy change, and because they have lost influence over policy in the existing political setting.

## Hypotheses

Figure 1 presents our predictions of the likelihood of a coup occurring. We expect the coup risk to increase considerably during a period of significant policy change, or the expectation of such change, implemented in a highly unequal and/or asset-specific society. For the purpose of this study, significant policy change is considered to occur when there is a clear departure from the policy status quo. The upper-left cell fits the joint condition of inequality and/or fixed assets and significant policy change. In contrast, we hypothesize that coup risk will not become elevated in a relatively egalitarian and/or flexible asset society even during a period of significant policy change. Finally, coup risk is low in the absence of a major policy change regardless of whether the society is equal or unequal, or specific asset dependent or not.

There are some caveats. First, our theory does not negate the possibility that other forms of political change may occur under conditions of inequality or fixed assets in the absence of policy change. For example, if there is no policy change in a highly unequal, repressive society for a prolonged period, a revolution, not a coup, may occur. Second, our study focuses on the economic rationale of coups, and in particular how the societal characteristics offer economic incentives to, and shape the cost-benefit calculus of, the ruling elites. However, there are also other factors that influence the likelihood of a coup taking place. Our contribution is to theorize and test empirically the relationship among economic structures of a society, policy change and coup risk.

Finally, and related to the second point, whilst our theory focuses on domestic attributes, we recognise that international factors can provide additional attractions or deterrents for potential coup-makers. In the previous examples, domestic conspirators in Chile, Iran and Guatemala had the backing of the US and UK governments and corporations. Support from powerful international actors gives assurance to the coup-mongers that the international environment is favorable, thus lowering the costs of coups: such conditions existed during much of the Cold War era. In the post-Cold War era, democracy became a new international norm (Huntington, 1991; Sen, 1999), regional organisations requiring democracy proliferated (Genna and Hiroi, 2013) and the world became much more hostile to coups.<sup>5</sup> This changing international environment is likely to affect domestic actors' decisions about whether or not to stage a coup, by altering the levels of constraints on such a move.

## Independent variables

In our theory, significant policy change in a highly unequal and/or fixed asset society is the key trigger of coups. Such change occurs when there is a clear departure from the existing policy status quo. Specific policy change may be measured by examining shifts in government expenditures, tariff levels, etc. However, reliable, complete and comparable data for such indicators for a cross-section of countries over a long time-span are hard to obtain. Moreover, without looking closely into individual cases, it would be difficult to determine whether increases or decreases in certain budgetary areas occurred as a result of deliberate government policy change or of other contingent factors such as economic recession. Given these considerations, we use three alternative proxies that reflect reasonably well, albeit imperfectly, a government's clear signal for policy shifts. Appendix 1 (available online at <http://ips.sagepub.com>) provides variable definitions and data sources.

The first indicator is the size of cabinet; that is, the number of ministers of 'cabinet rank' (Banks, 2011). Cabinet ministers exercise power over policy and represent important public policy areas. Creation of new posts or elimination of existing ones marks a clear departure from the prevailing policy and signifies shifts in government priorities. For example, creation of a ministry of agriculture would indicate that agriculture is a new priority, whereas its closure might suggest that it is no longer a priority for the government. Upon assuming office in 1999, Venezuelan President Hugo Chavez implemented a new constitution, restructured the executive, legislative and judicial branches and abolished a number of ministerial positions and created new ones, while pursuing radical restructuring of the economy by nationalising several key industries and undertaking land and welfare reforms.

*Change in cabinet size* indicates year-to-year absolute differences in the cabinet sizes. We use a non-directional measure of change because change in either direction can potentially cause friction between the members of the elites. Abolishing cabinet positions would enrage the factions that lost the incumbent's blessing, while enlarging the size of the cabinet would reduce the privileged status of the existing positions and potentially signal a shift with regard to policy priorities, thus fomenting rebellion against the leader. The value of this variable changes whenever cabinet positions are created or removed, thereby representing policy change that is not specific to any narrow set of policy areas.<sup>6</sup>

The second indicator of major policy change is the capture of the government by leftists. Left-wing governments are more likely to pursue redistributive policies and more likely to nationalise industries and confiscate land than centrist or right-wing governments. Thus, the rise of a leftist government *where it did not exist* is a major threat to the wealthy and the fixed-asset owners. We

use variable EXECRLC in Beck et al.'s (2001) *Database of Political Institutions*, which represents a 'party orientation with respect to economic policy' based on the chief executive's political party. This variable is coded mainly on the basis of the name of the party – which can be misleading and does not differentiate between moderate European-style social democratic parties and more radical left-wing parties. Furthermore, this variable is available only from 1975, reducing considerably the number of coups for which it can account. Nonetheless, we adopt this variable because despite these limitations, among the few data available it has the best coverage of countries and time. We created the variable *change to left* and coded as one if the executive's party had changed from centre or right to left within the previous two years.

The third indicator of policy change is change in capital control. The extent of capital control is a major policy area that significantly influences asset flexibility and welfare of the elites in a society, and is a crucial variable in Freeman and Quinn's (2012) study. To gauge policy change in capital control we use the financial openness index developed by Chinn and Ito (2008). This index comprises four policy dimensions of capital control: presence of multiple exchange rates; restrictions on current accounts; restrictions on capital accounts; and requirement of the surrender of the proceeds of exports. This dataset covers 182 countries for the period 1970 to 2010.<sup>7</sup> We created a variable, *change in capital openness*, by considering year-to-year absolute changes in this index.

Our variables for policy change are admittedly imperfect measures. While change in financial openness does signify an actual policy change, change in cabinet size or the assumption of power by leftists may not in themselves represent an actual change in policy. However, we are interested not only in actual policy change but also its anticipation, because fear of drastic policy change may be a sufficient incentive for some stakeholders of the status quo to launch a coup to *prevent* the feared policy change.

As discussed, the effects of policy change vary depending on the structural features of a society; that is, the extent of both income inequality and asset specificity. For income inequality, we use the *Standardized World Income Inequality Database* (SWIID) (Solt, 2009). The SWIID provides comparable Gini indices of income inequality for 171 countries from 1960, including more than 4,200 country-year observations. It thus provides much wider coverage than other data sources. We created a five-year moving average of Gini indices of gross income inequality. Similarly, we constructed a five-year moving average for asset specificity by adding together three fixed asset variables measured as percentages of merchandise exports: fuel, minerals and agricultural products. Because we hypothesize that policy change is more likely to cause a coup in a fixed asset and/or highly unequal society than in societies with neither of these features, we created a dummy variable for *society type*, which takes the value of one if a country's fixed asset exports exceeded 50% of its total merchandise exports, and/or if it was within the top 25% of income inequality.

Using a dichotomous variable has theoretical and methodological underpinnings. Our theory about coup risk is based on whether a given society is an unequal and/or fixed-asset society, and less so on a continuous measurement of the extent to which a society is unequal and/or asset specific. For example, if income inequality increases slightly but the society remains relatively equal, we do not expect that a policy change will make this society more susceptible to coups. Using this dichotomous variable also has a methodological advantage in the estimation of simpler models and for ease of interpretation of the results.

Our analysis controls for economic development, levels of democracy, military leader, and international environments. We measured economic development in terms of GDP per capita, and the country's level of democracy using Polity IV's 21-point polity scores. Scholars of the democratic peace thesis argue that the spread of democracy will reduce interstate conflict (Russett, 1993) and some even propose a decline in domestic conflict (Hegre et al., 2001). Many comparativists agree that democracies are more resilient to coups than autocracies (Lindberg and Clark,

2008), although some have pointed out that intermediate regimes are more prone to coups than democracies or harsh autocracies (Hiroi and Omori, 2013). In addition, coups are relatively common if the incumbent head of government is a member of armed forces. We thus include a dummy variable representing a military leader.

Finally, we take into consideration international factors that may have affected coups. First, as noted previously, coups were much more frequent during the Cold War. *Cold War* is a dummy variable taking the value of one for the period 1960–1991. Second, because coup conspirators may receive cues about acceptance by the world of coups from the frequency of coups across the globe, we estimate the models with the number of coups attempted in the world in a given year. Finally, although foreign aid is usually provided in the name of promoting democracy, some scholars have shown that it has an effect similar to that of the ‘natural resource curse’, contributing to political instability and hindering democratic institutions (Djankov et al., 2008). Hence, we control for the effects of foreign aid, operationalized as net official development assistance and official aid as a percentage of GNI.

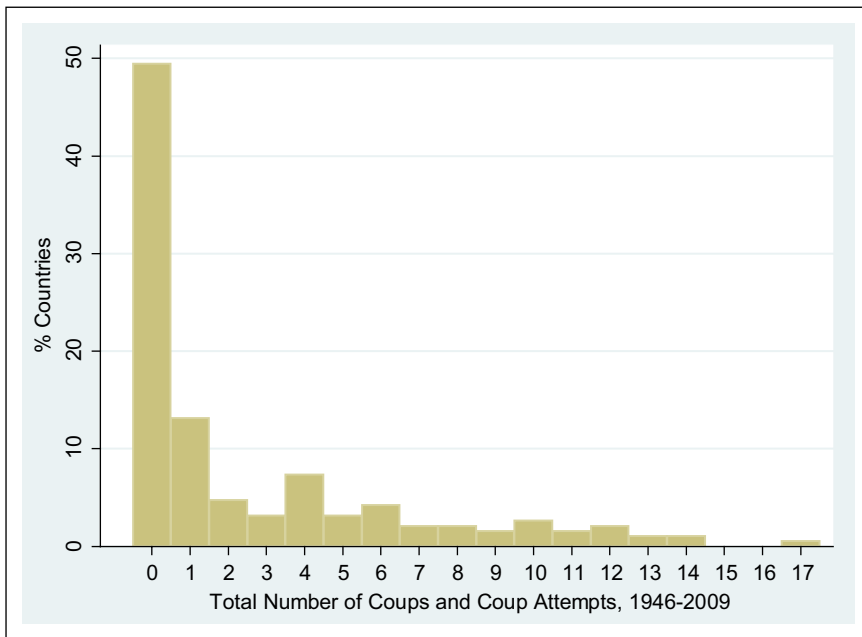
Our key structural variables, income inequality and asset specificity, are features of societies that are slow to change. As such, we do not expect an endogeneity problem between these and coups. We are also confident that two of our policy change variables, change to the left and change in financial openness, are relatively free from endogeneity problems.<sup>8</sup> However, change in cabinet size may be more susceptible because political leaders suspecting a coup may, for example, try to co-opt dissidents by granting ministerial positions. As a precaution, all time-varying covariates, except change to left,<sup>9</sup> are lagged by one year to reduce potential endogeneity problems.<sup>9</sup>

## Dependent variable and method

We use an event history analysis and examine coups as recurring events. Our dependent variable is the likelihood that a coup will occur at time  $t$  given that it has not occurred until  $t$ . Our theory, which emphasises motives, predicts the onset of a coup, not its outcome. Accordingly, if a coup was attempted at time  $t$ , our coding indicates that the country experienced a coup regardless of whether the coup was successful or not. Coups are coded on the exact date they were launched based on the *Coup d'état Events, 1945-2009* (Marshall and Marshall, 2010).<sup>10</sup> We analyse durations, in days, for which countries ‘survive’ without a coup. We did not code coup plots as coup events because reports of coup plots are notoriously incomplete and unreliable.

In our dataset of 190 countries, nearly 50% (94 countries) never experienced a coup between 1946 and 2009 (see Figure 2). This also means that coups are more common than one might believe: the data show that coups occurred in one in every two countries since the end of the Second World War. Furthermore, during this period coups occurred more than once in 70 countries, or 37% of the countries in the dataset. More than 20% of the countries experienced five coups or more since 1946 and 17 countries went through 10 or more coups. These data support what Londregan and Poole (1990) call a ‘coup trap’, the tendency of a society to suffer a coup repeatedly once it experiences such an event.

Theoretically, the coup trap thesis means that underlying coup risks are different across countries and that once a country experiences a coup, and with each subsequent coup it undergoes, its subsequent coup risk becomes greater. Methodologically, it means that each coup episode is not independent of prior coup events and our data analysis must take this into consideration. Using an event history analysis, we therefore model coups as repeatable events and analyse coup risk with a conditional gap time model (Box-Steffensmeier and Jones, 2004). In this model, the risk set at time  $t$  for the  $k$ th occurrence of an event is limited to those observations under study at time  $t$  that have already experienced  $k-1$  events. This means, for example, that a country is not at risk of a second



**Figure 2.** Percentage of countries by the number of coups and attempted coups between 1946 and 2009.

coup until it has already experienced a first coup. In practice, estimates are stratified by the number of prior coups. This model allows baseline hazards to vary depending on the number of prior events, but covariate effects are assumed to be constant across strata (Box-Steffensmeier and Jones, 2004: 160–161).

One of the advantages of using repeatable events models over other modeling strategies is the ability of the former to account for unobserved heterogeneity associated with varied coup experiences. In repeatable events models, events are not assumed to be independent; in other approaches, such as logit regression or non-repeatable events models, they are. Another advantage is that the stratification preserves the ordering of prior coups, while a non-stratified model disregards the importance of such ordering (Jones and Branton, 2005).

We use a Cox regression to estimate conditional gap time. Unlike other event history models, Cox regression allows us to estimate models without assuming a particular form of a baseline hazard function (Box-Steffensmeier and Jones, 2004).

The repeatable events model does not include prior coups as one of its covariates because the model is already stratified on the number of prior coups. As a check for robustness, we also estimated non-repeatable events models with a variable for prior coup episodes.

## Estimation results

Table 1 summarises the estimation results of repeatable events Cox regressions on the onset of a coup. Because of the availability of data on some of the independent variables, subsequent analyses utilize data on coups attempted since 1960 through 2007. As an indicator of policy change, Model 1 uses *change in cabinet size*; Model 2, uses *change to left*; and Model 3 uses *change in capital openness*. The tests of the proportional-hazards assumption on the basis of Schoenfeld



**Table 1.** Repeatable Events Event History Models of Coups.

	Model 1	Model 2	Model 3
Policy change			
Δ Cabinet size	-0.031 (0.026)	-	-
Δ to left	-	0.602 (0.511)	-
Δ Capital openness	-	-	0.041 (0.257)
Society type (unequal/fixed asset = 1)	-0.404** (0.164)	-0.204 (0.152)	-0.211 (0.157)
Δ Cabinet size*Society type	0.129*** (0.034)	-	-
Δ to left*Society type	-	0.110 (0.633)	-
Δ Capital openness*Society type	-	-	0.435 (0.348)
GDP per capita	0.001*** (0.0003)	-0.0002*** (0.0001)	0.001*** (0.0002)
GDP per capita*ln(t)	-0.0002*** (0.0001)	-	-0.0002*** (0.0004)
Military leader	0.198 (0.176)	0.395* (0.202)	0.446** (0.191)
Level of democracy	0.020 (0.012)	0.027* (0.015)	0.025 (0.015)
Cold war	0.928*** (0.233)	0.866*** (0.258)	0.888*** (0.249)
World coups	0.026 (0.024)	0.028 (0.028)	0.029 (0.026)
Foreign aid	0.017** (0.008)	0.017 (0.010)	0.018* (0.010)
N	4233	3310	3543
Log pseudo-likelihood	-541.602	-301.668	-360.215

Note: Models are stratified by the number of prior coups. Entries are coefficients and robust standard errors are in parentheses. \*\*\* $p < 0.001$ , \*\* $p < 0.05$ , and \* $p < 0.1$ . Two-tailed tests.

residuals indicated that GDP per capita has non-proportional hazards in some models, which we addressed by interacting the variable with a natural logarithm of time. Although the reason for interacting GDP per capita with log of time is a statistical solution, it has consequences for substantive interpretations (Licht, 2011). Negative coefficients of the interactive terms indicate declining effects of the constituent term over time, while positive coefficients signal increasing effects over time. Thus the coefficients of the constituent and interactive terms need to be interpreted with their time-varying effects being considered.

We discuss first our findings on control variables. Our analysis suggests that higher GDP per capita is associated with lower coup risk in all models, although the estimation results for Models 1 and 3 indicate that the initial effect of economic development is increased coup risk. However,

**Table 2.** Policy change, society type, and coups d'état.

	$\Delta$ Cabinet size	$\Delta$ to left	$\Delta$ Capital openness
Policy change given fixed assets/inequality = 1	0.089*** (0.025)	0.712** (0.319)	0.476* (0.261)
Policy change given fixed assets/inequality = 0	-0.031 (0.026)	0.602 (0.511)	0.041 (0.257)

even in these models, economic development begins to exert coup-reducing effects shortly thereafter.<sup>11</sup> Our models also show that *military leader* is generally associated with higher coup risk. On the other hand, we do not find consistent evidence that the levels of democracy, after controlling for the effects of other factors, have statistically significant effects on coup risk. Where the variable is statistically significant (Model 2), it shows coup-risk increasing effects. Some scholars (for example, Hiroi and Omori, 2013) have argued that the relationship between regime types and coup risks is non-monotonic. We can but speculate that this explains these results.

We also find evidence that *foreign aid* and *cold war* are associated with higher coup risk. This indicates that the foreign policies of powerful countries create international environments that significantly affect the domestic politics of various countries, contributing to this form of political instability. However, the frequency of the occurrence of coups globally does not have statistically significant effects.

Our primary interest is in the effects of policy change on a coup with regard to a nation's income distribution and production structure. The coefficients of policy change in all models are not statistically significant, no matter how policy change is measured. This means that, as predicted by the theory, policy change does not raise coup risk in a relatively equal society that does not rely heavily on asset-specific sectors. Negative coefficients of society type indicating unequal and/or fixed asset societies, although statistically significant only in Model 1, suggest that when there is no substantial policy shift, income inequality or fixed assets alone is likely to decrease coup risk. Lower coup risk in a fixed asset or unequal society in the absence of policy change is not unexpected given that coups come from those within the ruling class. In such a society we would expect to find a tightly knit, numerically small ruling class that collectively defends the status quo from which it benefits. That is also why a policy change in this environment is likely to be politically disruptive – because it will motivate the losing party to defend its interests vehemently.

The effects of policy change under conditions of inequality and/or fixed assets are assessed by examining the interaction and constituent terms. Because we cannot evaluate them directly from Table 1 (see Brambor et al., 2006), we calculated conditional coefficients of policy change and their standard errors when inequality or fixed assets equals the value of one, as shown in Table 2. Consistent with our hypothesis, the effect of change in cabinet size on coups in an unequal and/or fixed-asset society is positive and statistically significant. Other models yield similar results regardless of whether policy change is measured by the rise to power of leftists or change in capital openness.

These findings therefore indicate that considerable policy shifts, or the expectation of such shifts, in a society with a skewed income distribution and/or asset-specific production, increase that country's coup risk compared to the coup risk present in a relatively equal, flexible-asset society. Our findings also suggest that it is not inequality or asset specificity *per se*, but major policy shifts in an unequal and/or asset-specific society, that will prompt a coup. These findings are consistent across all the models using three different indicators of significant policy change.

Our findings also hold when these models are estimated with non-repeatable events Cox regressions with a prior coup variable (see online Appendices 2 and 3 at <http://ips.sagepub.com>). In all models of non-repeatable events, the number of the prior coup variable is positive and significant. That is, a country's prior coup experience increases the risk of another coup; and the more coups a society has experienced the greater is the likelihood that it will experience another coup.

Because the interpretation of the substantive effect of each coefficient in event history analysis is not straightforward, we examined marginal effects of statistically significant variables by calculating a percentage change in the hazard rate (see online Appendix 4 at <http://ips.sagepub.com/>). Change in the values of the covariates represents a movement from the minimum to the maximum value for continuous variables, and from zero to one for dichotomous variables.

Our calculation reveals that when cabinet size moves from zero (that is, there is no change in cabinet size) to 23, it raises the hazard rate by more than six-fold under the condition of high inequality and/or fixed assets. Similarly, when a change of government to the left occurs under these conditions, this political change increases the hazard rate significantly – by 104%. A major shift in capital control policy in a fixed-asset and/or unequal society also raises the hazard rate, by 370%. The coup-triggering effects of policy change in unequal and/or fixed-asset societies are both substantively and comparatively large. In fact, the effects of policy change are the largest in cabinet size and capital openness models and only second to that of the Cold War in the leftist government model.

To illustrate the effects of policy change more concretely, we consider the case of Costa Rica, a relatively equal, flexible asset society in Central America. President Miguel Ángel Rodríguez, pursuing neoliberal reforms, reduced his cabinet size by six upon assuming office in 1998. His reforms found strong opposition from various quarters, including resistance within his own party and on the streets. Despite strong opposition to his rule due largely to his highly unpopular reform agenda, Rodríguez served out his legal term. Had these policy changes occurred in a country such as Honduras, where the economic structure is highly unequal and asset specific, they would have significantly increased the risk of a coup taking place. According to our calculation, the same degree of change in the size of the cabinet would have elevated coup risk by about 40% if Costa Rica were an unequal or fixed-asset society.<sup>12</sup>

Another illustrative example is Ecuador. The military government led by General Rodríguez Lara in Ecuador called its regime 'nationalist and revolutionary' and pursued a series of reforms in the agrarian, oil and other sectors. The financial openness index devised by Chinn and Ito (2008) indicates that the government also closed the country's capital accounts in 1974, resulting in a substantial decline in its capital openness index. The policies and the government of Rodríguez Lara met with significant opposition from the established elites. In September 1975, a coup was attempted against the government, but it failed. The second coup, in January 1976, was successful in removing Lara. At that time, Ecuador was a highly unequal, oil-exporting country in Latin America. Had Ecuador been a relatively equal, flexible-asset society, its coup risk at that time would have been about 10% lower than it actually was. At first glance, a 10% reduction in coup risk may not seem very large, but considering other international and domestic factors surrounding Rodríguez Lara at the time, which already elevated the country's coup risk, even a 10% reduction in the risk could have meant a crucial reduction in the actual risk for the general – it could have affected the tipping point of whether a coup would occur or not.

To summarize, our findings demonstrate that major policy shifts, or the expectation of such shifts, raise coup risk in fixed asset and/or unequal societies but not in equal, flexible-asset societies. Furthermore, asset specificity and inequality are not themselves factors for higher coup risk. Rather, it is the policy shift that occurs in an asset-specific and/or unequal society that elevates

coup risk. We also found that the magnitude of the increase in coup risk resulting from major policy change in fixed-asset and/or unequal societies is quite large. In fact, it is much larger than the well-known effects of economic development.

## Discussion

Our study provides a valuable insight into ‘coup traps’ (Lehoucq and Pérez-Liñán, 2013; Londregan and Poole, 1990) and illuminates the reasons why certain countries, such as Bolivia, have experienced so many coups and counter-coups. Bolivia, perhaps the world’s record holder with regard to the number of coups experienced, is also a country characterized by a highly skewed distribution of income and a production structure dominated by asset-specific production activities based on natural resource extraction and agriculture. Coups often bring about radical changes in policy. Therefore when coups take place in societies where the members of the ruling class have large stakes in maintaining the status quo as a result of acute inequality or asset-specific production structure, the losers from the coups will be strongly motivated to stage counter-coups, causing vicious cycles of coups and counter-coups.

Our theory and findings also have implications for Huntington’s (1968) discussion of different types of coups expected to occur at different stages of development. Huntington argues that in praetorian societies where a mass society looms on the horizon, the military plays a guardian role, vetoing the accession to power of the popular class or reform movements, or deposing populist incumbents who promote radical policies. Our theory resonates well with the soldier-as-guardian argument.

We would argue that our study can explain why there are fewer reformist coups in oligarchical praetorian societies. It also sheds light into why reformist coups are often followed by immediate counter-coups, or more coups some time later. In the post-reformist coup environment, many diverging interests, old and new, compete for influence over policy. The factions of the elites that are dissatisfied with the post-coup regime attempt to create or restore an order they regard as acceptable. Thus, reformist coups tend to invite another coup until a new order is consolidated.

Stated differently, reformist coups tend to create what Svobik (2012) calls ‘contested autocracy’ if it leads to a non-democratic government, where a dictator and other members of the ruling elite struggle for power. Even if a reformist coup results in a democratic government, internal struggle for power among the elites is likely to continue. Competition for power in a post-coup state is likely to be intense in highly unequal and/or fixed-asset societies because, as we have discussed throughout this article, the stakes are so large that no member of the elites can afford to lose.

## Conclusion

This article examines the causes and timing of coups by developing a theory that emphasises structural characteristics of societies and the effects of policy change under such conditions. In our model, coups are more likely to occur in times of significant policy change, or expectation thereof, in highly unequal societies and in places where specific asset sectors prevail in economic production. Our analysis of coups occurring between 1960 and 2007 indicates that the risk that a coup will be attempted rises considerably during a period of significant policy change in a society with a skewed distribution of income and/or asset-specific production in such areas as oil, minerals, and agriculture. However, coup risk will not increase if a policy change occurs in a relatively equal, flexible-asset society. Our analysis also indicates that coup risk is not particularly high even in a specific asset or unequal society in the absence of a major policy change. Thus it is the combination of a major policy change implemented in a specific asset or unequal society that elevates coup risk.

The theory and findings of this study not only help in understanding the timing and the conditions under which coups occur but also shed light on the phenomenon called ‘coup traps’. In addition, we believe that our study carries important policy implications for international communities and policymakers who make efforts to establish democracy in resource-rich countries or highly unequal societies. Our analysis indicates that a radical departure from the status quo may precipitate a coup. Furthermore, once a coup is attempted in such a society, that society becomes more susceptible to coups in the future. In such societies, policies aimed at rapid economic modernisation or considerable redistribution of wealth may be appealing; but, from the standpoint of avoiding coups and coup traps, a gradual, incremental policy reform may be more recommendable and preferable than a radical policy change.

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### Notes

1. We refer to specific assets and fixed assets interchangeably.
2. We do not claim that economic interests are the only sources of grievances and tensions in polarized societies. Rather, the distribution of resources and wealth tends to be an important part of such conflict.
3. Although these studies provide useful frameworks for analysing the structural conditions for regime change, they do not examine coups against governments and individual political leaders.
4. This is not to say that all natural resource-rich countries are governed by autocratic leaders or suffer political instability. As discussed, the literature also emphasizes how dominant the land-based activities are in the overall scheme of economic production. For example, the United States has abundant natural resources but natural resource extraction is only a part of its overall economic activity.
5. The effects of the Cold War on coups are well-documented in previous studies (see, for example, Muller, 1985; Gasiorowski, 1987). In the post-Cold War period, US foreign policy shifted towards promoting democracy and defending human rights (Meernik et al., 1998).
6. The mean annual change in cabinet size by region is as follows: Asia 0.31, Europe 0.01, the Middle East 0.33, Africa 0.35 and the Americas 0.18. Thus, while the Americas and, particularly, Europe have, on average, the lowest average changes in cabinet size, cabinet reforms occur in all regions. The European region’s low average size change is not surprising because radical policy swings are rare in advanced industrial democracies. Hence, the use of cabinet size change as a proxy for major policy change also has intuitive support.
7. Chinn and Ito’s index of financial openness is based on the International Monetary Fund’s Annual Report on Exchange Arrangements and Exchange Restrictions, which generates certain measurement problems common to this type of data (see Quinn et al., 2011). Despite the shortcomings, because Chinn and Ito’s index is an extensive indicator of financial openness with the widest country and year coverage that is publicly available, we use this index.
8. Theoretically and intuitively, putting leftists in government in order to have a coup makes little sense. Post-coup governments may change the levels of financial openness, but this kind of endogeneity problem can be dealt with by lagging the values of the variable, which we do.
9. In the Database of Political Institutions, the executive’s party affiliation is coded based on the information as of 01 January of each year.
10. We coded the removal of Honduran President José Manuel Zelaya in 2009 as a coup, even though it is not coded as a coup in the Marshall and Marshall database. Despite the debates about the constitutional

validity of the event, soldiers storming into the presidential palace early in the morning, waking the president, putting him, still in his pajamas, onto an aircraft bound for another country, and the president of the congress quickly assuming the position of an interim president, is an illegal and forceful seizure of the executive office. This coding decision does not affect our econometric analysis because the regression analyses use data only through 2007.

11. According to our calculations, the effects of economic development on coup risk change from positive to negative on the 148th day.
12. We calculated the percentage change in the hazard rate by setting the values of the independent variables at the levels observed for Costa Rica in 1999, and by changing the value of society type from zero to one.

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