The Military, Wealth and Strategic Redistribution

Gabriel J. Leon*
London School of Economics

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Abstract

Why do some developing world democracies redistribute too much at the expense of investment and output ("left-wing populism"), while others allow high levels of inequality to persist or even increase over time ("neo-liberalism")? Neither of these policies is consistent with a median voter who sets taxes by trading-off deadweight losses with the value of higher transfers. We argue that a group’s ability to influence policy depends on its wealth, and so is endogenously determined by past redistribution. This implies a strategic motive for redistribution, since taking money away from other groups decreases their ability to influence future policy. We develop this argument in a model where the poor and the rich disagree over the level of redistribution, and the military serves as a channel for converting each group’s wealth into influence. Populism arises when the poor respond to the strategic motive for redistribution, while neo-liberalism results from the rich using their wealth to limit it. Since populism often creates distortions that result in low long-term growth, our results suggest a role for the military in explaining the disappointing economic performance of many new democracies. We conclude by discussing Hugo Chavez’s policies in Venezuela in light of our findings.

Keywords: military, coup d’etat, redistribution, inequality

JEL: H3, H5

*Address: STICERD, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, United Kingdom.
"[P]opulism is rooted in the distributive political struggles that have characterized Latin America since the beginning of the century. Although such redistributive struggles are ubiquitous in the region, variations in institutional arrangements across countries and time periods determine the extent to which they are expressed through populist policies."
(Kaufman and Stallings, 1990)

1 Introduction

Some developing world democracies engage in redistribution that is excessive and generates substantial deadweight losses, yet others adopt redistributive policies that are inadequate and allow high levels of inequality to persist or even increase over time. The news media often associates the first of these policies with left-wing populism, where very high levels of redistribution typically increase short-run consumption, but at the expense of private investment and future output. Nowhere have these policies been more common than in Latin America; those of Hugo Chavez in Venezuela and Evo Morales in Bolivia are two of the most recent examples. The second type is often associated with neo-liberalism, and generally involves market-friendly policies and the absence of government initiatives to redress inequality. In Latin America, policies of this type were implemented in the 1990s following the Washington Consensus. As suggested by the policies of Hugo Chavez in Venezuela, Evo Morales in Bolivia, Rafael Correa in Ecuador, and Daniel Ortega in Nicaragua, along with the political platforms of Ollanta Humala in Peru and Andres Manuel Lopez Obrador in Mexico, populism has once again returned to Latin America.

It is generally acknowledged that populist and neo-liberal policies have political, rather than economic, goals. Standard political economy frameworks cannot satisfactorily explain these policy choices, however. The reasoning behind models of the median voter like those in Meltzer and Richard (1981), Alesina and Rodrik (1994) and Persson and Tabellini (1994), where the tax rate is determined by a median voter who trades off transfers and deadweight losses, would generally predict that higher inequality would result in greater redistribution. This is in direct opposition to what happens during neo-liberal episodes. Furthermore, explaining populism would require that the median voter be willing to impose substantial deadweight losses on the economy, and it is unclear

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1Our use of "populism" and "neo-liberalism" reflects the colloquial usage of these terms, rather than their precise definitions. We define exactly what we mean by these terms when we describe the model.
2This requires that an increase in inequality translates into an increase in the mean income or wealth relative to the median.
why this may be optimal. The theory of lobbies would not explain how the poor manage to influence policy towards such a destructive outcome, or why they would choose to do so in the first place.

This paper presents a framework that can explain why such policies arise in practice. It is based on a simple but important observation: money is a central determinant of a group’s ability to influence policy. This is particularly true in the developing world, where from buying judges and newspaper editors, to fixing elections, bribing regulators, and enlisting the support of military officers for a rebellion, wealth can provide the rich with more voice over policy than democracy’s intended "one-man-one-vote." This has the fundamental implication that redistribution not only re-allocates money, but it also re-allocates the ability to influence policy in the future. This endogeneity means that there is a strategic motive for redistribution: by taking money away from a group, its future ability to oppose policy is diminished. Concern over the relative influence of other groups may thus be a central factor in determining how much redistribution each particular group favors.

One way in which money can affect a group’s influence is that it may allow it to drive a government out of office. The threat of doing so can then be used to influence policy. We focus on one specific method for removing governments that is particularly relevant for the developing world: the coup d’etat. Money is required to buy the support of members of the armed forces for such a plot, and many well-known coups have in fact been aimed at removing governments that threatened the interests of the rich, including Franco’s 1936 coup in Spain, Pinochet’s 1973 coup in Chile, and the 2002 attempted coup against Chavez in Venezuela.

We construct a simple model with two groups, for simplicity labelled the rich elite and the poor masses. The poor are assumed to be more numerous and so in control of the government, which gives them the right to set taxes. We think of taxes as a proxy for redistribution, but we have in mind any policies with redistributive effects. The rich can stage a coup to try to gain control of the government and avoid paying taxes. A failed attempt is costly, so they will only stage a coup if its probability of success is sufficiently high: its expected value must be greater than the value of doing nothing. When setting the tax rate, the poor must take into account the possibility that a high rate, by reducing the value for the rich of doing nothing, may trigger a coup. This has the effect of potentially constraining the tax rate that is chosen.

We assume that a coup’s probability of success depends positively on wealth inegal-
ity, which reflects the idea that money will be important in determining who succeeds in a coup. We also assume that it is increasing in the military’s bias in favor of the rich, allowing the military’s preferences to impact on this probability. This bias may be derived from both the personal backgrounds and experiences of military officers, as well as their common training in the military academy. Through their effect on a coup’s probability of success, the degree of inequality and the preferences of military officers determine the extent to which the rich may influence policy.

Taking into account the importance of wealth inequality in determining political influence introduces two considerations into the tax decision. First, taxes may be constrained by the opposition of the rich, who may use their resources to enlist the help of the military and threaten a coup. This may force the poor to set low taxes, and potentially give rise to neo-liberalism. Second, the poor will consider the effect of taxes on the future distribution of wealth, and by implication, on their own future ability to set taxes. This can give rise to populism: very high taxes, by reducing the future wealth of the rich, increase the poor’s ability to set future taxes. In the case study at the end of the paper we argue that Hugo Chavez’s policy choices in Venezuela can be rationalized through this reasoning.

We find that when inequality is low, so that coups generally fail, their threat places no constraint on taxes. The strategic incentive is weak and taxes are set largely based on the tax base effect: low taxes allow the rich to accumulate wealth, which by increasing the future tax base allows for higher tax receipts tomorrow. When inequality is high, coups become a genuine concern and the tax rate will be constrained by their threat. This provides a rationale for setting taxes as high as possible (conditional on not triggering a coup): high taxes lower the future wealth of the rich, decreasing the probability that a coup tomorrow is successful and relaxing future constraints on taxes. We refer to the fact that higher taxes today may allow for higher tax rates tomorrow as the tax rate effect.

The military’s bias in favor of the rich is instrumental in determining whether populism or neo-liberalism arise. The greater this bias, the lower the level of inequality for which taxes will be constrained. It also causes the preferred rate of the poor to be greater, as they must further reduce the wealth of the rich to keep them from blocking future policy. This potentially gives rise to more excessive populism. Additionally,

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4 Acemoglu and Robinson (2001, 2005) also show that the tax rate may be constrained by the threat of a coup. The key difference is that we take this constraint to be endogenous. We discuss this in more detail in the next section.

5 This reflects the assumption that in the short-run the rich are more productive than the poor. We discuss this in more detail when we present the model.
this may explain why populism is so common in Latin America, where the military has generally had an intrinsic bias in favor of the economic elites.

This paper makes three contributions. First, it provides an explanation for the extreme redistribution policies implemented by many developing world democracies. There has been a substantial amount of recent work addressing the causes of the increasing inequality (and implicitly low redistribution) seen around the developed world; yet this is the first paper, as far as we know, that deals explicitly with the issue of excessive redistribution as seen under populism. Populism is puzzling because it is generally very destructive. We show that it is not necessary to rely on the poor having a high discount rate or exhibiting some form of irrationality to explain these policies: the institutional constraints under which developing democracies operate may create the incentives for their adoption.

Our second contribution is taking a first step towards thinking about influence activities in a dynamic setting. The vast literature on lobbies has mostly worked in a static setting. Yet it is realistic to think that each group’s ability to influence future policy depends on the outcome of current policies, and so forward-looking agents will incorporate this into their decisions. Our model suggests that the strategic motive that arises from this dynamic component can be an important determinant of the level of redistribution that is chosen in equilibrium.

The third contribution is in providing a better understanding of the potential impact of the military on economic policy. We have shown the importance of the military’s bias in allowing different groups to influence policy decisions. Although the literature has emphasized other channels (in particular, the role of bribes or campaign contributions), in the developing world the threat of a coup is a widely used and very effective pressure mechanism\textsuperscript{6}. Although the military is an important political institution that has traditionally played a central role in policy-making, it has received surprisingly little attention from economists. We have shown that it is possible that it plays an important role in the failure of new developing democracies to adopt better policies.

We should note that the central idea in our framework, that a policy that benefits one specific group increases its ability to influence future policy, is more general than the context to which we have applied it. It could be used, for example, to address the question of why policies tend to persist even when the original rationale for their introduction has disappeared. Coate and Morris (1999) argue that a policy can induce firms to make sector-specific investments, which in turn raise their incentives to defend

\textsuperscript{6}Dal Bo and Di Tella (2003) present a model where an interest group can influence policy by threatening politicians; we discuss this paper in more detail in the next section.
the policy. Our analysis suggests that those who benefit may not have been able to push for those policies, but that once they are in place they generate the resources that allow the group to keep them from being removed.

The rest of this paper is organized as follows: Section 2 reviews the related literature, Section 3 presents the model, and Section 4 solves for the equilibrium. Section 5 discusses the role of the military, Section 6 illustrates our results with a discussion of Hugo Chavez’s government in Venezuela, while Section 7 concludes. The proofs are in the appendix at the end of the chapter.

2 Related Literature

This paper is closely related to the literature on democratic transition and consolidation that originates with the work of Acemoglu and Robinson (2001, 2005). Like them, we focus on the conflict between two groups and show that the threat of a coup by the rich may constrain the taxes set by the poor. Yet our paper differs from the work of Acemoglu and Robinson in a number of important respects. First, we focus on how inequality may affect the ability to influence policy, letting the constraint on taxes be a function of inequality. Since inequality is itself a function of taxes, the constraint becomes endogenous. This has important consequences for the taxation decision: the tax must take into account its effect on future constraints, and hence on the future ability to set taxes. It is this endogeneity that allows us to explain neo-liberalism and populism.

Second, we consider how the military’s bias in favor of one group may affect this constraint. Although a technically trivial component of the model, it highlights the importance of the military as a channel for converting money into influence over policy. In doing so, it captures how military characteristics may explain cross-country differences in redistribution policy. For example, it rationalizes why Latin American countries, where the military has traditionally been biased in favor of the economic elites, have been so prone to populism.

This paper takes as its starting point the literature on the political economy of redistribution, which includes Meltzer and Richard (1981), Alesina and Rodrik (1994), and Persson and Tabellini (1994). We deviate from the median voter paradigm on which these papers are based, and focus on the connection between wealth and the ability to set taxes. We argue that the median voter may be unable to set the tax rate she desires because of the threat of a coup. Furthermore, her tax decision may reflect her concern for how redistribution affects the future policy constraints she faces.
Our work also exhibits important similarities with the literature on special interest groups and lobbying, which includes Becker (1983) and Grossman and Helpman (1994, 1996). In their papers, as in ours, groups may differ in their ability to influence policy. There is a fundamental difference, however: we allow this ability to be endogenous, and to depend on previous redistribution policy. This introduces an important component of forward-lookingness into the policy setting decision, which occupies a substantial portion of our analysis. In Becker (1983) and Grossman and Helpman (1994, 1996) the ability to influence policy is exogenous. A second difference is that in our model influence takes place through the (potentially tacit) threat of a coup, rather than through contributions. Dal Bo and Di Tella (2003) present a model where powerful groups may choose to influence politicians through threats, including coup d’etats. Again, they do not explicitly consider how the ability to influence policy (i.e. stage a coup) may be endogenous, and how this endogeneity may in turn affect policy choices.

This paper shares some similarities with the recent literature on the origin of institutions. Besley and Persson (2007) show that when economic institutions serve to constrain policy, the decision of how much to invest in developing institutional capacity is forward-looking: today’s investment must take into account how useful those constraints will be in the future. This is similar to our argument that the choice of a tax today may reflect its effect on the future constraint on taxes. Our paper differs in a number of important respects, however. Most notably, rather than explain the origin of the constraints, we focus on how the fact that these constraints exist and are endogenous may affect tax policy. This reflects our interest in explaining redistribution patterns, rather than the institutional setup of a country.

Finally, there is very little work in economics on the military and its potential impact on the economy. In this paper we have assumed a reduced form military, yet it is clear that a better understanding of what motivates the military is necessary. Two recent papers by Besley and Robinson (2006) and Leon (2007) provide micro-foundations for the military’s behavior. Besley and Robinson (2006) look at the armed forces as a unified player with policy preferences over military expenditures and public goods. Leon (2007), in an empirical study, finds that a country is more likely to experience a coup when its military expenditures are low, suggesting that money motivates the military to intervene (see Chapter 3).
3 Taxation and Coups

3.1 Definitions: Populism and Neo-liberalism

The terms populism and neo-liberalism are widely used in the popular press and everyday conversation, and their intended meaning can vary considerably depending on the context. However, populism generally refers to "too much" redistribution, while neo-liberalism involves "too little." We measure this with respect to the optimal tax rate that results from the poor solving a simple intertemporal optimization problem, where they weigh off the benefits from increased income against the cost of collection, both administrative and in terms of intertemporal distortions. We then say that a redistribution policy is populist when it involves a tax rate above the one given by the benchmark, while it is neo-liberal when the tax rate is below that level.

3.2 The Model

There are two groups, the poor (P) and the rich (R), that live for two periods \( t \in \{1, 2\} \). At the end of period \( t \) the poor hold total wealth \( k_p^t \), while the rich have \( k_r^t \); at the beginning of period 1 they hold initial wealth \( k_p^0 \) and \( k_r^0 \). All members of a group are homogeneous, there is no population growth, and the poor are assumed to be more numerous. We measure wealth inequality as the ratio of the total wealth of the rich to that of the poor:

\[
I_t = \frac{k_r^t}{k_p^t}
\]

We assume groups only value the wealth they hold at the end of each period, and that there is no consumption\(^7\). Their utility is then given by

\[
u(k^t_1, k^t_2) = k^t_1 + \beta k^t_2
\]

for \( i = p, r \)

where \( \beta \leq 1 \) is a discount factor.

We assume that the poor are in power at \( t = 1 \), and that this allows them to set the tax rate \( \tau_1 \) at the beginning of period 1. This captures the idea that in democracy the poor, who are more numerous, will elect the government and set redistributive policy (see Acemoglu and Robinson (2001, 2005)). Collecting taxes is costly, where the cost is

\(^7\)We are essentially assuming that groups derive utility from holding inventories; see, for example, Adda and Cooper (2003, p. 20).
given by a continuously differentiable function $C(t) : [0, 1] \rightarrow [0, 1]$ where

\[
\begin{align*}
C(0) &= 0 \\
C'(0) &= 0 \\
C'(1) &= 1 \\
C'(\cdot) &\geq 0 \\
C''(\cdot) &> 0
\end{align*}
\]

Only the rich pay the tax, and the poor accumulate the net proceeds\(^8\). This amounts to assuming that both taxes and transfers can be targeted. This is unlike most of the literature, where taxes are proportional but transfers are lump-sum. We should note that we are not claiming that all redistribution can be targeted, but rather that there are some forms that can. Taxes on housing property used to build infrastructure in the slums are one example: slum dwellers do not pay the tax because they do not own the property, while those outside the slums are unlikely to benefit from the improved infrastructure.

The rich must decide whether to stage a coup d’etat. A coup in period $t$ succeeds with probability $\sigma(\gamma I_{t-1})$, where $I_{t-1}$ measures wealth inequality at the beginning of period $t$. The parameter $\gamma$ measures the military’s bias in favor of the rich: a larger bias translates into a greater probability of success, for the same level of inequality. We further assume that $\sigma(\cdot)$ is continuously differentiable and

\[
\begin{align*}
\sigma(0) &= 0 \\
\sigma'(0) &\geq \beta A^2 \\
\sigma'(\gamma A I_1) &< 1 \\
\sigma'(\cdot) &\geq 0 \\
\sigma''(\cdot) &> 0
\end{align*}
\]

so that the probability of success is an increasing and strictly convex function of inequality. The second line ensures that $\beta A^2 \leq \sigma'(\cdot) \leq 1$, where $A I_1$ is the maximum inequality possible in any period.

If a coup is staged at time $t$, we assume that taxes are not collected in that period or the next, and that no second coup can take place in that period. Coups are costly, and we reflect this by assuming that the loser experiences the destruction of a proportion $1 - \delta$ of its wealth. This is a very simple setup that captures the essence of what the rich can achieve by staging a coup: they can avoid paying taxes, but at the risk of losing and experiencing a destruction of $1 - \delta$ of their wealth. This is the "defensive" motive for coups. We have explicitly left out the second benefit that coups may bring: they may

\(^8\)We constrain the tax rate to be $0 \leq \tau_t \leq 1$, so that no transfers from the poor to the rich may take place.
allow the rich to take over the government and tax the poor. Our assumptions rule out this "expropriation" motive, and we focus entirely on the "defensive" aspect of coups. Case study evidence shows that coups are often triggered when the interests of the elite are threatened, suggesting that the defensive motive is quite important in practice.

We assume that a coup can only take place if the rich support it; in particular, the military cannot stage a coup independently. Political science provides a large number of examples in support of the view that the military relies on certain civilian groups to come to and stay in power. For example, the collapse of the Argentine dictatorship (1976-1983) is often attributed to its loss of support from the business elite following years of economic mismanagement. Similarly, Trinkunas (2005) explains that the military recognized the election of Romulo Betancourt as president of Venezuela in 1958 only after the business federation emphatically expressed its opposition to any intervention by the armed forces.

We assume that wealth grows at a (normalized) factor of 1 for the poor and $A$ for the rich, with $A > 1$. The parameter $A$ measures the difference in productivity between the rich and the poor, with the rich being more productive. This difference may arise because of differences in education, for example. In the absence of redistribution, it follows that

$$k_{t+1}^r = Ak_t^r, \quad k_{t+1}^p = k_t^p$$

and

$$I_{t+1} = AI_t$$

Inequality increases in the absence of redistribution.

We place the following constraints on the parameters of the problem:

**Parameter Assumption 1:** $\beta A < 1$. This is a standard assumption.

**Parameter Assumption 2:** $\sigma(\gamma AI_t) \leq 1$. This assumption allows us to avoid having to place an explicit constraint on $\sigma(.)$.

### 3.2.1 Timeline

**Period 1**

1) Each group receives its initial wealth $k_0^i$ for $i = p, r$.

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*Naturally, in practice coups are sometimes staged by the military without any support from the elites; we abstract from that possibility in order to focus on the strategic interaction between the rich and the poor.*
2) The poor announce the tax rate $\tau_1$.

3) The rich decide whether to stage a coup:
   a) If no coup is staged:
      i) Taxes are collected
   b) A successful coup is staged:
      i) The poor lose a proportion $1 - \delta$ of their wealth
      ii) The rich take control of the government
   c) A failed coup is staged:
      i) The rich lose a proportion $1 - \delta$ of their wealth
      ii) The poor retain control of the government

4) Production takes place

**Period 2**

1) Each group receives $k_i^1$ for $i = p, r$.
   a) If no coup was staged in period 1, the poor announce the tax rate $\tau_2$,
      the rich decide whether to stage a coup, and the payoffs are as in period 1.
   b) If a coup was staged in period 1, production takes place.

4 Equilibrium Taxes and Inequality

4.1 Benchmark Case

We begin by assuming the rich cannot stage coups and characterize the optimal tax rates $\bar{\tau}_1^b$ and $\bar{\tau}_2^b$ set by the poor. The problem for the poor can be written as:

$$\max_{\tau_1, \tau_2 \in [0, 1]} k_1^p + \beta k_2^p$$

$$0 \leq \tau_1, \tau_2 \leq 1$$

Using the fact that $k_1^p = k_0^p + (\tau_1 - C(\tau_1)) k_0^r$, $k_2^p = k_1^p + (\tau_2 - C(\tau_2)) k_1^r$ and $k_1^r = A(1 - \tau_1) k_0^r$, we can write the problem as follows:

$$\max_{0 \leq \tau_1 \leq 1} \left\{ (1 + \beta) (k_0^p + (\tau_1 - C(\tau_1)) k_0^r) + \beta \max_{0 \leq \tau_2 \leq 1} [(\tau_2 - C(\tau_2)) A(1 - \tau_1) k_0^r] \right\}$$

(3)

This is a standard two period optimization problem where the poor must decide how much to tax today and how much to leave to be taxed tomorrow. The tax in period 1 brings a benefit of $\tau_1$ at a convex cost of $C(\tau_1)$, but causes the future taxable wealth
of the rich to decrease. We call this the \textit{tax base} effect: a higher tax today reduces the wealth on which the tax is levied tomorrow. Leaving the money in the hands of the rich for an extra period allows the poor to benefit from their higher productivity $A$.

We begin by solving for $\tau_2^b$. It is straightforward to see that the first order condition is given by

$$ (1 - C' (\hat{\tau}_2^b)) A (1 - \tau_1) k_0^r = 0 $$

so that $\hat{\tau}_2^b = 1^{10}$. We can then rewrite (3) as follows:

$$ \max_{0 \leq \tau_1 \leq 1} (1 + \beta) (k_0^b + (\tau_1 - C (\tau_1)) k_0^r) + \beta (1 - C (1)) A (1 - \tau_1) k_0^r $$

(4)

The first order condition for this problem is

$$ C' \left( \frac{\tau_b^b}{\tau_1^b} \right) = 1 - \frac{\beta A}{1 + \beta} (1 - C (1)) $$

(5)

\textbf{Lemma 1} \textit{There exists a unique $0 < \tau_b^b < 1$, and it is decreasing in $A$ and $\beta$.}

When the rich are more productive (higher $A$), it is optimal for the poor to leave a larger proportion of wealth in their hands, since they can take advantage of this greater productivity by taxing the rich in period 2. When the poor are more patient (higher $\beta$), it is also optimal for them to leave a larger proportion of the wealth to be taxed in the future, for the usual reasons.

Although $\hat{\tau}_1^b$ is \textit{not} a function of inequality, initial inequality will determine whether $\hat{\tau}_1^b$ causes inequality to increase. In fact, setting $I_1 > I_0$ and solving, we find that inequality will increase whenever it is low, as given by

$$ I_0 < A \left( 1 - \frac{\tau_b^b}{\hat{\tau}_1^b} \right) - 1 $$

and decrease otherwise. In short, high inequality will tend to fall like in the standard median voter models of redistribution. Here, however, the effect is not due to the impact of inequality on the equilibrium tax rate. Rather, the tax rate remains the same, so the amount that is redistributed increases with inequality. This, in turn, increases the proportion of the economy that is transferred to the poor. When inequality is large, this transfer offsets the push towards even greater inequality induced by the differences

\footnote{We show later that that $\hat{\tau}_1^b < 1$.}
in productivity $A$. (Greater inequality also implies that the proportion of the economy
that is being destroyed as a consequence of redistribution, $C\left(\tau^h_1\right) k^c_0$, is larger.)

In practice, this setup is unrealistic because it assumes that the poor are free to
set their preferred tax rates in every period. This is unlikely to be the case, as the
rich may use their resources to oppose redistribution. This makes a strategy of leaving
money in the hands of the rich to take advantage of their greater productivity potentially
dangerous: this money might allow the rich to block future redistribution. We model
this possibility in the next section by allowing the rich to stage a coup d’etat in response
to the tax set by the poor, and characterize populism and neo-liberalism as deviations
from the period 1 tax rate $\tau^h_1$.

4.2 Populism and Neo-liberalism

4.2.1 Period 2

The poor set a tax rate $\tau_2$ and the rich decide whether to stage a coup. If the rich stage
a coup, it succeeds with probability $\sigma (\gamma I_1)$. A coup will not take place if

$$A (1 - \tau_2) k^c_1 \geq A \sigma (\gamma I_1) k^c_1 + A (1 - \sigma (\gamma I_1)) \delta k^c_1$$

This is the period 2 no coup constraint. The left hand side is the value of not staging
a coup, while the right hand side is the expected payoff from doing so. Notice that the
period 2 tax rate only affects the left hand side. Solving for this rate,

$$\tau_2 \leq (1 - \delta) (1 - \sigma (\gamma I_1)) \equiv \tau_2$$

This is a purely defensive constraint: the rich stage a coup to avoid paying taxes, even
if at the risk of failing and losing a proportion $1 - \delta$ of their wealth. Notice that as
the probability of success increases, the constraint tightens. This will be the case when
either inequality or the military’s bias increases, reflecting how these factors may impose
a tighter constraint on the policies the poor can choose. In particular, we have that
$\tau_2 (\tau_1) > 0$; a higher tax rate, by decreasing inequality, relaxes the constraint faced in
the next period. Finally, as the destructiveness of a failed coup $1 - \delta$ increases, the
constraint is relaxed.

The problem for the poor in period 2 is then

$$\max \left(1 - \sigma (\gamma I_1)) k^p_1 + \sigma (\gamma I_1) \delta k^p_1, \max_{0 \leq \tau_2 \leq \tau_2} k^p_1 + (\tau_2 - C (\tau_2)) k^c_1 \right)$$

(6)
where they must choose between triggering a coup and obtaining the expected payoff in the first entry of (6), and setting a tax rate that fulfills the no coup constraint and receiving the payoff in the second entry. Notice that the first entry is always less than or equal to the second (this follows from $(1 - \sigma (\gamma I_1)) k^D_2 + \sigma (\gamma I_1) \delta k^P_1 \leq k^P_1$), so that there will be no coups in period 2. The problem then simplifies to

$$\max_{0 \leq \tau_2 \leq \bar{\tau}_2} k^P_2 + (\tau_2 - C (\tau_2)) k^P_1$$

If we ignore the constraint on taxes, it is straightforward to see that the first order condition for this problem implies that the optimal tax rate is $\tau_2 = 1$. Furthermore, the second order condition $-C''(\tau_2)k^P_1 < 0$ is always fulfilled, and so we know that the constraint $\tau_2 \leq \bar{\tau}_2$ will bind. The following lemma summarizes these results:

**Lemma 2** The optimal tax rate in period 2 is given by $\tau_2 = \bar{\tau}_2 = (1 - \delta) (1 - \sigma (\gamma I_1))$.

### 4.2.2 Period 1

In this period the poor must set $\tau_1$ and the rich must decide whether to respond by staging a coup. If they stage a coup, the rich do not have to pay taxes again. If the coup fails, however, they experience a proportional loss of $1 - \delta$ of their wealth. It follows that they will not stage a coup if

$$A (1 - \tau_1) k^r_0 + \beta A^2 (1 - \bar{\tau}_2) (1 - \tau_1) k^r_0 \geq \sigma (\gamma I_0) \left[ Ak^r_0 + \beta A^2 k^r_0 \right] + (1 - \sigma (\gamma I_0)) \left[ A\delta k^r_0 + \beta A^2 \delta k^r_0 \right]$$

This is the period 1 no coup constraint. The left hand side is the value of not staging a coup, while the right hand side is the expected payoff from doing so. Notice that the period 1 tax rate only affects the left hand side; it enters both directly and through its effect on $\bar{\tau}_2$. Since $\bar{\tau}'_2(\tau_1) > 0$, coups will be avoided if $\tau_1 \leq \bar{\tau}_1$, where $\bar{\tau}_1$ is the solution to

$$(1 - \bar{\tau}_1) \left[ 1 + \beta A (1 - \bar{\tau}_2) \right] = [\delta + \sigma (\gamma I_0) (1 - \delta)] [1 + \beta A]$$

**Lemma 3** $\tau_1 (I_0)$ is strictly decreasing in initial wealth inequality $I_0$.

An increase in initial inequality increases a coup’s probability of success, and so decreases the tax rate the rich will tolerate. (It also decreases $\bar{\tau}_2$, which partially offsets the effect).
The poor must decide between triggering a coup and setting a tax rate \(0 \leq \tau_1 \leq \bar{\tau}_1\). Their period 1 problem is

\[
\max_{0 \leq \tau_1 \leq \bar{\tau}_1} \left[ (1 - \sigma (\gamma I_1)) \left( k^0_0 + \beta k^0_0 \right) + \sigma (\gamma I_1) \delta \left( k^0_0 + \beta k^0_0 \right), \right. \\
\left. \max_{0 \leq \tau_1 \leq \bar{\tau}_1} (1 + \beta) \left[ k^0_0 + (\tau_1 - C (\tau_1)) k^0_0 \right] + \beta (\tau_2 - C (\tau_2)) A (1 - \tau_1) k^0_0 \right]
\]

The first entry shows the expected value from triggering a coup, which means that no taxes are charged. The second shows the payoff from not triggering a coup, and includes the taxes that are collected in both periods 1 and 2. It is straightforward to verify that the second entry will always be greater than or equal to the first, and so the statement of the poor’s problem simplifies to

\[
\max_{0 \leq \tau_1 \leq \bar{\tau}_1} (1 + \beta) \left[ k^0_0 + (\tau_1 - C (\tau_1)) k^0_0 \right] + \beta (\tau_2 - C (\tau_2)) A (1 - \tau_1) k^0_0 \quad (8)
\]

where \(\tau_2(\tau_1)\) depends on the choice of period 1 taxes. This is similar to problem (4) except that now \(\tau_2 = \bar{\tau}_2\) instead of 1. This difference is important because an increase in \(\tau_1\) now has two effects on the second term of expression (8). As before, there is a tax base effect as a higher tax diminishes the wealth on which the period 2 tax is levied. In addition, now a higher tax in period 1 increases the tax rate \(\tau_2\) that is chosen in period 2. We call this the tax rate effect, and it is this effect that gives rise to the strategic motive for taxation.

The first order condition for this problem is given by

\[
(1 + \beta) \left( 1 - C' (\tau_1) \right) k^0_0 - \beta A (\tau_2 - C (\tau_2)) k^0_0 + \beta A \frac{\partial \tau_2}{\partial \tau_1} (1 - C' (\tau_2)) (1 - \tau_1) k^0_0 = 0 \quad (9)
\]

which differs from that in the benchmark case (5) in two respects: again, \(\tau_2 = \bar{\tau}_2\) instead of 1, since the tax rate choice is constrained. Second, there is an extra term (the third term in expression (9)) that captures the tax rate effect. Notice that the tax base effect, as captured by the second term, and the tax rate effect work in opposite directions.

We can now establish the following:

**Lemma 4** There exists a unique \(\hat{\tau}_1\) that solves the optimization problem (8) for the poor. In the absence of a constraint on taxes, this solution \(\hat{\tau}_1^u\) would always be interior.

We can then characterize this optimal tax rate in the absence of constraints:

**Lemma 5** The unconstrained optimal tax rate is always greater than the benchmark, \(\hat{\tau}_1^u > \tau_1^b\), and it is strictly increasing in initial inequality \(I_0\).
The strategic motive for taxation results in the poor preferring a higher tax rate. This motive increases with initial inequality $I_0$, because this translates into a coup being more likely to succeed, whichtightens the constraint on taxes. It follows that the difference between the unconstrained and the benchmark rate $\hat{\tau}_1^u - \hat{\tau}_1^b$ will increase with initial inequality, since the latter does not depend on it. Figure 2.1 illustrates.

It will not always be possible for the poor to set this preferred rate, however. As we have shown, taxation in period 1 will be subject to the period 1 no coup constraint, which will bind when initial inequality is high. We can establish the following result:

**Lemma 6** If $\hat{\tau}_1^u (I_0 = 0) < 1 - \delta$, there exists a value of initial inequality $I^c$ such that

\[(1 - \hat{\tau}_1^u (I^c)) [1 + \beta A (1 - \tau_2 (\hat{\tau}_1^u (I^c), I^c))] - [\delta + \sigma (\gamma I^c) (1 - \delta)] [1 + \beta A] = 0\]

For low values of initial inequality $I_0 < I^c$, the tax rate will be that preferred by the poor $\hat{\tau}_1 = \hat{\tau}_1^u (I_0)$, while for high values of initial inequality $I_0 > I^c$ it will be constrained to $\hat{\tau}_1 = \tau_1 (I_0)$.

The tax preferred by the poor increases with $I_0$, but so does the ability of the rich to constrain this tax, since it is then that coups are likely to succeed and represent a
threat to the poor. For large enough values of initial inequality, the amount the poor would like to tax exceeds the amount the rich will allow, and so the tax rate choice is constrained. Figure 2 illustrates this result.

Notice that the highest tax rate will be for $I_0 = I^c$ and will equal $\hat{\tau}_1^b (I^c)$. The following remark then follows:

Remark 7 The observed tax rate will be a non-monotonic function of initial inequality, increasing at low levels but decreasing at high levels of inequality.

We can now establish the main result of this paper:

Proposition 8 If $\hat{\tau}_1^b (I_0 = 0) < 1 - \delta$, there exists a value of initial inequality $I^*$ such that

$$
\left(1 - \hat{\tau}_1^b\right) \left[1 + \beta A \left(1 - \tau_2 \left(\hat{\tau}_1^b, I^*\right)\right)\right] - [\delta + \sigma (\gamma I^*) (1 - \delta)] [1 + \beta A] = 0
$$

The condition $\hat{\tau}_1^b (I_0 = 0) < 1 - \delta$ simply ensures that the constraint does not lie below the unconstrained optimal tax rate for all values of $I_0$. 

Figure 2: Optimal Tax Rate (Constrained)
For values of initial inequality below $I^*$, the economy will experience populism in period 1. For values above $I^*$, it will experience neo-liberalism.

This is the value of initial inequality at which the constraint is equal to the benchmark level of taxation. For values below it, the tax rate may or may not be constrained, but it will be greater than the benchmark. For values of initial inequality over $I^*$, the tax rate will be constrained and will equal $\tau_1$, which will be below the benchmark rate $\tau_1^b$.

Notice that the introduction of coups gives rise to populism and neo-liberalism, but does not allow for the benchmark except at $I^*$. This is simply a consequence of the starkness of our definitions. In practice, for values slightly above or below the benchmark we would not speak of populism or neo-liberalism. When we speak of populism, for example, we have in mind a situation like that when $I_0 = I^c$, and the difference between the rates is substantial.

5 The Military as a Channel for Influence

We have argued that the military plays an important role in translating wealth into political influence, since the rich can use their money to gain its support and stage a coup d’état. We have assumed that this support is manifested in an increased probability of success, which in turn makes the threat of a coup more serious. This can happen in a number of ways. One possibility is that money can be used to buy the support of officers, with the coup’s probability of success increasing in the number of officers who side with the plotters. This assumes that officers are motivated by the personal rewards they may obtain in exchange for their support. As we argue in the case study at the end of this paper, potential rewards appear to have been a decisive factor in determining who the officers supported during the 2002 attempted coup against Chavez, and this in turn sealed the fate of the coup.

We have included a parameter that measures the military’s bias and affects a coup’s probability of success. In the model this bias measures the responsiveness of the probability of success to changes in wealth inequality. A pro-rich military will be very responsive to changes in the relative wealth of the rich, and the probability that a coup succeeds will be high. On the other hand, a low bias will imply a low probability of success for all except very high levels of inequality. This bias may have a socioeconomic foundation: in Latin America, for example, the military has traditionally sided with the economic elites. In other parts of the world the bias may be driven by religious or ethnic identity. Khalidi (2002) explains that in India, for example, the Sikh community is over-represented in
the officer corps, resulting in a military that is particularly sensitive to the concerns of that community.

6 Case Study: Hugo Chavez and the Bolivarian Revolution

We illustrate the main arguments in this paper by considering Hugo Chavez’s government in Venezuela. We focus on the period beginning in February 2, 1999, when Hugo Chavez was sworn in as president, and ending in April 14, 2002, when he returned to power after being briefly deposed in a coup d’etat. Our choice is made on the basis of three considerations. First, the situation in Venezuela at the time was characterized by social conflict between the poor, who supported Chavez, and the rich (and the middle class), who opposed him. Second, both groups agreed on the content and intended goals of Chavez’s policies; the cause of the conflict was disagreement over the desirability of those goals. Finally, in this period Chavez was involved in an effort to remove from the military all officers unsympathetic to his government. In our terminology, he was forcing a comparative statics change in the military’s intrinsic bias $\gamma$.

Chavez won the presidential election in 1998 with a platform that promised radical political and economic reforms. Trinkunas (2005) explains that Chavez’s "main campaign themes were a condemnation of the existing democracy and a promise to conduct major changes to reduce poverty and create a new participative and Bolivarian democracy." In his first two and a half years in office, however, little was done to undermine private property or interfere with the economy, despite repeated claims that a "revolution" was under way. In late 2001, The Economist described Chavez’s "Bolivarian Revolution" as a "pretty tame affair" ("Threats Lurk Around Chavez" [November 11, 2001]), while "his former mentor Douglas Bravo... described the Bolivarian process as 'democratic neo-liberalism', the lesser of two evils, battling the 'fascist neo-liberalism' of Venezuela’s traditional power brokers" (McCaughan, p. 68).

Despite often claiming that the military was on his side, one of Chavez’s main concerns was that he might be overthrown by officers sympathetic to the opposition. In part motivated by this fear, he engaged in a transformation of the armed forces that would give him control over the institution. In our terminology, he was trying to decrease its pro-rich bias. Trinkunas (2001) explains that among the measures adopted, "Chavez took charge of military promotions and assignments, alleging that the legislature’s role in this process during the previous four decades had politicized it. Although the reform
theoretically gave control over promotions to the armed forces, in practice these fell under the personal purview of the president... Chavez exacerbated the politicization of the armed forces by using his control of promotions to favor officers who supported his political agenda with plum commands and assignments. Many of those generals and admirals who had opposed the Chavez-led 1992 coup attempts were shunted into administrative duties, retired, or placed on extended leave." Chavez’s concern is further reflected in his creation of a secret radio network, Red Tiburon, that connected officers loyal to him and excluded a number of top ranking officers, including the commander of the Army. In addition, he placed loyal officers in command of combat units. In short, Chavez thought that a coup d’etat was possible, and his initial moderation in economic policy partly reflected this fear.

In late 2001 Chavez felt safe enough to finally pursue his economic agenda. He sought to use special powers granted to him by Congress to enact 49 laws regulating the economy, including land ownership, the structure of the banking and insurance industry, and the tax system. These laws were widely seen as the first serious move by the Chavez government against the economic elites, which had remained virtually unaffected by his policies to that date. The Economist refers to these laws: "When it comes to the economy, Hugo Chavez’s "revolution" has hitherto been stronger on the rhetoric than on action. No longer. On November 13th, just hours before the expiry of an enabling law giving the government legislative powers, the president interrupted television and radio broadcasts to announce the enactment of 49 economic laws... They represent a deliberate step away from the free market and towards confrontation" ("To the Barricades" [November 24, 2001]). Similarly, Lopez Maya (2005) explains that "investors and the vast majority of Venezuelan economic groups with ties to multinational capital rejected the return to a state with regulatory capabilities over economic and social life, the reaffirmation of government ownership of oil reserves, the right of workers to welfare and benefits, among other things... (p. 263)."

These laws were redistributive in nature and one of their goals was to weaken the elites and concentrate power in the hands of the government. The Economist emphasizes this when it explains: "Take land reform. Few deny that some land redistribution is desirable. But the state itself owns much idle land that could be used for this purpose. Mr. Chavez’s law will enable the government to determine land use, regardless of market conditions. It will also give low-level officials power to seize and re-allocate farms regarded as under-utilised, giving owners just ten days to produce the relevant documentation. Farmers fear that the measure will be used as a means of political patronage and reprisal rather than of social reform" ("To the Barricades" [November 24, 2001]).
The elites responded by "developing a strategy of sustained resistance and confrontation" (Lopez Maya, p. 264) that progressively escalated and turned violent on April 11, 2002. Following deadly clashes between pro- and anti-Chavez demonstrators outside the presidential palace, "the commander of the Army, General Efraim Vasquez Velasco, announced in a nationally televised address that he would no longer obey presidential orders. Other senior generals and admirals soon followed him onto the airwaves, expressing their solidarity with the Army commander and their opposition to the president. Within hours, the senior military officer in the Venezuelan armed forces, General Lucas Rincon Romero, announced President Chavez’s resignation" (Trinkunas, 2002). A junta led by businessman Pedro Carmona, the head of the Federation of Chambers of Commerce (Fedecamaras), assumed control of the government. Carmona’s government "was drawn from a narrow right-wing slice of the political spectrum that excluded key elements of the opposition to Hugo Chavez, most notably organized labor. Images of the well-heeled participants in the televised self-proclamation of Pedro Carmona as president quickly confirmed the sectarian upper-class nature of the new government..." (Trinkunas, 2005).

When the officers withdrew their support, Carmona’s government collapsed. Less than 48 hours after being deposed, Chavez returned to the presidential palace and retook control of the government.

Trinkunas (2002) explains that one of the main reasons for the coup’s failure was that interim president "Carmona erred in the military arena, appointing as Minister of Defense an admiral who had very little authority within the officer corps, rather than a senior Army general. He then selected a recently cashiered officer, Admiral Molina Tamayo, as head of presidential security. These appointments, which contravened military lines of seniority and merit, angered a number of senior officers who had initially supported the Carmona government." He continues, "as Pedro Carmona sheltered in a nearby military base, the junior and mid-ranking officers who actually commanded the combat units of the armed forces made it clear to their superiors that they would only support efforts to restore constitutional rule. This paved the way for a swift return of Hugo Chavez Frias to power on 14 April 2002." Chavez’s return was coordinated by senior officers who had been ignored and left out of the new Carmona government. Many of these officers have been handsomely rewarded with promotions and high-ranking appointments, and it is likely that the expectation of such professional advancement weighed in heavily on their decision to help bring Chavez back.
7 Concluding Remarks and Next Steps

This paper addressed the question of why some countries with high levels of inequality redistribute very little, while others redistribute so much that little is left for the future. These neo-liberal and populist policies impose considerable hardship in the countries where they are adopted, and are all too common to be ignored. Our answer relied on the observation that economic resources can often be translated into the ability to influence policy. This implies that when inequality is high, the poor will be unable to redistribute and inequality will increase even further. On the other hand, it also creates a strong incentive for the poor to tax the rich heavily.

Two next steps involve undertaking a full analysis of the effect of the bias parameter and performing a complete welfare analysis. In addition, a central element in our story was the military’s role in transforming wealth into influence over policy. However, this process was included in reduced form, with no explicit modelling of how this may happen. It would be instructive to try to understand how money may affect the probability that a coup succeeds. More generally, a better theoretical understanding of the military is necessary. This organization has traditionally played a central role in politics, yet economists are just starting to pay attention to it.

Finally, two major extensions are required before the analysis presented in this paper is complete. First, we have focused on coups as a method for removing incumbents. Most of the literature has focused on elections instead, and our analysis would be greatly enriched by the inclusion of elections between periods 1 and 2. Second, in practice we see countries switch between populist and neo-liberal policies. This paper has ignored this issue, but I believe an extension to the current framework could allow for its study.
8 Appendix: Proofs

Lemma 1

Proof. We can verify that the second order condition \(- (1 + \beta) C''(\tau_1) k_0^\gamma < 0\) holds for \(0 \leq \tau_1 \leq 1\), so there is a unique maximum in \([0, 1]\). Evaluating the first order condition at \(\tau_1 = 0\) we find that \([1 + \beta - \beta A (1 - C(1))] Ak_0^\gamma > 0\), and at \(\tau_1 = 1\) we find that \(-\beta A (1 - C(1)) Ak_0^\gamma < 0\), so that this maximum is at an interior point. The right-hand side of (5) is decreasing in \(A\) and \(\beta\), and the result then follows from the convexity of \(C(\cdot)\).

Lemma 3

Proof. Define \(G(\tau_1, I_0) = (1 - \tau_1) [1 + \beta A (1 - \tau_2)] - [\delta + \sigma (\gamma I_0) (1 - \delta)] [1 + \beta A]\). This function is continuously differentiable, and \(G_{\tau_1}(\tau_1, I_0) < 0\). The implicit function theorem holds, and \(\tau'_1(I_0) = - G_{I_0}(\tau_1, I_0) / G_{\tau_1}(\tau_1, I_0)\). To show the result, we need to establish that \(G_{I_0}(\tau_1, I_0) < 0\). This follows from

\[
\begin{align*}
\frac{\partial I_0}{\partial I_0} & = \frac{A(1 - \tau_1) k_0^\gamma}{[1 + (\tau_1 - C(\tau_1)) I_0]^2} \\
& < 0
\end{align*}
\]

where the second lines follows from the fact that \(\frac{\partial I_1}{\partial \tau_1} < 0\) and \(\frac{\partial^2 I_1}{\partial \tau_1^2} > 0\), we can verify that the second derivative of expression (2.8) with respect to \(\tau_1\) is strictly decreasing in \([0, 1]\), and so there is a unique maximum in this interval. To prove the second part, evaluate the first derivative at \(\tau_1 = 1\). In this case it becomes \(-\beta (\tau_2 - C(\tau_2)) Ak_0^\gamma < 0\), with \(\tau_2 = 1 - \delta\). It is then not optimal to set \(\tau_1 = 1\). Setting \(\tau_1 = 0\) we find that the derivative is \(\frac{\partial I_0}{\partial \tau_1} = \left[1 + \beta + \beta A \frac{\partial C}{\partial \tau_1} (1 - C' (\tau_2)) - \beta A (\tau_2 - C (\tau_2)) \right] k_0^\gamma\), which is always strictly greater than 0 because \(1 \geq \beta A (\tau_2 - C (\tau_2))\). So the solution will always be interior.

Lemma 5
Proof. To prove the first part of the lemma, we solve for $C'(\tilde{\tau}_1^u)$ in the first order condition for $\tilde{\tau}_1^u$, which gives us $C'(\tilde{\tau}_1^u) = 1 - \frac{\beta A}{(1 + \beta)} \left[ \tau_2 - C(\tau_2) - \frac{\partial C}{\partial \tau_1}(1 - C'(\tau_2))(1 - \tau_1) \right] > 1 - \frac{\beta A}{(1 + \beta)} [1 - C(1)] = C'\left(\frac{\tau^h_1}{1}\right)$, and the result follows from the convexity of $C(.)$. We can apply the implicit function theorem, and using $\frac{\partial C}{\partial \tau_1} > 0$, $\frac{\partial C}{\partial I_0} < 0$ and $\frac{\partial^2 C}{\partial \tau_1 \partial I_0} < 0$, we find that $\tilde{\tau}_1^u(I_0)$ is increasing in $I_0$. ■

Lemma 6

Proof. Such a value exists because we have shown $\tau_1$ to be strictly decreasing in $I_0$ (Lemma 3) and $\tilde{\tau}_1^u$ to be strictly increasing (Lemma 5). These will cross exactly once, and that point is given by $I^c$. For values below $I^c$ we know that $\tau_1 > \tilde{\tau}_1^u$, while the reverse holds for values above it. ■

Proposition 1

Proof. Such a value exists because we have shown $\tau_1$ to be strictly decreasing in $I_0$ (Lemma 3) and $\tilde{\tau}_1^h$ is not a function of $I_0$. We know that for values below $I^*$ the economy will experience populism because both $\tilde{\tau}_1^u$ and $\tau_1$ are above $\tilde{\tau}_1^h$. For values of initial inequality above it the tax rate will be constrained at $\tau_1$, which will be below $\tilde{\tau}_1^h$. ■