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Abstract

We study democratization, coups and trade policy determination in an environment marked by intra-elite conflict over trade policy by taking a simple general equilibrium model of an open economy and combining it with the Acemoglu-Robinson model of democratization. Unlike the approaches taken in the previous literature, we study the simultaneous determination of trade policy and the political regime. Introducing a politically determined trade policy not only affects the equilibrium trade policy but also influences the nature of the political regime. The critical point is that trade policy opens the door to a type of political cleavage that differs from the rich-poor/elite-populace division. Indeed, though we stress the role of trade policy in this paper, our model is more general and it applies to any policy variable that could potentially divides the elites. In particular, we show that in the absence of intra-elite conflict, coups will open up the economy if the elite is pro-free-trade and will close the economy if the elite is protectionist, whereas, in the presence of with intra-elite conflict, coups may either open up the economy or close it. Moreover, we show that in the presence of intra-elite conflict, the elite may respond to popular revolts by reallocating political power within the elite rather than offering democratization. Finally, we use the model to briefly discuss the political and trade policy experience of Argentina in the twentieth century and the repeal of the Corn Laws in Great Britain.

JEL Classification: D72, D78.

Keywords: trade policy, democratization, coups, intra-elite conflict

1 Introduction

The question as to what factors determine the institutional framework of collective decision–making is central to political science and political economy and has received considerable attention in the literature (see, in addition to more modern works, the classical contributions of Lipset, 1959; Moore, 1966; Luebbert, 1991; Rustow, 1970; Linz and Stepan, 1978; O'Donnell, 1973; O'Donnell and Schmitter, 1986; Dahl, 1971; and Olson, 1993). In a very important recent work, Acemoglu and Robinson (2000, 2006) make a

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significant contribution to this literature by developing a theory of transition from dictatorship to democracy that uses the redistributive conflict between the rich and the poor, mediated by different political institutions, as the main driving force behind political change. In their theory, economic groups are not only interested in current redistributive policies but also in future policies and can secure advantageous policies in the future by obtaining the political power.

The kinds of elite-controlled political transitions from autocracy to democracy and from democracy to military regimes studied by Acemoglu and Robinson (2006) are central to our understanding of the process of development. In fact, many of those transitions occur in conjunction with radical changes in economic policies such as trade barriers. This should not, after all, be surprising, since trade policy is a key determinant of income distribution (see, for example, Stolper and Samuelson, 1941).

An illustrative example is found in the history of Argentina in the twentieth century (see Galiani and Somaini, 2010). At the beginning of that century, Argentina's factor endowment resembled that of a specialized natural-resource-rich economy. Both the elite and the general populace supported free trade. However, during the inter-war period, trade opportunities and the terms of trade worsened, and this triggered an industrialization process that then gathered momentum during the Great Depression of the 1930s and the Second World War. As a result, Argentina embarked on the second half of the twentieth century with a very different economic configuration. After workers voted on a large scale for the first time in 1946, an urban-rural cleavage developed under the leadership of Perón which lasted until the advent of the dictatorship in 1976. This new political equilibrium brought the economy to the verge of autarky. Democracy did not take hold, and a series of transitions to autocracy and back to constrained democracy took place during this period. However, none of the autocratic governments that ruled the country until the coup of 1976, which deposed a highly populist Peronist government, was controlled by the agricultural free-trade elite, nor did any of them open up the economy significantly. By contrast, the military government that took power in 1976 was mainly controlled by the agricultural elite and brought the economy back from autarky (see Brambilla, Galiani and Porto, 2010).

Another more subtle, but very relevant example is that of the repeal of the Corn Laws in England. Britain's bold move to free trade in 1846 was both unprecedented and unilateral; moreover, it violated the core protectionist ideology of the Conservative Party while simultaneously undercutting the economic interests of the ruling landed aristocracy. After the repeal of the Corn Laws, Prime Minister Peel himself said that he had sought repeal in order to satisfy the wishes of the industrialists. He indicated that a "narrow representation of Parliament" –control of Parliament by the landed aristocracy– required that concessions be made to satisfy interest groups that were clamoring for reform. Otherwise, he implied, pressures for reform might have become overwhelming, as the French Revolution exemplified (see Schonhard-Bailey, 2006). Thus, the repeal of the Corn Laws was an attempt to moderate the mounting pressures for parliamentary reform: if the industrialists were satisfied by this move, then the drive to gain control of parliamentary seats would ebb and, even more importantly, the working-class Chartist movement (which was seeking a more radical reform of Parliament) would lose momentum (see Searle, 1993, and Schonhard-Bailey, 2006).

These two examples suggest that endogenizing the choice of trade policy, with the consequent possibility of intra-elite conflict that this ushers in, may make a valuable contribution to a broader understanding of political transitions. That is what we do in this paper. Specifically, we extend the model of Acemoglu and Robinson (2006) introducing trade policy as a second policy dimension in order to study the endogenous determination of the political regime, redistribution through income taxation and trade policy.

Acemoglu and Robinson (2006, chapter 9) study the connections among the political regime, the economic structure and international trade. Their main finding is that labor-abundant countries are easier to democratize after the economy has opened up because this tends to reduce income inequality. The opposite is true in a land or capital-abundant economy or in cases in which the opening of the economy has come about via a transfer of labor-saving technology. Two important assumptions are behind these results. First, the decision to open up the economy or not is taken as exogenous and as unrelated to the political regime. In other words, trade policy affects the political regime through its effect on inequality, but this is not a political decision. However, trade policy has been portrayed as an important determinant of political cleavages throughout history (see, among others, Rogowski, 1987 and 1989; Gourevitch, 1986; Findlay and O'Rourke, 2007; Galiani, Schofield and Torrens (2010); and Acemoglu and Yared, 2010). Second, there is no intra-elite conflict over trade policy, i.e., either both elite groups, say industrialists and landlords, are protectionist or they are both pro-free-trade. However, in many countries, there is extensive evidence of intra-elite conflict over trade policies. For example, in many developing countries, landlords are pro-free-trade, but industrialists are protectionist. Moreover, in these countries, we have seen coups that keep the economy closed and coups that open up the economy. In this paper we show that this cannot happen if we assume that dictatorships are controlled by elites that have no conflicting preferences about trade policy. The interesting issue about intra-elite conflict is that it paves the way for the formation of two different "coalitions":[1] either the two elite groups form a coalition to stop redistribution, or one of the elites forms a coalition with the populace to implement a particular trade policy.[2]

The model that we have developed in this paper provides a good explanation for the experiences of Great Britain in the nineteenth century and Argentina in the twentieth century. The key elements in that explanation are a politically determined trade policy and intra-elite conflict over trade policy. The intuition is relatively simple. When there is intra-elite conflict over trade policy, one of the elite factions has the same trade policy preference as the populace, while the other elite faction has the opposite trade policy preference. In other words, when there is intra-elite conflict over trade policy, the political cleavages that exist in relation to trade policy do not match those that exist in connection with income taxation. This lack of alignment in political cleavages has two important political implications. First, an autocracy controlled by the elite faction that has the same trade policy preference as the populace can placate the supporters of a popular revolt more easily than one that is controlled by the elite faction that has the opposite trade policy preference. This is because an elite faction that has the same trade policy preference as the people can credibly commit to implementing the people's preferred trade policy even after the threat of a revolt has died down. Second, the elite faction that has the same trade policy preference as the populace will have ambiguous feelings about autocratic governments controlled by the other faction of the elite, since, on the one hand, such governments reduce income taxation and redistribution but, on the other hand, may implement a detrimental trade policy.

The first political implication outlined above accounts for the first Reform Act as well as the repeal

[1] We talk about coalitions in a loose way. The model is non-cooperative one with no explicit coalition formation.

[2] Other more recent notable examples are the embracement in the 1990s of both democracy and free trade by the countries of Eastern Europe and the descent into dictatorship and autarchy of much of Africa following independence in the 1950s and 1960s. Using systematic panel data on tariffs, democracy and factor endowments for the period 1870-1914, O'Rourke and Taylor (2006) show that an increase in democratization raises tariffs in countries with high land-labor ratios and lowers tariffs in countries with high capital-labor ratios, though this effect is smaller and not always significant (see Table 2 in O'Rourke and Taylor, 2002).

of the Corn Laws in nineteenth-century Great Britain. The protectionist landed aristocracy, fearing a revolution, conceded a significant portion of its political power to the pro-free-trade commercial and industrial elite. This political reform averted democratization and paved the way for a switch in trade policy. The second political implication accounts for the existence of coups that result in the continuance of import-substitution policies and for the coup that was followed by the opening of the economy in Argentina in the second half of the twentieth century. While democracy was not extremely populist, industrialists supported only those dictatorships that advocated industrial protection, but when radical tendencies threatened to dominate democratic institutions, they tacitly accepted the opening of the economy.

It is easy to see that the introduction of a politically determined trade policy will necessarily affect the equilibrium trade policy. The crucial issue, however, is that this also has a key impact on the political regime. In fact, as we show in this paper, even under no intra-elite conflict, if the elite is protectionist (pro-free-trade) and the populace is pro-free-trade (protectionist), democratization is more likely when trade policy is endogenous than when there is an exogenous free-trade (protectionist) policy, but democratization is less likely when trade policy is endogenous than when there is an exogenous protectionist (free-trade) policy. Consolidation of democracy is always less likely when trade policy is endogenous than when it is exogenous, regardless of the nature of the exogenous trade policy. More importantly, if trade policy is exogenous, none of our key results under intra-elite conflict holds, we come back to the one-dimensional Acemoglu and Robinson (2006) model, and we cannot explain some features of the experiences of Great Britain in the nineteenth century and Argentina in the twentieth century. The critical point is that trade policy opens the door to a type of political cleavage that differs from the rich-poor/elite-populace cleavage. Indeed, though we stress the role of trade policy in this paper, our model is more general and applies to any policy variable that could potentially divide the elites.[3]

There are several papers connected with our work on this subject. First of all, our model is an extension, albeit an important one, of Acemoglu and Robinson (2006). Second, there are other papers that draw attention to the significance of intra-elite conflict in different contexts. Lizzeri and Persico (2004) have developed a model of democratization in which "the elites willingly extend the franchise because elections with a broader franchise can give better incentives to politicians ... [and cause] a shift away from special-interest politicking toward ... more public-oriented legislative activity." Moreover, in their model, only the majority of the elite needs to support the extension of the franchise, while there can be a minority of the elite that loses with the reform. Acemoglu (2010) develops a model of state capacity in which the effectiveness of intra-elite conflict in controlling the state intensifies as the state's capacity grows and as more efficient forms of taxation and redistribution therefore become available. The key finding is that the destructive effect of more intra-elite conflict can offset the beneficial effect of increased state capacity. Ghosal and Proto (2008) build a model of democratization in which intra-elite conflict plays a crucial role. They develop a coalition formation game with two elite groups that are uncertain about their relative future level of political power and a non-elite group that cannot act collectively. Under dictatorship, the stronger elite obtains all the surplus, while, under democracy, the weaker elite group forms a coalition with the non-elite group, which induces a more balanced division between the elites. There is democratization when the elites are sufficiently risk-averse. Our model shares the same general idea as put forward by Ghosal and Proto (2008), i.e., that an elite group may be willing to form

[3] Another obvious example is the development of a free schooling system, where landlord elites might opposed to it while industrialist elites might have favored it (see Galor, Moav, and Vollrath, 2009).

a coalition with the non-elite group in order to improve its bargaining power with the other elite group. Beyond this, however, there are several differences. Our model is non-cooperative one with no explicit coalition formation. In Ghosal and Proto (2008), there is only one policy variable –the division of a unit of surplus– while, in our model, there are two policy variables: income taxation and trade policy. Thus, in our model, there can be two different political cleavages: one based on income taxation and the other based on trade policy. In other words, in our model there is one elite group that can be tempted by the other elite group with low taxation and also by the non-elite group with a favorable trade policy. Another important difference is that we use the Acemoglu and Robinson (2006) framework, in which democratization has nothing to do with risk aversion; rather, it is the institutional change that the elites accept as a credible means of transferring political power in order to avoid a revolt. The novel aspects of our model are that democracy may now be more costly for one elite group (the one with opposite trade policy preferences to those of the non-elite group) than for the other; that the elite groups must somehow bargain in deciding which one will control the dictatorship and, hence, which trade policy the dictatorship will implement; and, finally, that the non-elite group is not indifferent as to which group controls the dictatorship and that it may be able to influence this decision.

Third, there is an extensive body of literature that studies how international trade affects domestic political alignments (see, among others, Rogowski, 1987 and 1989). In most cases, this literature informally assumes a political economy model, while we, on the other hand, use a formal model of policy determination. More importantly, this literature often considers only the political cleavages that result from the effects of international trade on different social groups and pays little attention to other potential political cleavages that might interact with the ones induced by the effects of international trade. Thus, the underlying model of policy determination is one-dimensional. In contrast, we consider a two-dimensional policy space in which political cleavages in respect of trade policy may or may not coincide with political cleavages in other areas, such as income redistribution through taxation. In other words, protectionist and pro-free-trade coalitions may differ from poor and rich coalitions. The main message of this paper is that this situation may have important implications for both the political regime and trade policy.

The rest of the paper is organized as follows. In section 2, we present the model. In section 3, we study cases in which there is no intra-elite conflict, while in sections 4 and 5, we look at cases in which there is intra-elite conflict. In section 4, we focus on autocracies, while in section 5, we examine situations in which there is a consolidation of democracy. In section 6, we discuss two historical examples of intra-elite conflict: Great Britain during the nineteenth century and Argentina during the twentieth century. In Section 7, we present our conclusions.

2 The model

Consider a society formed by three groups: two elite factions, denoted by L and K (for example, landlords and industrialists), and a non-elite group called "the people" or "the populace" and denoted P (for example, workers). Let n_i be the proportion of the population that belongs to group $i = L, K, P$; and let $y_{i,t}$ be the gross income (before the redistribution scheme) of a member of group i in period t. The government runs a balanced budget redistribution scheme that taxes the income of all citizens at a rate $\tau_t \in [0, 1]$ and redistributes the proceeds through a lump-sum transfer. Income taxation is costly, as the government must incur a cost of $C(\tau)$ units of output in order to collect τ units of output in taxes, where

the cost function C is strictly increasing and strictly convex, $C(0) = 0$, and $C'(1) = 1$. Thus, the per period utility function of a member of group i is given by:

$$v_{i,t} = (1 - \tau_t)\, y_{i,t} + [\tau_t - C(\tau_t)]\, \bar{y}_t,$$

where $\bar{y}_t = \sum_i n_i y_{i,t}$ is the average income of society. The expected utility of a member of group i at time $t = 0$ is given by:

$$V_i = \mathbf{E}_0 \sum\nolimits_{t=0}^{\infty} \beta^t v_{i,t},$$

where $\beta \in (0, 1)$ is the common discount factor.

In every period, the government selects an income tax rate $\tau_t \in [0, 1]$ and a trade policy $\lambda_t \in \{A, F\}$, where A denotes autarky and F free trade. Since the gross income of each group varies with the trade policy, let y_i^λ be the gross income of a member of group i when the trade policy is λ. Similarly, let $\bar{y}^\lambda$ be the mean income of society when trade policy is λ. Since trade policy is the only policy variable that affects gross income, $y_{i,t} = y_i^{\lambda_t}$ and $\bar{y}_t = \bar{y}^{\lambda_t}$. Each group in society can either lose or win with different trade policies, depending on the particular trade model that we have in mind. We say that group i is *protectionist* (*pro-free-trade*) if and only if $y_i^A > y_i^F$ ($y_i^A < y_i^F$). We can even conceive of cases in which all groups win or all groups lose with the opening of the economy, but the political economy of trade policy in such cases is not very interesting; we can simple ignore trade policy as a relevant policy variable. Hence, we focus on economies for which protectionism is costly in the sense that $\bar{y}^F > \bar{y}^A$, and in which at least one group loses with a change in trade policy. This does not mean that we completely ignore these other cases. In fact, some of them have played an important role in the historical examples we discuss in section 6.

We impose some structure on income distribution and the effect that international trade has on it.

Assumption 1: The elite groups have above-average incomes, while the non-elite populace has below-average income, regardless of the type of trade policy that is in effect, i.e., $\min\left\{y_L^\lambda, y_K^\lambda\right\} > \bar{y}^\lambda > y_P^\lambda$.

Note that assumption 1 not only says that the elite groups are richer than the general population, but also means that international trade does not change this situation.

Trade policy and income taxation may seem to be two independent mechanisms of income redistribution, but this is actually not the case, since trade policy influences income distribution and, hence, affects the trade-off between redistribution and the cost of income taxation. In order to see this interaction and the structure that we impose on it, we can deduce what the policy implemented by group i would be if the government were wholly controlled by group i. In such a context, group i would choose:

$$(\tau_i, \lambda_i) = \arg\max_{(\tau,\lambda)} \left\{ v_i(\tau, \lambda) = y_i^\lambda - \tau\left(y_i^\lambda - \bar{y}^\lambda\right) - C(\tau)\, \bar{y}^\lambda \right\}$$

Due to assumption 1, for an elite group it is always the case that $y_i^\lambda > \bar{y}^\lambda$. Therefore, for $i = K, L$, $\tau_i = 0$ and $\lambda_i = \arg\max_\lambda y_i^\lambda$. That is, an elite group prefers no income taxation and a trade policy that maximizes its gross income. Also due to assumption 1, for the populace $y_i^\lambda < \bar{y}^\lambda$. It is not difficult to see that populace decision reduces to the comparison of a pair of policies. Specifically, let τ_P^λ be the income tax rate that maximizes people's per period utility when trade policy is $\lambda = A, F$, i.e., τ_P^λ is the unique solution of the following equation:

$$C'\left(\tau_P^\lambda\right) = 1 - \frac{y_P^\lambda}{\bar{y}^\lambda}.$$

Then, $\lambda_P = \arg\max_\lambda v_P\left(\tau_P^\lambda, \lambda\right)$ and $\tau_P = \tau_P^{\lambda_P}$. Note that τ_P clearly depends on how trade policy affects income distribution and particularly on how it affects the income share of the populace $(n_P y_P^\lambda/\bar{y}^\lambda)$. Due to this interdependence, it is possible that, even if the populace is protectionist, it could prefer the combination of a free-trade policy and the tax rate τ_P^F to a protectionist trade policy and τ_P^A. The following assumption rules out such a situation, however.

Assumption 2: If the people are *pro-free-trade*, they prefer $\left(\tau_P^F, F\right)$ to $\left(\tau_P^A, A\right)$, while if they are *protectionist*, they prefer $\left(\tau_P^A, A\right)$ to $\left(\tau_P^F, F\right)$. Formally, $y_P^F > y_P^A \Longrightarrow v_P\left(\tau_P^F, F\right) > v_P\left(\tau_P^A, A\right)$ and $y_P^A > y_P^F \Longrightarrow v_P\left(\tau_P^A, A\right) > v_P\left(\tau_P^F, F\right)$.

Assumption 2 simply says that income taxation is not enough to change people's stance on trade policy. The key question is, of course, how strong this assumption is. On the one hand, when the populace is pro-free-trade, assumption 2 is, in fact, very mild. In order to see this more clearly, we must distinguish between two possible situations. First, it may be the case that, although the populace's gross income is higher under free trade, people's income share is in fact lower under free trade, i.e., $y_P^F > y_P^A$, but $\left(n_P y_P^F/\bar{y}^F\right) < \left(n_P y_P^A/\bar{y}^A\right)$. Then, $\tau_P^F > \tau_P^A$, which implies that, under free trade the populace does not only have a higher gross income, but it also receives higher transfers (net of taxes). Thus, it is always the case that $v_P\left(\tau_P^F, F\right) > v_P\left(\tau_P^A, A\right)$.[4] Second, it may be the case that the populace's gross income and income share are both higher under free trade, i.e., $y_P^F > y_P^A$ and $\left(n_P y_P^F/\bar{y}^F\right) > \left(n_P y_P^A/\bar{y}^A\right)$. Then $\tau_P^F < \tau_P^A$, and therefore, $\left(1-\tau_P^F\right) y_P^F > \left(1-\tau_P^A\right) y_P^A$, which implies that the only situation in which the populace prefers $\left(\tau_P^A, A\right)$ to $\left(\tau_P^F, F\right)$ is if τ_P^A is sufficiently higher than τ_P^F so that transfers under protectionism are much higher than under free trade. This is very unlikely and, in fact, is impossible for some specifications of the cost function C.[5] On the other hand, when the populace is protectionist, it must be the case that $\left(n_P y_P^A/\bar{y}^A\right) > \left(n_P y_P^F/\bar{y}^F\right)$, which implies that $\tau_P^F > \tau_P^A$. Then, assumption 2 is somewhat stronger, since it is always possible to conceive of a cost function C that induces low enough costs of income taxation so that the populace would rather have a higher tax rate levied on a bigger tax base under free trade than to have a lower tax rate levied on a smaller tax base under protectionism. Conversely, if the costs of income taxation are relatively high, then the opposite is true, and the populace prefers $\left(\tau_P^A, A\right)$ to $\left(\tau_P^F, F\right)$.[6] In the rest of this paper, we assume that assumptions 1 and 2 hold.

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[4] Employing the first-order condition $C'\left(\tau_P^\lambda\right) = 1 - \frac{y_P^\lambda}{\bar{y}^\lambda}$, $v_P\left(\tau_P^{\lambda_P}, \lambda_P\right)$ can be written as follows:

$$v_P\left(\tau_P^{\lambda_P}, \lambda_P\right) = y_P^{\lambda_P} + \left[C'\left(\tau_P^{\lambda_P}\right)\tau_P^{\lambda_P} - C\left(\tau_P^{\lambda_P}\right)\right]\bar{y}^{\lambda_P}.$$

Since the populace is pro-free trade $y_P^F > y_P^A$. Since $\frac{\partial\left[C'\left(\tau_P^{\lambda_P}\right)\tau_P^{\lambda_P} - C\left(\tau_P^{\lambda_P}\right)\right]}{\partial\tau_P^{\lambda_P}} = C''\left(\tau_P^{\lambda_P}\right)\tau_P^{\lambda_P} > 0$ and $\tau_P^F > \tau_P^A$, we have $C'\left(\tau_P^F\right)\tau_P^F - C\left(\tau_P^F\right) > C'\left(\tau_P^A\right)\tau_P^A - C\left(\tau_P^A\right)$. Therefore, $v_P\left(\tau_P^F, F\right) > v_P\left(\tau_P^A, A\right)$.

[5] For example, if $C(\tau) = \frac{\tau^{1+\eta}}{1+\eta}$ for $\eta > 0$, it is always the case that $y_P^F > y_P^A \Longrightarrow v_P\left(\tau_P^F, F\right) > v_P\left(\tau_P^A, A\right)$. See footnote 6.

[6] Consider the cost function $C(\tau) = \frac{\tau^{1+\eta}}{1+\eta}$ for $\eta > 0$. Then, from the first-order condition $C'\left(\tau_P^\lambda\right) = 1 - \frac{y_P^\lambda}{\bar{y}^\lambda}$, we have $\tau_P^\lambda = \left(\frac{\bar{y}^\lambda - y_P^\lambda}{\bar{y}^\lambda}\right)^{\frac{1}{\eta}}$. After some algebraic manipulation we obtain:

$$v_P\left(\tau_P^\lambda, \lambda\right) = \left[\frac{y_P^\lambda}{\bar{y}^\lambda} + \frac{\eta}{1+\eta}\left(1 - \frac{y_P^\lambda}{\bar{y}^\lambda}\right)^{\frac{1+\eta}{\eta}}\right]\bar{y}^\lambda.$$

Suppose that $y_P^F > y_P^A$, but $y_P^F/\bar{y}^F < y_P^A/\bar{y}^A$. Then, it is clear that $v_P\left(\tau_P^F, F\right) > v_P\left(\tau_P^A, A\right)$. Suppose that $y_P^F > y_P^A$ and $y_P^F/\bar{y}^F > y_P^A/\bar{y}^A$. Then, it is also the case that $v_P\left(\tau_P^F, F\right) > v_P\left(\tau_P^F, F\right)$, since $y_P^F/\bar{y}^F > y_P^A/\bar{y}^A$ implies $\frac{y_P^F}{\bar{y}^F} +$

The choice of who makes these collective decisions and under what restrictions depends on the distribution of political power in society. There are two sources of political power: *de jure* power, which emanates from legal institutions, and *de facto* power, which emanates from the ability to change legal institutions. Political regimes allocate *de jure* political power to different groups in society. We consider two alternative political regimes: dictatorship or autocracy and democracy. In a dictatorship, the elites have *de jure* political power and, hence, the government maximizes the elites' utility. However, sometimes dictatorships face a threat of revolution, which gives transitory *de facto* political power to the people. In a democracy, the populace has the *de jure* political power and, hence, the government maximizes people's utility. Sometimes democracies may face the threat of a coup, however, which gives transitory *de facto* political power to the elites. Revolutions and coups are costly events. A simple way of modeling this is to assume that a fraction μ (φ) of the gross income of society is destroyed in a revolution (coup). The *de facto* political power conferred by the threat of a revolution or a coup is also transitory. A simple way of modeling this is to assume that, if the political regime is a dictatorship, then, during any given period, there is some probability that people will be able to overcome the collective action problem and thus pose a revolutionary threat. Similarly, if the political regime is a democracy, then, in every given period, there is some probability that the elite will be able to pose the threat of a coup. Formally, in a dictatorship, the state of nature can be either H, with probability $q < 1/2$, or L, with probability $(1-q)$. When the state of nature is H, the cost of the revolution is $\mu^H = \mu < 1$; when the state is L, the cost of the revolution is $\mu^L = 1$. Thus, in state H, people may be coming together in order to organize a revolution, while in state L, the revolution has a prohibitive cost. In a democracy, the state of nature can be either H, with probability $r < 1/2$, or L, with probability $(1-r)$. When the state of nature is H, the cost of the coup is $\varphi^H = \varphi < 1$; when the state is L, the cost of the coup is $\varphi^L = 1$. Thus, in state H, the elites may coalesce for the purpose of organizing a coup, while in state L, the cost of the coup is prohibitive.

The timing of events within a given period in a democracy is as follows:

1. The state φ_t is revealed.
2. The people propose a policy (τ_D, λ_D) (the subscript D indicates democracy) to be implemented by the democratic government.
3. The primary faction of the elite, indicated by $l \in \{L, K\}$, observes the people's proposal and then chooses to mount a coup or not. If the elite mounts a coup, it also backs one of the elite's factions to control the new dictatorship.
4. The secondary faction of the elite, indicated by $s \in \{L, K\}$, examines the people's proposal and the primary faction's move. If the primary faction of the elite has begun a coup, the secondary

$\frac{\eta}{1+\eta}\left(1-\frac{y_P^F}{\bar{y}^F}\right)^{\frac{1+\eta}{\eta}} > \frac{y_P^A}{\bar{y}^A} + \frac{\eta}{1+\eta}\left(1-\frac{y_P^A}{\bar{y}^A}\right)^{\frac{1+\eta}{\eta}}$.

Finally, suppose that $y_P^A > y_P^F$. Then, it is not difficult to prove that if $\eta \leq \bar{\eta}$, $v_P\left(\tau_P^A, A\right) \geq v_P\left(\tau_P^F, F\right)$, while if $\eta > \bar{\eta}$, $v_P\left(\tau_P^A, A\right) < v_P\left(\tau_P^F, F\right)$, where $\bar{\eta}$ is the unique solution to:

$$\frac{\frac{y_P^A}{\bar{y}^A} + \frac{\bar{\eta}}{1+\bar{\eta}}\left(1-\frac{y_P^A}{\bar{y}^A}\right)^{\frac{1+\bar{\eta}}{\bar{\eta}}}}{\frac{y_P^F}{\bar{y}^F} + \frac{\bar{\eta}}{1+\bar{\eta}}\left(1-\frac{y_P^F}{\bar{y}^F}\right)^{\frac{1+\bar{\eta}}{\bar{\eta}}}} = \frac{\bar{y}^F}{\bar{y}^A}.$$

faction must decide whether to support it or not. If the secondary faction supports the coup, then the coup takes place, the new elite government forms and the elite faction that controls it selects a policy. The coup costs a faction φ_t of aggregate income. If the secondary faction does not support the coup, then the coup fails and the elite cannot take power.

5. If there is no effective coup, either because the primary faction of the elite does not mount it, or because the secondary faction does not support it and the coup fails, democracy implements (τ_D, λ_D).

The intuition behind this timing is the following. We model a coup as a game between the elites and the people in which the people's promises are credible only when the elites have a credible coup threat, i.e., in the state H. The new issue that we introduce is a second dimension of potential conflict: trade policy. In particular, although all members of the elites prefer the lowest income tax, they may disagree about trade policy. Also, people may have a higher or lower propensity to implement protectionist policies, which implies that democracy may be more costly for one elite group and more attractive for the other. For the intra-elite bargaining over the coup, we assume that one of the elite factions, called the "primary faction", takes the lead and decides whether to mount a coup and proposes which group should control the new elite government, while the other elite faction, called the "secondary faction", has veto power. When both elite factions have the same trade policy preferences, it does not significantly matter which one is the primary elite faction, since $\lambda_l = \lambda_s \neq \lambda_P$. However, when there is intra-elite conflict over trade policy, it is very important to determine which elite faction has the power to propose and which has veto power. We assume that the secondary elite faction and the people share the same trade policy preferences, i.e., $\lambda_l \neq \lambda_s = \lambda_P$. Note also that there is no credible commitment problem between the elite factions, since, once a coup has been mounted, only one faction of the elite will control the new dictatorship.

The timing of events within a given period in a dictatorship is as follows:

1. The state μ_t is revealed.

2. The elite faction that controls the dictatorship decides whether to concede the control of the dictatorship to the other elite faction or not.

3. The elite faction that controls the dictatorship proposes democratization or a policy (τ_E, λ_E).

4. The people observe the elite's move and decide whether they should mount a revolution or not. If the elite offers democratization and the people accept the offer, they take over power and the new democratic government implements (τ_D, λ_D). If the populace organizes a revolution, all factor endowments are expropriated and redistributed evenly among the people, and the economy moves into autarky. The revolution costs a fraction μ_t of aggregate income, which includes the cost of organizing the revolution as well as the long-standing reduction in economic efficiency caused by the elimination of private property.

Only Step 2 requires some explanation. The idea is that the elite faction that controls a dictatorship might prefer to concede the control of the dictatorship to the other elite faction if that would help to avoid democratization. This concession is a reallocation of de jure political power between the elite factions and can be accomplished through an extension of the franchise or any political reform that properly rebalances the legal rights of the two elite factions in the autocratic regime.

2.1 Equilibrium

We begin by defining a state of the world ω as the combination of a political regime (dictatorship controlled by the elite faction $i \in \{L, K\}$, democracy or revolution) and the cost of overcoming the political regime: μ^L or μ^H, if the regime is a dictatorship, and φ^L or φ^H, if the regime is a democracy. Thus, at the beginning of each period, society can be in one of the following states: democracy and no coup threat $\left(D, \varphi^L\right)$, democracy and coup threat $\left(D, \varphi^H\right)$, dictatorship controlled by the elite faction $i \in \{l, s\}$ and no revolt threat $\left(i, \mu^L\right)$, dictatorship controlled by the elite faction $i \in \{l, s\}$ and revolt threat $\left(i, \mu^H\right)$, revolution and high revolt cost $\left(R, \mu^L\right)$, and revolution and low revolt cost $\left(R, \mu^H\right)$.

Let $S = \{(\tau, \lambda) : \tau \in [0, 1], \lambda \in \{A, F\}\}$ be the policy space. A Markov strategy for the primary faction of the elite is a tuple of decision rules $\sigma_l = (\phi_T, \phi_D, \tau_E, \lambda_E, \phi_C, \phi_E)$, where:

- $\phi_T : \left\{\left(l, \mu^L\right), \left(l, \mu^H\right)\right\} \to \{l, s\}$ is the relinquish decision ($\phi_T = l$ indicates that the primary faction maintains control of the dictatorship, and $\phi_T = s$ indicates that it transfers control to the secondary faction);
- $(\phi_D, \tau_E, \lambda_E) : \left\{\left(l, \mu^L\right), \left(l, \mu^H\right)\right\} \to \{0, 1\} \times S$ is the democratization and policy decisions ($\phi_D = 0$ indicates no democratization, $\phi_D = 1$ indicates democratization, and (τ_E, λ_E) is the policy proposed by the primary faction of the elite when it controls the dictatorship and it does not democratize); and
- $\phi_C : \left\{\left(D, \varphi^L\right), \left(D, \varphi^H\right)\right\} \times S \to \{0, l, s\}$ is the coup decision ($\phi_C = 0$ indicates that the primary faction does not mount a coup, and $\phi_C = l, s$ indicates which elite faction will control the new dictatorship).

A Markov strategy for the secondary faction of the elite is a tuple of decision rules $\sigma_K = (\phi_T, \phi_D, \tau_E, \lambda_E, \phi_S)$, where:

- $\phi_T : \left\{\left(s, \mu^L\right), \left(s, \mu^H\right)\right\} \to \{l, s\}$ is the relinquish decision ($\phi_T = s$ indicates that the secondary faction maintains control of the dictatorship, and $\phi_T = l$ indicates that it transfers control to the primary faction);
- $(\phi_D, \tau_E, \lambda_E) : \left\{\left(s, \mu^L\right), \left(s, \mu^H\right)\right\} \to \{0, 1\} \times S$ is the democratization and policy decision ($\phi_D = 0$ indicates no democratization, $\phi_D = 1$ indicates democratization, and (τ_E, λ_E) is the policy proposed by the secondary faction of the elite when it controls the dictatorship and it does not democratize);
- $\phi_S : \left\{\left(D, \varphi^L\right), \left(D, \varphi^H\right)\right\} \times S \times \{l, s\} \to \{0, 1\}$ is the decision to support a coup when the people promise $(\tau, \lambda) \in S$ and the primary faction of the elite proposes a coup that gives rise to a dictatorship controlled by $j \in \{l, s\}$.

A Markov strategy for the people is a tuple of decision rules: $\sigma_P = (\phi_R, \tau_D, \lambda_D)$, where:

- $\phi_R : \left\{\left(l, \mu^L\right), \left(l, \mu^H\right), \left(s, \mu^L\right), \left(s, \mu^H\right)\right\} \times S \cup \left\{\left(D, \varphi^L\right)\right\} \to \{0, 1\}$ is a revolt decision; and
- $(\tau_D, \lambda_D) : \left\{\left(D, \varphi^L\right), \left(D, \varphi^H\right)\right\} \to S$ is the policy proposed by the people under democracy.

A Markov perfect equilibrium is a profile of strategies $(\sigma_L, \sigma_K, \sigma_P)$, such that, for every state ω, the strategy of each player is a best response to the strategies of the other players. In order to compute the Markov perfect equilibrium, we write the Bellman equation of each group in each state.

We begin with the revolutionary state. Since the revolution is an absorbing state, it is easy to compute the expected utility of each group when the people mount a revolt. Each elite group receives a zero payoff forever, while the populace expropriates all of the income of the elite. Therefore:

$$V_i\left(R, \mu_t\right) = \begin{cases} 0 & \text{if } i = L, K, \\ \frac{(1-\mu_t)}{1-\beta} \frac{\bar{y}^A}{n_P} & \text{if } i = P. \end{cases} \tag{1}$$

Suppose that the political regime is an autocracy controlled by the elite faction $j = L, K$. If there is no revolt threat, i.e., $\mu_t = \mu^L$, the elite faction j can implement its preferred policy $\tau_j = 0$ and $\lambda_j = \arg\max_\lambda y_j^\lambda$. In the next period, the political regime will also be an autocracy controlled by the elite faction j; moreover, with probability q, there will be a revolt threat, i.e., $\mu_{t+1} = \mu^H$, and with probability $(1-q)$, there will be no revolt threat, i.e., $\mu_{t+1} = \mu^L$. Therefore:

$$V_i\left(j, \mu^L\right) = y_i^{\lambda_j} + \beta\left[qV_i\left(j, \mu^H\right) + (1-q)\, V_i\left(j, \mu^L\right)\right].$$

If there is a revolt threat, i.e., $\mu_t = \mu^H$, j has several alternative means of placating the proponents of the revolt. First, j can concede a transitory change in policy (with this policy being denoted as (τ, λ)) without any modification in political institutions. Second, j can transfer the control of the autocracy to the other elite faction. Finally, j can offer democratization. Suppose that j uses the first strategy and the populace does not mount a revolution. Then:

$$V_i\left(j, \mu^H, \tau, \lambda\right) = v_i\left(\tau, \lambda\right) + \beta\left[qV_i\left(j, \mu^H\right) + (1-q)\, V_i\left(j, \mu^L\right)\right],$$

where $V_i\left(j, \mu^H, \tau, \lambda\right)$ indicates the expected utility of group i when the state is $\left(j, \mu^H\right)$, j offers policy (τ, λ) and the populace does not mount a revolt. If the elite faction j and the populace follow the same strategy every time $\mu_t = \mu^H$, it must be the case that $V_i\left(j, \mu^H\right) = V_i\left(j, \mu^H, \tau, \lambda\right)$ and, therefore:

$$V_i\left(j, \mu^L\right) = \frac{\beta q v_i\left(\tau, \lambda\right) + (1 - \beta q)\, y_i^{\lambda_j}}{1-\beta}, \tag{2}$$

$$V_i\left(j, \mu^H, \tau, \lambda\right) = \frac{\left[1 - \beta\left(1-q\right)\right] v_i\left(\tau, \lambda\right) + \beta\left(1-q\right) y_i^{\lambda_j}}{1-\beta}. \tag{3}$$

The populace is willing to accept j's offer if and only if $V_P\left(j, \mu^H, \tau, \lambda\right) \geq V_R\left(R, \mu^H\right)$, which implies that we can define a critical value of μ, denoted as $\bar{\mu}_P^{\lambda_j}\left(\tau, \lambda\right)$, such that, for $\mu \geq \bar{\mu}_P^{\lambda_j}\left(\tau, \lambda\right)$, the populace agrees to stop the revolt in exchange for j's offer, while, for $\mu < \bar{\mu}_P^{\lambda_j}\left(\tau, \lambda\right)$, the populace mounts a revolt if j maintains the offer (τ, λ). $\bar{\mu}_P^{\lambda_j}\left(\tau, \lambda\right)$ is implicitly given by $V_P\left(j, \mu^H, \tau, \lambda\right) = V_R\left(R, \mu^H\right)$, which, after somewhat tedious but straightforward algebra, becomes:

$$\bar{\mu}_P^{\lambda_j}\left(\tau, \lambda\right) = 1 - \frac{\beta\left(1-q\right) n_P y_P^{\lambda_j} + \left[1 - \beta\left(1-q\right)\right] n_P v_P\left(\tau, \lambda\right)}{\bar{y}^A}. \tag{4}$$

As we mentioned earlier, the elites have three different ways to placate those calling for a revolt (the elites always prefer to stop the revolt, since it is the worst possible outcome for them). First, j (the elite that controls the dictatorship) can concede a transitory change in policy without any modification in political institutions. Second, j can transfer the control of the autocracy to the other elite faction. Finally, j can offer democratization. Depending on the value of μ, all or some of these options may effectively placate supporters of a revolt.

If $\mu < \min_j \bar{\mu}_P^{\lambda_j}(\tau_P, \lambda_P)$, democratization is the only feasible option that the elite has for placating people calling for a revolt, regardless of which elite faction controls the dictatorship. So, suppose that the political regime is a democracy. If there is no coup threat, i.e., $\varphi_t = \varphi^L$, the populace implements its preferred policy $\lambda_P = \arg\max_\lambda v_P\left(\tau_P^\lambda, \lambda\right)$ and $\tau_P = \tau_P^{\lambda_P}$. During the next period, the political regime will also be a democracy; moreover, with probability s there will be a coup threat, i.e., $\varphi_{t+1} = \varphi^H$, while with probability $(1-s)$ there will be no coup threat, i.e., $\varphi_{t+1} = \varphi^L$. Therefore:

$$V_i\left(D, \varphi^L\right) = v_i\left(\tau_P, \lambda_P\right) + \beta\left[rV_i\left(D, \varphi^H\right) + (1-r)\, V_i\left(D, \varphi^L\right)\right].$$

If there is a coup threat, i.e., $\varphi_t = \varphi^H$, the populace can try to avert it by conceding a transitory change in policy (with this policy being denoted as (τ, λ)). If the elite accepts this concession, then:

$$V_i\left(D, \varphi^H, \tau, \lambda\right) = v_i\left(\tau, \lambda\right) + \beta\left[rV_i\left(D, \varphi^H\right) + (1-r)\, V_i\left(D, \varphi^L\right)\right],$$

where $V_i\left(D, \varphi^H, \tau, \lambda\right)$ indicates the expected utility of group i when the state is $\left(D, \varphi^H\right)$, the people offer (τ, λ), and the elite does not mount a coup. If the populace and the elite follow the same strategy every time $\varphi_t = \varphi^H$, it must be the case that $V_i\left(D, \varphi^H\right) = V_i\left(D, \varphi^H, \tau, \lambda\right)$ and, therefore:

$$V_i\left(D, \varphi^L\right) = \frac{\beta r v_i\left(\tau, \lambda\right) + (1-\beta r)\, v_i\left(\tau_P, \lambda_P\right)}{1-\beta}, \tag{5}$$

$$V_i\left(D, \varphi^H, \tau, \lambda\right) = \frac{\left[1-\beta\left(1-r\right)\right] v_i\left(\tau, \lambda\right) + \beta\left(1-r\right) v_i\left(\tau_P, \lambda_P\right)}{1-\beta}. \tag{6}$$

If the elite decides to mount a coup that gives rise to a dictatorship controlled by the elite faction j, then:

$$V_i^C\left(D, \varphi^H\right) = (1-\varphi)\, y_i^{\lambda_j} + \beta\left[qV_i\left(j, \mu^H\right) + (1-q)\, V_i\left(j, \mu^L\right)\right],$$

where $V_i^C\left(D, \varphi^H\right)$ indicates the expected utility of group i when the state is $\left(D, \varphi^H\right)$ and the elite mounts a coup. After the coup, when $\mu_t = \mu^L$, j (the elite faction that controls the dictatorship) implements its most preferred policy, i.e.,

$$V_i\left(j, \mu^L\right) = y_i^{\lambda_j} + \beta\left[qV_i\left(j, \mu^H\right) + (1-q)\, V_i\left(j, \mu^L\right)\right],$$

while when $\mu_t = \mu^H$, there will be democratization, i.e.,

$$V_i\left(j, \mu^H\right) = V_i\left(D, \varphi^L\right).$$

If each time $\varphi_t = \varphi^H$, the elite mounts a coup, it must be the case that $V_i\left(D, \varphi^H\right) = V_i^C\left(D, \varphi^H\right)$ and, therefore, under a democratic regime:

$$V_i\left(D, \varphi^L\right) = \frac{\left[1-\beta\left(1-q\right)\right] v_i\left(\tau_P, \lambda_P\right) + \beta r y_i^{\lambda_j} - \beta r\left[1-\beta\left(1-q\right)\right]\varphi y_i^{\lambda_j}}{\left(1-\beta\right)\left[1-\beta\left(1-q-r\right)\right]}, \tag{7}$$

$$V_i^C\left(D, \varphi^H\right) = \frac{\left[1-\beta\left(1-r\right)\right] y_i^{\lambda_j} + \beta q v_i\left(\tau_P, \lambda_P\right) - \left[1-\beta\left(1-r\right)\right]\left[1-\beta\left(1-q\right)\right]\varphi y_i^{\lambda_j}}{\left(1-\beta\right)\left[1-\beta\left(1-q-r\right)\right]}, \tag{8}$$

while, under a dictatorship, $V_i\left(j,\mu^L\right)=V_i\left(D,\varphi^H\right)+\varphi y_i^{\lambda_j}$, and $V_i\left(j,\mu^H\right)=V_i\left(D,\varphi^L\right)$.

The elite faction i is willing to accept the populace's offer if and only if $V_i^D\left(D,\varphi^H,\tau,\lambda\right)\geq V_i^C\left(D,\varphi^H\right)$, which implies that we can define a critical value of φ, denoted as $\bar{\varphi}_i^{\lambda_P,\lambda_j}\left(\tau,\lambda\right)$, such that, for all $\varphi\geq\bar{\varphi}_i^{\lambda_P,\lambda_j}\left(\tau,\lambda\right)$, the elite faction i prefers the populace's offer to a coup that gives rise to a dictatorship controlled by the elite faction j. $\bar{\varphi}_i^{\lambda_P,\lambda_j}\left(\tau,\lambda\right)$ is implicitly given by $V_i^D\left(D,\varphi^H,\tau,\lambda\right)=V_i^C\left(D,\varphi^H\right)$. After somewhat tedious, but straightforward algebra, we obtain:

$$\bar{\varphi}_i^{\lambda_P,\lambda_j}\left(\tau,\lambda\right)=\frac{y_i^{\lambda_j}-\left[1-\beta\left(1-q-r\right)\right]v_i\left(\tau,\lambda\right)-\beta\left(1-q-r\right)v_i\left(\tau_P,\lambda_P\right)}{\left[1-\beta\left(1-q\right)\right]y_i^{\lambda_j}}. \tag{9}$$

A coup that gives rise to a dictatorship controlled by j occurs only when $\varphi<\bar{\varphi}_i^{\lambda_P,\lambda_j}\left(\tau,\lambda\right)$ for $i=K,L$. Therefore, for a given φ, the set of policies to which the populace can commit in order to stop such a coup, denoted $\bar{S}_C\left(\lambda_P,\lambda_j,\varphi\right)$, is given by:

$$\bar{S}_C\left(\lambda_P,\lambda_j,\varphi\right)=\left\{\left(\tau,\lambda\right)\in S:\text{there is }i\in\left\{L,K\right\}\text{ such that }\varphi\geq\bar{\varphi}_i^{\lambda_P,\lambda_j}\left(\tau,\lambda\right)\right\}.$$

Moreover, if the populace decides to stop a coup, the best way for it to do so is by promising to embrace the policy that maximizes its expected utility from among the set of policies that will stop a coup, i.e., $\left(\tau_D\left(\varphi\right),\lambda_D\left(\varphi\right)\right)=\arg\max_{(\tau,\lambda)\in\bar{S}_C(\lambda_P,\varphi)}v_P\left(\tau,\lambda\right)$, where $\bar{S}_C\left(\lambda_P,\varphi\right)=\cap_j\bar{S}_C\left(\lambda_P,\lambda_j,\varphi\right)$.

If $\min_j\bar{\mu}_P^{\lambda_j}\left(\tau_P,\lambda_P\right)<\mu<\max_j\bar{\mu}_P^{\lambda_j}\left(\tau_P,\lambda_P\right)$, then one elite faction can placate the groups that threaten to revolt only through democratization, while the other faction can also stop it with a transitory change in policy. Suppose that the first elite is j and the second is k. Moreover, assume that, for any given reason, society switches to a democratic regime. Sooner or later, the threat of a coup will arise, i.e., $\varphi_t=\varphi^H$. The complication is that now there are two different types of coups. On the one hand, if a coup gives rise to a dictatorship controlled by j, it will be forced to democratize when $\mu_t=\mu^H$. For this coup, the relevant critical values are given by (9). On the other hand, a coup that gives rise to a dictatorship controlled by k will lead to a permanent autocracy, since, when $\mu_t=\mu^H$, the elite faction k can always stop a revolt by means of a transitory change in policy. Thus, for this coup, we must deduce new critical values.

Suppose that when $\varphi_t=\varphi^H$, the elite decides to mount a coup that gives rise to an autocracy controlled by k. Then, in the present period, k implements its preferred policy $\tau_k=0$ and $\lambda_k=\arg\max_\lambda y_k^\lambda$. In the next period, if $\mu_{t+1}=\mu^L$, k implements the same policy again, while if $\mu_{t+1}=\mu^H$, k placates the potential proponents of a revolt with the policy (τ_E,λ_E). Therefore:

$$V_i^C\left(D,\varphi^H\right)=\left(1-\varphi\right)y_i^{\lambda_k}+\frac{\beta}{1-\beta}\left[qv_i\left(\tau_E,\lambda_E\right)+\left(1-q\right)y_i^{\lambda_k}\right].$$

Again, the elite faction i is willing to accept the populace's offer if and only if $V_i^D\left(D,\varphi^H,\tau,\lambda\right)\geq V_i^C\left(D,\varphi^H\right)$, which implies that we can define a critical value of φ, denoted $\tilde{\varphi}_i^{\lambda_P,\lambda_k}\left(\tau,\lambda\right)$, such that, for all $\varphi\geq\tilde{\varphi}_i^{\lambda_P,\lambda_k}\left(\tau,\lambda\right)$, the elite faction i prefers the populace's offer to a coup that gives rise to a dictatorship controlled by the elite faction k. $\tilde{\varphi}_i^{\lambda_P,\lambda_k}\left(\tau,\lambda\right)$ is implicitly given by $V_i^D\left(D,\varphi^H,\tau,\lambda\right)=V_i^C\left(D,\varphi^H\right)$. After somewhat tedious but straightforward algebra, we obtain:

$$\tilde{\varphi}_i^{\lambda_P,\lambda_k}\left(\tau,\lambda\right)=\frac{\left(1-\beta q\right)y_i^{\lambda_k}+\beta qv_i\left(\tau_E,\lambda_E\right)-\left[1-\beta\left(1-r\right)\right]v_i\left(\tau,\lambda\right)-\beta\left(1-r\right)v_i\left(\tau_P,\lambda_P\right)}{\left(1-\beta\right)y_i^{\lambda_k}}. \tag{10}$$

A coup that gives rise to a dictatorship controlled by k occurs only when $\varphi < \tilde{\varphi}_i^{\lambda_P,\lambda_k}(\tau,\lambda)$ for $i = K, L$. Therefore, for a given φ, the set of policies that the populace offer in order to stop such a coup, denoted $\tilde{S}_C(\lambda_P,\lambda_k,\varphi,\mu)$, is given by:

$$\tilde{S}_C(\lambda_P,\lambda_k,\varphi,\mu) = \left\{(\tau,\lambda) \in S : \text{there is } i \in \{L,K\} \text{ such that } \varphi \geq \tilde{\varphi}_i^{\lambda_P,\lambda_k}(\tau,\lambda)\right\}.$$

If the populace decides to stop a coup, the best way for it to do so is by offering the policy from among the set of policies that can stop a coup which maximizes its expected utility. The relevant critical values for a coup that gives rise to a dictatorship controlled by j are given by (9), while, for a coup that gives rise to an autocracy controlled by $k \neq j$, they are given by (10). Therefore, $(\tau_D(\varphi,\mu),\lambda_D(\varphi,\mu)) = \arg\max_{(\tau,\lambda)\in\tilde{S}_C(\lambda_P,\varphi,\mu)} v_P(\tau,\lambda)$, where: $\tilde{S}_C(\lambda_P,\varphi,\mu) = \tilde{S}_C(\lambda_P,\lambda_k,\varphi,\mu) \cap \bar{S}_C(\lambda_P,\lambda_j,\varphi)$.

Finally, if $\mu \geq \max_j \bar{\mu}_P^{\lambda_j}(\tau_P,\lambda_P)$, the elite that controls the autocracy can stop a revolt by promising to support a given policy. Therefore, for a given μ, the set of policies that j can offer in order to stop the revolt, denoted $\bar{S}_R(\lambda_j,\mu)$, is given by:

$$\bar{S}_R(\lambda_j,\mu) = \left\{(\tau,\lambda) \in S : \mu \geq \bar{\mu}_P^{\lambda_j}(\tau,\lambda)\right\}.$$

If the elite faction j decides to stop a revolt, the best way for it to do so is by promising to implement the policy that maximizes its expected utility, i.e., $(\tau_E(\mu),\lambda_E(\mu)) = \arg\max_{(\tau,\lambda)\in\bar{S}_R(\lambda_j,\mu)} v_j(\tau,\lambda)$.

In the following sections we characterize the Markov perfect equilibrium. Since intra-elite conflict significantly affects the nature of the conflict of interest among the groups, it is useful to distinguish among the following cases and to study each one separately:

1. No intra-elite conflict over trade policy (Section 3)
2. Intra-elite conflict over trade policy
   (a) Autocracies (Section 4)
   (b) Democracies (Section 5)

Note that these cases cover a wide range of situations. The first case encompasses situations in which political conflict can be reduced to only one dimension, since both elite factions have a shared interest in trade policy. Politics can be seen as a battle between the poor and the rich, or between protectionist and laissez-faire forces; but it does not really matter which cleavage we choose, because both divide society in the same way. The second case encompasses situations in which political conflict is truly two-dimensional. The poor versus rich cleavage divides society into the elite and the people, while the international trade cleavage splits society into a coalition of one elite faction and the people, on one side, and the other elite faction, on the other. Case (a) covers situations in which at least one elite faction can stop a revolt with a transitory concession, and, hence, the key political issue is who controls the autocracy, while case (b) covers situations in which only democratization stops a revolt, and, hence, the key political issues are the consolidation of democracy and the nature of the coups.

3 No intra-elite conflict

In this section, we study cases in which there is no intra-elite conflict over trade policy. We develop a detailed proof for the case of a protectionist elite and pro-free-trade populace, but the argument is analogous for the case of a pro-free-trade elite and protectionist populace.

Since both elite factions are protectionist and the populace is pro-free-trade, the preferred policies of the groups are given by $\tau_j = 0$ and $\lambda_j = A$ for the elite factions and by $\tau_P = \tau_P^F$ and $\lambda_P = F$ for the populace. Therefore, the relevant critical values for a revolt and a coup are $\bar{\mu}_P^A(\tau, \lambda)$ and $\bar{\varphi}_i^{F,A}(\tau, \lambda)$, respectively.

If $\mu < \bar{\mu}_P^A\left(\tau_P^F, F\right)$, when $\mu_t = \mu^H$, then the elite cannot stop a revolt by means of a transitory change in policy, since the populace will prefer to mount a revolt even if the elite offers the populace its preferred policy $\left(\tau_P^F, F\right)$. Transferring the control of the autocracy to the other elite faction does not work either, because both elite factions are protectionist and, hence, from the point of view of the populace, both elite factions offer the same policy when $\mu_t = \mu^L$. Therefore, the only available option is democratization.

The value of φ will determine the type of democracy that emerges.[7] If $\varphi \geq \min_i \bar{\varphi}_i^{F,A}\left(\tau_P^F, F\right)$, then the democracy will be consolidated. The reason is that, after society switches to a democratic regime, even if there is a coup threat, the populace can always avert it by offering $\left(\tau_P^F, F\right)$. If $\min_i \bar{\varphi}_i^{F,A}(0, A) \leq \varphi < \min_i \bar{\varphi}_i^{F,A}\left(\tau_P^F, F\right)$, then the democracy will be semi-consolidated. In order to prove this, note that, after society switches to a democratic regime, whenever there is a coup threat the people can defend democracy by offering the elite its preferred policy $(0, A)$, but they cannot defend it by offering $\left(\tau_P^F, F\right)$. Moreover, the populace is always willing to defend democracy, since the policy implemented by the dictatorship is the worst possible policy for the people. Given that democracy can be defended, the people choose to defend it in the cheapest possible way. Thus, they promise $(\tau_D(\varphi), \lambda_D(\varphi)) = \arg\max_{(\tau,\lambda)\in\bar{S}_C(F,\varphi)} v_P(\tau, \lambda)$, where $\bar{S}_C(F, \varphi) = \left\{(\tau, \lambda) \in S : \text{there is } i \in \{L, K\} \text{ such that } \varphi \geq \bar{\varphi}_i^{F,A}(\tau, \lambda)\right\}$. Finally, if $\varphi < \min_i \bar{\varphi}_i^{F,A}(0, A)$, then democracy will be unconsolidated. In order to prove this, note that there is no transitory change in policy that the populace can offer in order to stop a coup.

If $\mu \geq \bar{\mu}^A\left(\tau_P^F, F\right)$, when $\mu_t = \mu^H$, the elite can placate the potential proponents of a revolt by offering $\left(\tau_P^F, F\right)$ and, as a result, society remains non-democratic. Given that the elite can defend the autocracy, they choose to do so in the cheapest possible way. Thus, the elite promises $(\tau_E(\mu), \lambda_E(\mu)) = \arg\max_{(\tau,\lambda)\in\bar{S}_R(A,\mu)} v_l(\tau, \lambda)$, where $\bar{S}_R(A, \mu) = \left\{(\tau, \lambda) \in S : \mu \geq \bar{\mu}_P^A(\tau, \lambda)\right\}$.

The proof for the case of a pro-free-trade elite and protectionist populace follows the same steps. The only required modification is to replace each letter A with an F and vice versa. The following proposition summarizes the results.

Proposition 1 ***Equilibrium.*** *Let $\lambda_j = \arg\max_\lambda y_j^\lambda$, $\lambda_P = \arg\max_\lambda v_P\left(\tau_P^\lambda, \lambda\right)$ and $\tau_P = \tau_P^{\lambda_P}$. Consider a society with* ***no intra-elite conflict over trade policy****, i.e., $\lambda_l = \lambda_s = \lambda_j \neq \lambda_P$. Then, there is a unique Markov perfect equilibrium $(\sigma_L, \sigma_K, \sigma_P)$ in the game. Let $\bar{\mu}_P^{\lambda_j}(\tau, \lambda)$ and $\bar{\varphi}_i^{\lambda_P,\lambda_j}(\tau, \lambda)$ be defined by (4) and (9). Then, in this equilibrium:*

[7] It useful to distinguish among different types of democracies. Following Acemoglu and Robinson (2006), we can say that a democracy is: 1) *Consolidated*, if, once society has switched to a democratic regime, there are no coups even when the populace implements its preferred policy (τ_P, λ_P); 2) *Semi-consolidated*, if, once society has switched to a democratic regime, whenever there is a coup threat, the populace must concede a transitory change in policy in order to avoid the coup, i.e., when $\varphi_t = \varphi^H$, $(\tau_D, \lambda_D) \neq (\tau_P, \lambda_P)$; and 3) *Unconsolidated*, if, society continuously changes political regimes, i.e., when $\mu_t = \mu^H$, there is democratization, and when $\varphi_t = \varphi^H$, there is a coup.

1. *If* $\mu \geq \bar{\mu}_P^{\lambda_j}(\tau_P, \lambda_P)$*, the society remains* ***non-democratic****. Moreover,* ***if*** $\lambda_j = A$ ***(***$\lambda_j = F$***) there is always, or most of the time, a protectionist (free) trade policy****. When* $\mu_t = \mu^L$ *there is no redistribution and a protectionist trade (free-trade) policy, i.e., the autocracy sets* $(0, \lambda_j)$*; when* $\mu_t = \mu^H$ *the autocracy sets the tax rate and the trade policy given by* $(\tau_E(\mu), \lambda_E(\mu)) = \arg\max_{(\tau,\lambda)\in\bar{S}_R(\lambda_l,\mu)} v_l(\tau, \lambda)$*.*

2. *If* $\mu < \bar{\mu}_P^{\lambda_j}(\tau_P, \lambda_P)$*, then:*

   (a) *If* $\varphi \geq \min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(\tau_P, \lambda_P)$*, then we are in a* ***fully consolidated democracy****. Moreover,* ***if*** $\lambda_j = A$ ***(***$\lambda_j = F$***), there is always a free-trade (protectionist) policy****. The society switches to democracy the first time* $\mu_t = \mu^H$ *and remains democratic thereafter. Taxes are always given by* $\tau_D = \tau_P$ *and there is always a free-trade (protectionist) policy, i.e.,* $\lambda_D = \lambda_P$*.*

   (b) *If* $\min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(0, \lambda_j) \leq \varphi < \min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(\tau_P, \lambda_P)$*, then we are in a* ***semi-consolidated democracy****. Moreover,* ***if*** $\lambda_j = A$ ***(***$\lambda_j = F$***), there is always, or most of the time, a free-trade (protectionist) policy****. The society switches to democracy the first time* $\mu_t = \mu^H$ *and remains democratic thereafter. When* $\varphi_t = \varphi^L$*, democracy sets* (τ_P, λ_P)*; when* $\varphi_t = \varphi^H$*, democracy sets the tax rate and the trade policy given by* $(\tau_D(\varphi), \lambda_D(\varphi)) = \arg\max_{(\tau,\lambda)\in\bar{S}_C(\lambda_P,\varphi)} v_P(\tau, \lambda)$*.*

   (c) *If* $\varphi < \min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(0, \lambda_j)$*, then we are in an* ***unconsolidated democracy with an unstable trade policy****. The society continuously switches political regimes and trade policies. In a dictatorship, when* $\mu_t = \mu^L$*, the elites set* $(0, \lambda_j)$*; when* $\mu_t = \mu^H$*, they democratize and democracy sets* (τ_P, λ_P)*. In a democracy, when* $\varphi_t = \varphi^L$*,* (τ_P, λ_P)*; when* $\varphi_t = \varphi^H$*, there is a coup and the elites set* $(0, \lambda_j)$*.*

The main message of proposition 1 can be easily summarized in a less formal way, which also has the advantage of highlighting the relationships between the political regime and trade policy.

Consider a society with a **protectionist elite and a pro-free-trade populace**. If the cost of organizing a revolt is relatively high ($\mu \geq \bar{\mu}_P^A(\tau_P^F, F)$), then society remains non-democratic, there is very low redistribution and the economy tends to be in autarky (except under very special circumstances, when the best way of stopping a revolt without giving up the political regime is by opening the way for a temporary period of free trade and redistribution). If the cost of organizing a revolt is relatively low ($\mu < \bar{\mu}_P^A(\tau_P^F, F)$) and the cost of organizing a coup is relatively high ($\varphi \geq \min_i \bar{\varphi}_i^{F,A}(\tau_P^F, F)$), then, after the first revolt, society switches from a dictatorship with no income redistribution and a protectionist trade policy to a consolidated democracy with high levels of income taxation and redistribution and a free-trade policy. If the cost of organizing a revolt is relatively low ($\mu < \bar{\mu}_P^A(\tau_P^F, F)$) and the cost of organizing a coup is moderate ($\min_i \bar{\varphi}_i^{F,A}(0, A) \leq \varphi < \min_i \bar{\varphi}_i^{F,A}(\tau_P^F, F)$), then, after the first revolt, society switches from a dictatorship with no income redistribution and a protectionist trade policy to a semi-consolidated democracy, which usually levies high income taxes and implements a free trade policy, but may sometimes face a coup threat, which it can halt by moderating income taxation and perhaps by introducing protectionism for a brief period. Finally, if the cost of organizing a revolt is relatively low ($\mu < \bar{\mu}_P^A(\tau_P^F, F)$) and the cost of organizing a coup is also relatively low ($\varphi < \min_i \bar{\varphi}_i^{F,A}(0, A)$), then society continuously switches between political regimes, levels of income taxation and types of trade

policy. Under a dictatorship, there is no income taxation and protectionism, while, under a democracy, there is a high level of income taxation and free trade.

Consider a society with a **pro-free-trade elite and protectionist populace**. If the cost of organizing a revolt is relatively high ($\mu \geq \bar{\mu}_P^F\left(\tau_P^A, A\right)$), then society remains non-democratic, there is no or very little redistribution and the economy tends to engage in free trade,except under very special circumstances, when the best way of stopping a revolt without sacrificing the political regime is by opening the way for a temporary period of more taxation and redistribution and, possibly, protectionism. If the cost of organizing a revolt is relatively low ($\mu < \bar{\mu}_P^F\left(\tau_P^A, A\right)$) and the cost of organizing a coup is relatively high ($\varphi \geq \min_i \bar{\varphi}_i^{A,F}\left(\tau_P^A, A\right)$), then, after the first revolt, society switches from a dictatorship with no income redistribution and a free-trade policy to a consolidated democracy with high levels of income taxation and redistribution and a protectionist trade policy. If the cost of organizing a revolt is relatively low ($\mu < \bar{\mu}_P^F\left(\tau_P^A, A\right)$) and the cost of organizing a coup is intermediate ($\min_i \bar{\varphi}_i^{A,F}(0,F) \leq \varphi < \min_i \bar{\varphi}_i^{A,F}\left(\tau_P^A, A\right)$), then, after the first revolt, society switches from a dictatorship with no income redistribution and a free-trade policy to a semi-consolidated democracy, which usually levies high income taxes, redistributes and has a protectionist trade policy. It may, however, face a coup threat, which it can avert by moderating income taxation and possibly opening the way for a short period of free trade. Finally, if the cost of organizing a revolt is relatively low ($\mu < \bar{\mu}_P^F\left(\tau_P^A, A\right)$) and the cost of organizing a coup is also relatively low ($\varphi < \min_i \bar{\varphi}_i^{A,F}(0,F)$), then society will continuously switch between political regimes, levels of income taxation and trade policies. Under a dictatorship, there is no income taxation and free trade, while, under a democracy, there is a high level of income taxation, together with redistribution and protectionism.

3.1 Comparative statics

Next, we perform some simple, but informative, comparative static exercises. We first study the effect of a change in the cost of a revolt and the cost of a coup on the welfare of each group. Second, we study the difference between a regime with an exogenous trade policy and one with an endogenous trade policy. Finally, we explore the effects of an increase in populism.

Cost of a revolt / cost of a coup

A change in μ can have two effects on the equilibrium. First, it can affect the equilibrium political regime, causing society to switch from autocracy to democracy or vice versa. Second, even if the change in μ is not enough to modify the political regime, it affects the policy chosen by the elite when $\mu_t = \mu^H$. Similarly, a change in φ can affect the equilibrium political regime, causing society to switch from an unconsolidated democracy to a semi-consolidated or even to a fully consolidated democracy, or vice versa. A change in φ might not be enough to change the political regime, but it can nevertheless affect the policy chosen by the populace when $\varphi_t = \varphi^H$. In order to formally study all of these effects, it is best to first consider the effects of a change in μ and φ in each of the regions identified in proposition 1 separately and then to compare the different regions.

Within a political regime. In an autocracy (region 1), a change in φ does not have any effect on the equilibrium, since, when $\mu_t = \mu^L$, the elite implements $(0, \lambda_j)$, while, when $\mu_t = \mu^H$, it implements $\left(\tau_E(\mu), \lambda_E(\mu)\right) = \arg\max_{(\tau,\lambda)\in\bar{S}_R(\lambda_l,\mu)} v_l(\tau,\lambda)$; and none of these depends on φ. An increase in μ makes the populace weakly worse off and the elite faction l weakly better off. In order to prove the first claim, note that the most favorable autocracy for the people occurs when $\mu = \bar{\mu}_P^{\lambda_j}(\tau_P, \lambda_P)$, and there is an

autocracy only if $\mu \geq \bar{\mu}_P^{\lambda_j}(\tau_P, \lambda_P)$. To prove the second claim, consider two societies with an autocratic political regime. The cost of a revolt in these autocracies is $\mu^H = \mu^1$ and $\mu^H = \mu^2$, respectively; assume that $\mu^2 > \mu^1$. The only difference between these societies is the policy implemented that is when $\mu_t = \mu^H$, which is given by $(\tau_E(\mu), \lambda_E(\mu)) = \arg\max_{(\tau,\lambda)\in\bar{S}_R(\lambda_l,\mu)} v_l(\tau, \lambda)$. Since $\bar{S}_R(\lambda_l, \mu^1) \subseteq \bar{S}_R(\lambda_l, \mu^2)$, it must be the case that $v_l(\tau_E(\mu^2), \lambda_E(\mu^2)) \geq v_l(\tau_E(\mu^1), \lambda_E(\mu^1))$. Furthermore, if the increase in μ does not change the equilibrium trade policy, i.e. $\lambda_E(\mu^2) = \lambda_E(\mu^1)$, then $\tau_E(\mu^2) \leq \lambda_E(\mu^1)$, and it is also true that $v_s(\tau_E(\mu^2), \lambda_E(\mu^2)) \geq v_s(\tau_E(\mu^1), \lambda_E(\mu^1))$.

In a democracy (region 2), a change in μ does not have any effect, and a change in φ does not have any effect in a consolidated democracy (region 2.a), since the populace always implements (τ_P, λ_P), regardless of the value of φ. In a semi-consolidated democracy (region 2.b), an increase in φ favors the populace. In order to prove this, consider two societies which are semi-consolidated democracies. The cost of a coup in the two society is $\varphi^H = \varphi^1$ and $\varphi^H = \varphi^2$, respectively; assume that $\varphi^2 > \varphi^1$. The only difference between these societies is the policy implemented when $\varphi_t = \varphi^H$, which is given by $(\tau_D(\varphi), \lambda_D(\varphi)) = \arg\max_{(\tau,\lambda)\in\bar{S}_C(\lambda_P,\varphi)} v_P(\tau, \lambda)$. Since $\bar{S}_C(\lambda_P, \varphi^1) \subseteq \bar{S}_C(\lambda_P, \varphi^2)$, it must be the case that $v_P(\tau_D(\varphi^2), \lambda_D(\varphi^2)) \geq v_P(\tau_D(\varphi^1), \lambda_D(\varphi^1))$. In an unconsolidated democracy (region 2.c), a change in φ does not modify the equilibrium policies, but it affects the cost of coups. Thus, an increase in φ leaves everybody worse off.

Across political regimes. Finally, we compare the regions identified in proposition 1. It is not difficult to see that both elite factions prefer an autocracy (region 1) to an unconsolidated democracy (region 2.c), prefer an unconsolidated democracy (region 2.c) to a semi-consolidated democracy (region 2.b), and prefer a semi-consolidated democracy (region 2.b) to a consolidated democracy (region 2.a); the populace has exactly the opposite preference order. From a direct inspection of proposition 1, also note that an increase in μ can only switch the equilibrium from democracy (region 2) to autocracy (region 1), while an increase in φ can switch the equilibrium from an unconsolidated democracy (region 2.c) to a semi-consolidated democracy (region 2.b) or even to a consolidated democracy (region 2.a). Therefore, an increase in μ that produces a regime switch benefit only the elites and harms the populace, while an increase in φ that produces a regime switch benefits the populace and harms the elite.

Endogenous vs. exogenous trade policy

In order to see how the introduction of trade policy as an endogenous policy decision affects the equilibrium political regime, it is instructive to compare an environment with a fixed and exogenous trade policy with the one in our model. In particular, we focus on the critical values for democratization and the consolidation of democracy. Suppose that the government cannot select a trade policy, which is instead exogenously determined to be λ. Then, following Acemoglu and Robinson (2006), the critical value for democratization is given by:

$$\bar{\mu}_P(\lambda) = 1 - \frac{\beta(1-q) n_P y_P^{\lambda} + [1 - \beta(1-q)] n_P v_P(\tau_P^{\lambda}, \lambda)}{\bar{y}^{\lambda}}.$$

Simple algebraic manipulation implies that, when the elite is protectionist and the populace is pro-free-trade, $\bar{\mu}_P(F) < \bar{\mu}_P^A(\tau_P^F, F) < \bar{\mu}_P(A)$, while, when the elite is pro-free-trade and the populace is protectionist, $\bar{\mu}_P(A) < \bar{\mu}_P^F(\tau_P^A, A) < \bar{\mu}_P(F)$. Thus, democratization will be more or less likely when trade policy is an endogenous policy decision than when it is exogenous and fixed depending on the stances of the groups in relation to trade policy and the particular fixed trade policy that we pick.

Similarly, when trade policy is exogenously given by λ, the critical values for the consolidation of democracy are given by:

$$\bar{\varphi}_i(\lambda) = \beta(1-q-r)\left[1-\beta(1-q)\right]^{-1}\left[1-\frac{v_i\left(\tau_P^{\lambda},\lambda\right)}{y_i^{\lambda}}\right].$$

Again, simple algebraic manipulation implies that $\bar{\varphi}_i^{\lambda_P,\lambda_j}(0,\lambda_j) > \max_{\lambda}\bar{\varphi}_i(\lambda)$, for all $\lambda_P \neq \lambda_j$. Therefore, consolidation of democracy is always more difficult when trade policy is an endogenous policy decision.

Populism

The term "populism" can be very elusive, and this is not the place to discuss its precise meaning. Therefore, we follow a more pragmatic approach and associate populism with two different parameters of our model. First, we explore changes in the populace's ability to honor its policy promises in order to defend democracy from a coup. This is captured by r, since the populace keeps its promise only when $\varphi_t = \varphi$, which occurs with probability r. Formally:

$$\frac{\partial\bar{\varphi}_i^{\lambda_P,\lambda_j}(0,\lambda_j)}{\partial r} = -\beta\left[1-\beta(1-q)\right]^{-1}\left[1-\frac{v_i(\tau_P,\lambda_P)}{y_i^{\lambda_j}}\right] < 0.$$

Thus, an increase in r (a decrease in populism) heightens the credibility of the populace's promises when there is a coup threat, thereby reducing the likelihood of a coup.

Second, we explore changes in the redistributive tendencies of democracy. In order to do so, we must introduce a very simple extension to our model. Suppose that the populace is divided into two groups of equal size, denoted by P_1 and P_2. Let y_{P_1} (y_{P_2}) be the income of a member of group P_1 (P_2), where $y_{P_2} > y_{P_1}$, and $y_P = \frac{y_{P_1}+y_{P_2}}{2}$. Suppose that a democratic government maximizes a weighted average of the utility of each group, i.e., under a democratic regime, the government maximizes

$$v_P(\tau,\lambda) = \chi_P v_{P_1}(\tau,\lambda) + (1-\chi_P)\,v_{P_2}(\tau,\lambda),$$

where $\chi_P \in [0,1]$ indicates the importance of group P_1. Then, τ_P^{λ}, the income tax rate that maximizes people's per-period utility when trade policy is $\lambda = A, F$, is the unique solution of the following equation.

$$C'\left(\tau_P^{\lambda}\right) = 1 - \frac{\chi_P y_{P_1}^{\lambda} + (1-\chi_P)\,y_{P_2}^{\lambda}}{\bar{y}^{\lambda}}.$$

Since $y_{P_2} > y_{P_1}$, an increase in χ_P induces an increase in τ_P^{λ}. Formally, from the previous expression, $\frac{\partial\tau_P^{\lambda}}{\partial\chi_P} = \frac{y_{P_2}^{\lambda}-y_{P_1}^{\lambda}}{C''(\tau_P^{\lambda})\bar{y}^{\lambda}} > 0$. Thus, an increase in the weight that democratic institutions assign to the poor within the population makes democracy more prone to implement redistributive policies. This implies that the elite is less willing to accept a democratic regime or, which is the equivalent, it is more willing to mount a coup. Formally:

$$\frac{d\bar{\varphi}_i^{\lambda_P,\lambda_j}(0,\lambda_j)}{d\chi_P} = -\beta(1-q-r)\left[1-\beta(1-q)\right]^{-1}\left(y_i^{\lambda_j}\right)^{-1}\frac{dv_i(\tau_P,\lambda_P)}{d\chi_P} > 0,$$

since $\frac{dv_i(\tau_P,\lambda_P)}{d\chi_P} < 0$.

The following proposition summarizes all of the comparative statics results.

Proposition 2 ***Comparative statics****. Consider a society with* ***no intra-elite conflict over trade policy****. Under the assumptions of proposition 1:*

1. ***Cost of a revolt - cost of a coup****.*

   (a) ***Within a political regime (autocracy)****. If the political regime is an autocracy, a change in the cost of a coup φ has no welfare effects, while an increase in the cost of a revolt μ makes the primary faction of the elite weakly better off and the populace weakly worse off. Furthermore, if the increase in μ does not change the trade policy, it also makes the secondary faction of the elite weakly better off..*

   (b) ***Within a political regime (democracy)****. In a democracy, a change in μ that does not modify the regime has no welfare effects. In a consolidated democracy, an increase in φ has no welfare effects either. In a semi-consolidated democracy, an increase in φ that does not change the regime makes at least one elite faction weakly worse off and the populace weakly better off. In an unconsolidated democracy, an increase in φ that does not change the regime, makes everybody worse off.*

   (c) ***Across political regimes****. Both elite factions prefer an autocracy (region 1) to an unconsolidated democracy (region 2.c), prefer an unconsolidated democracy (region 2.c) to a semi-consolidated democracy (region 2.b), and prefer a semi-consolidated democracy (region 2.b) to a consolidated democracy (region 2.a); the populace has exactly the opposite preference order.*

2. ***Exogenous vs. endogenous trade policy****. If the elite is protectionist (pro-free-trade) and the populace is pro-free-trade (protectionist), democratization is more likely when trade policy is endogenous than when there is an exogenous free-trade (protectionist) policy, but democratization is less likely when trade policy is endogenous than when there is an exogenous protectionist (free-trade) policy. Consolidation of democracy is always less likely when trade policy is endogenous than when it is exogenous, regardless of the nature of the exogenous trade policy.*

3. ***Populism****. A more populist democracy, measured either by a decrease in s or an increase in χ_P, makes coups more likely and, hence, the consolidation of democracy less likely.*

The intuitions behind the comparative static results summarized in proposition 2 are simple. Generally speaking, an increase in the cost of the revolt favors the elite and harms the people. The intuition is that the elite can placate the potential proponents of a revolt with fewer concessions. Similarly, an increase in the cost of a coup favors the people and harms the elite because the people can stop a coup with fewer concessions. Item 1.c of proposition 2 confirms this intuition, while parts 1.a and 1.b warn us about some caveats when we consider marginal changes in μ or φ within a political regime. Part 2 of proposition 2 shows the importance of considering trade policy as the outcome of the political game, rather than as an exogenous variable. When trade policy is endogenous, democratization can be easier or more difficult than when it is exogenous depending on the trade policy stances of the elite and the people and the exogenous trade policy that we take as a reference point. The intuition is that, when the exogenous trade policy and the populace's trade policy preference are the same, democratization is more likely when trade policy is endogenous because the credible commitment problem of the elite is more severe (the elite cannot credibly commit to implement λ_P when there is no revolt threat). Consolidation

of democracy is always more difficult when trade policy is endogenous because a change in the political regime not only brings a favorable change in income taxation but also a favorable switch in trade policy. Thus, the elite always finds democracy more costly and coups more attractive when it is possible to switch trade policy. Finally, an increase in populism, regardless of whether it is defined as how redistributive democratic institutions are or how credible the populace's promises are, always makes democracy less attractive for the elite. Thus, the more populist a democracy is, the higher the chances that the elite will mount a coup.

Before we move to the case of intra-elite conflict, it is useful to briefly discuss the main results of propositions 1 and 2. Proposition 1 states that, once we introduce trade policy as an endogenous outcome of the political game, then, if there is no intra-elite conflict over trade policy, we should expect major changes in the political regime to be associated with major switches in trade policy. Moreover, the direction of the switches depends on the comparative advantage of the economy and the nature of political change. Thus, for instance, democratization in societies with a protectionist elite and a pro-free-trade populace should be associated with an opening of the economy, while democratization in societies with a pro-free-trade elite and a protectionist populace should be accompanied by the proliferation of protectionist measures. Proposition 2 confirms that some of the results which hold for a society with an exogenous and fixed trade policy also apply when trade policy is endogenous. In general, the elite benefits from an increase in the cost of a revolt and a decrease in the cost of a coup, while the populace benefits from a decrease in the cost of a revolt and an increase in the cost of a coup. Moreover, a more populist democracy increases the chances of coups.

4 Intra-elite conflict in autocracies

In this and the next section, we explore the case of a society subject to intra-elite conflict. The approach used to deduce the equilibrium is analogous to the one employed in the previous section, although now the proofs are a bit more complicated. There are three reasons for this. First, the populace can try to seduce either the protectionist or the pro-free-trade faction of the elite in order to stop a coup. Second, under some circumstances, the people cannot put a stop to a coup, although they can influence its nature. In particular, they can determine which faction of the elite controls the dictatorship. Third, under some circumstances, it is possible that the people may find it too costly to defend democracy even when there is a credible promise that they can use in order to do so. In particular, if the alternatives are a coup controlled by the elite faction with the same trade policy preferences as the people, versus a democracy in which the elite faction with the opposite trade policy preferences prevails, it may be the case that the people will prefer the coup.

In order to deduce the equilibrium, it is useful to distinguish among three different regions according to the value of μ. If $\mu \geq \bar{\mu}_P^{\lambda_l}(\tau_P, \lambda_P)$, the elite faction l can placate the potential proponents of a revolt in three different ways. First, it can simply implement (τ_P, λ_P) whenever $\mu_t = \mu^H$. Second, it can transfer the control of the autocracy to the elite faction s, which can subsequently stop the revolt. Finally, it can offer democratization. If $\bar{\mu}_P^{\lambda_s}(\tau_P, \lambda_P) \leq \mu < \bar{\mu}_P^{\lambda_l}(\tau_P, \lambda_P)$, the elite faction l can placate the potential proponents of a revolt only by transferring the control of the autocracy to the elite faction s, or through democratization. Finally, if $\mu < \bar{\mu}_P^{\lambda_s}(\tau_P, \lambda_P)$, l can placate the potential proponents of a revolt only by offering democratization. In this section, we focus on the first two regions in which the elite faction l

can placate the potential proponents of a revolt by transferring the control of the autocracy to the elite faction s, while, in the next section, we will study the third region.

Before we formally characterize the equilibrium, it is instructive to summarize and discuss the key mechanisms at work behind the scenes. When $\mu \geq \bar{\mu}_P^{\lambda_l}(\tau_P, \lambda_P)$, the elite faction l faces the following dilemma. On the one hand, if l stays in control of the autocracy, then, whenever there is a revolt threat, l must offer a policy that gives the populace at least the expected utility it would get under a revolution. Moreover, the populace knows that, in the future, l will keep its promise only if there is a revolt threat while, when a revolution is not impending, l will implement its preferred policy, namely $(0, \lambda_l)$. Since, for the populace, this is the worst possible policy, l is forced to offer a relatively good deal when there is a revolt threat. On the other hand, if l transfers the control of the autocracy to s, when there is no revolt threat, s will implement $(0, \lambda_s)$. Since, from the point of view of the populace, this is a much better policy than $(0, \lambda_l)$, the populace is willing to accept a more modest offer. In other words, the elite faction that controls the autocracy has a commitment problem because it can not credibly commit to implementing a policy other than $(0, \lambda_j)$ when it doesn't face a revolt threat. But the problem has a partial solution, in the sense that l can credibly offer the populace a higher payment when there is no revolt threat by transferring the control of the autocracy to s. Of course, this solution comes at a cost, since, once s dominates the autocracy, it always implements its preferred trade policy, i.e., λ_s. Thus, at the end of the day, by transferring the control of the autocracy to s, l is "trading" less taxation for an unfavorable switch in trade policy.

When $\bar{\mu}_P^{\lambda_s}(\tau_P, \lambda_P) \leq \mu < \bar{\mu}_P^{\lambda_l}(\tau_P, \lambda_P)$, the elite faction l faces a different dilemma. Now, keeping its control over the autocracy is not an option, since this would lead to a revolt. Thus, on the one hand, l can transfer the control of the autocracy to s, which has the ability to placate the potential proponents of a revolt. In this case, the first time that there is a revolt threat, society switches from an autocracy controlled by s to a permanent autocracy controlled by s. From the point of view of l, the advantage of this alternative is that taxation will be relatively moderate; the disadvantage is that trade policy will always be λ_s. On the other hand, l can democratize. This alternative is more complicated, since democratization can result in a consolidated, semi-consolidated or unconsolidated democracy. If democratization leads to a consolidated democracy, l always prefers to transfer control to s, since a consolidated democracy not only implements λ_s, but also levies very high income taxes. If democratization leads to a semi-consolidated democracy which, each time there is a coup threat, promises λ_l, it is possible that l will find this alternative to be a better one than an autocracy controlled by s. Note the trade-off involved in this decision. The semi-consolidated democracy offers λ_s and high taxation when there is no coup threat and λ_l and moderate taxation when there is a coup threat; the autocracy controlled by s offers λ_s and no taxation when there is no revolt threat and moderate taxation when there is a revolt threat. Thus, relative to the autocracy controlled by s, the semi-consolidated democracy gives l a transitorily favorable trade policy, but higher taxation. Finally, democratization can lead to an unconsolidated democracy with periodic coups that give rise to a dictatorship controlled by l. Moreover, l may find this regime more attractive than an autocracy controlled by s. This is because, so long as the dictatorship remains in power, l can implement its preferred policy, i.e., $(0, \lambda_l)$. It is worth mentioning that democratization can also lead to a transitory democratic regime that survives only until the first coup threat, at which time the elite mounts a coup that gives rise to a permanent autocracy controlled by s. Although this possibility adds some complications to the following proof, it is never part of an equilibrium path. The intuition behind this result is that it makes no sense for l to democratize solely for the purpose of postponing the

arrival of an autocracy controlled by s.

In the appendix we present a detailed proof that formalized these arguments. The following proposition summarizes the results.

Proposition 3 ***Equilibrium***. *Consider a society with* ***intra-elite conflict over trade policy****, i.e.,* $\lambda_l \neq \lambda_s = \lambda_P$*, where* $l, s \in \{L, K\}$ *and* $l \neq s$*. Let* $\bar{\mu}_P^{\lambda_j}(\tau, \lambda)$*,* $\bar{\varphi}_i^{\lambda_P, \lambda_j}(\tau, \lambda)$ *and* $\tilde{\varphi}_i^{\lambda_P, \lambda_k}(\tau, \lambda)$ *be defined by (4), (9) and (10), respectively. Define* $\tilde{\varphi}_{CON}^{\lambda_P} = \max\left\{\min_i \bar{\varphi}_i^{\lambda_P, \lambda_l}(\tau_P, \lambda_P), \min_i \tilde{\varphi}_i^{\lambda_P, \lambda_s}(\tau_P, \lambda_P)\right\}$ *and* $\tilde{\varphi}_{SEM}^{\lambda_P} = \min_\lambda \max\left\{\min_i \bar{\varphi}_i^{\lambda_P, \lambda_l}(0, \lambda), \min_i \tilde{\varphi}_i^{\lambda_P, \lambda_s}(0, \lambda)\right\}$*. Then, there is a unique Markov perfect equilibrium* $(\sigma_L, \sigma_K, \sigma_P)$ *in the game. In this equilibrium, before the first time that* $\mu_t = \mu^H$*, the autocracy is controlled by the elite faction* l*, which sets* $(0, \lambda_l)$*. After this:*

1. *If* $\mu \geq \bar{\mu}_P^{\lambda_l}(\tau_P, \lambda_P)$*, the society remains* ***non-democratic****. The* ***autocracy continues under the control of*** l *if and only if* $V_l\left(l, \mu^H\right) \geq V_l\left(s, \mu^H\right)$*, in which case,* ***if*** $\lambda_l = A$ ***(*** $\lambda_l = F$***), there is always, or most of the time, a protectionist (free-trade) policy****. In particular, when* $\mu_t = \mu^L$*,* $(0, \lambda_l)$*; while when* $\mu_t = \mu^H$*,* $(\tau_E(\lambda_l, \mu), \lambda_E(\lambda_l, \mu)) = \arg\max_{(\tau,\lambda)\in\bar{S}_R(\lambda_l,\mu)} v_l(\tau, \lambda)$*. Otherwise, the first time that* $\mu_t = \mu^H$*,* ***the control of the autocracy is transferred to*** s*, in which case,* ***if*** $\lambda_s = F$ ***(*** $\lambda_s = A$***), there is always a free-trade (protectionist) policy****. In particular, when* $\mu_t = \mu^L$*,* $(0, \lambda_s)$*; when* $\mu_t = \mu^H$*,* $\tau_E(\lambda_s, \mu) = \arg\max_{(\tau,\lambda_s)\in\bar{S}_R(\lambda_s,\mu)} v_s(\tau, \lambda_s)$ *and* $\lambda_E(\lambda_s, \mu) = \lambda_s$*.*[8]
2. *If* $\bar{\mu}_P^{\lambda_s}(\tau_P, \lambda_P) \leq \mu < \bar{\mu}_P^{\lambda_l}(\tau_P, \lambda_P)$ *then:*
   (a) *If* $\varphi \geq \tilde{\varphi}_{CON}^{\lambda_P}$*, the society remains* ***non-democratic*** *and the first time that* $\mu_t = \mu^H$*,* ***the control of the autocracy is transferred to*** s*.* ***If*** $\lambda_s = F$ ***(*** $\lambda_s = A$***), there is always a free-trade (protectionist) policy****. In particular, when* $\mu_t = \mu^L$*,* $(0, \lambda_s)$*; while when* $\mu_t = \mu^H$*,* $\tau_E(\lambda_s, \mu)$ *and* $\lambda_E(\lambda_s, \mu) = \lambda_s$*.*
   (b) *If* $\tilde{\varphi}_{SEM}^{\lambda_P} \leq \varphi < \tilde{\varphi}_{CON}^{\lambda_P}$*,* ***the first time that*** $\mu_t = \mu^H$***, society switches to either a semi-consolidated democracy or an autocracy controlled by*** s*.* ***In the first situation, if*** $\lambda_P = F$ ***(*** $\lambda_P = A$***), there is a free-trade (protectionist) policy most of the time****. In particular, when* $\varphi_t = \varphi^L$*,* (τ_P, λ_P)*; while when* $\varphi_t = \varphi^H$*,* $(\tau_D(\varphi, \mu), \lambda_D(\varphi, \mu)) = \arg\max_{(\tau,\lambda)\in\tilde{S}_C(\lambda_P,\varphi,\mu)} v_P(\tau, \lambda)$*.* ***In the second situation, 2.a. applies****. Society switches to a semi-consolidated democracy if and only if the following two conditions hold. First, democratization leads to a semi-consolidated democracy, i.e., there is no* $(\tau, \lambda) \in \bar{S}_C(\lambda_P, \lambda_l, \varphi) - \tilde{S}_C(\lambda_P, \lambda_s, \varphi, \mu)$ *or*

$$V_P\left(D, \varphi^H, \tau_D(\varphi, \mu), \lambda_D(\varphi, \mu)\right) \geq (1-\varphi) y_P^{\lambda_s} + \beta\left[qV_P\left(s, \mu^H\right) + (1-q) V_P\left(s, \mu^L\right)\right].$$

[8] Note that:

$$V_i\left(l, \mu^H\right) = (1-\beta)^{-1}\left\{[1-\beta(1-q)] v_i(\tau_E(\lambda_l, \mu), \lambda_E(\lambda_l, \mu)) + \beta(1-q) y_i^{\lambda_l}\right\},$$

where $(\tau_E(\lambda_l, \mu), \lambda_E(\lambda_l, \mu)) = \arg\max_{(\tau,\lambda)\in\bar{S}_R(\lambda_l,\mu)} v_l(\tau, \lambda)$; and

$$V_i\left(s, \mu^H\right) = (1-\beta)^{-1}\left\{[1-\beta(1-q)] v_i(\tau_E(\lambda_s, \mu), \lambda_s) + \beta(1-q) y_i^{\lambda_s}\right\},$$

where $\tau_E(\lambda_s, \mu) = \arg\max_{(\tau,\lambda_s)\in\bar{S}_R(\lambda_s,\mu)} v_s(\tau, \lambda_s)$.

Second, l prefers a semi-consolidated democracy to an autocracy controlled by s, i.e.,$V_l\left(D,\varphi^L\right)\geq V_l\left(s,\mu^H\right)$.[9]

(c) *If $\varphi<\tilde{\varphi}_{SEM}^{\lambda_P}$,* ***the first time that $\mu_t=\mu^H$, society switches to either an unconsolidated democracy or an autocracy controlled by s. In the first situation, society continuously switches the political regime and the trade policy****. In particular, when $\mu_t=\mu^L$, the elites set $(0,\lambda_l)$; when $\mu_t=\mu^H$, there is democratization and the populace sets (τ_P,λ_P); when $\varphi_t=\varphi^L$, the populace sets (τ_P,λ_P); when $\varphi_t=\varphi^H$, there is a coup and the elites set $(0,\lambda_l)$.* ***In the second situation, 2.a. applies****. Society switches to an unconsolidated democracy if and only if the following two conditions hold. First, democratization leads to an unconsolidated democracy, i.e., there is $(\tau,\lambda)\in\tilde{S}_C\left(\lambda_P,\lambda_s,\varphi,\mu\right)-\bar{S}_C\left(\lambda_P,\lambda_l,\varphi\right)$ and*

$$V_P\left(l,\mu^L\right)-\varphi y_P^{\lambda_l}\geq\left(1-\varphi\right)y_P^{\lambda_s}+\beta\left[qV_P\left(s,\mu^H\right)+\left(1-q\right)V_P\left(s,\mu^L\right)\right];$$

or there is no $(\tau,\lambda)\in\tilde{S}_C\left(\lambda_P,\lambda_s,\varphi,\mu\right)\cap\bar{S}_C\left(\lambda_P,\lambda_l,\varphi\right)$[10] *and*

$$V_l\left(l,\mu^L\right)-\varphi y_l^{\lambda_l}\geq\left(1-\varphi\right)y_l^{\lambda_s}+\beta\left[qV_l\left(s,\mu^H\right)+\left(1-q\right)V_l\left(s,\mu^L\right)\right].$$

Second, l prefers the unconsolidated democracy to an autocracy controlled by s, i.e.,$V_l\left(D,\varphi^L\right)\geq V_l\left(s,\mu^H\right)$.[11]

The main message of proposition 3 can be easily summarized in a less formal, but clearer way. Since we use this proposition later on in order to study the evolution of the political regime and trade policy in England during the nineteenth century, for the purposes of this informal summary, we employ the economic cleavages that existed in England at that time. Specifically, we assume that the primary faction of the elite l is protectionist, while the secondary faction of the elite s and the populace are pro-free-trade. In other words, in nineteenth century England, $l=L$ is the land-owning owner aristocracy, $s=K$ is the group of capitalists engaged in commerce and manufacturing, and P corresponds to workers in the manufacturing sector and the middle class.

Consider a society with **intra-elite conflict** over trade policy. In particular, suppose that the **primary elite faction (the aristocracy) is protectionist, while the secondary faction of the elite**

[9] Note that

$$V_i\left(D,\varphi^L\right)=\left(1-\beta\right)^{-1}\left\{\beta r v_i\left(\tau_D\left(\varphi,\mu\right),\lambda_D\left(\varphi,\mu\right)\right)+\left(1-\beta r\right)v_i\left(\tau_P,\lambda_P\right)\right\},$$

and

$$V_i\left(D,\varphi^H,\tau_D,\lambda_D\right)=\left(1-\beta\right)^{-1}\left\{\left[1-\beta\left(1-r\right)\right]v_i\left(\tau_D\left(\varphi,\mu\right),\lambda_D\left(\varphi,\mu\right)\right)+\beta\left(1-r\right)v_i\left(\tau_P,\lambda_P\right)\right\},$$

where $\left(\tau_D\left(\varphi,\mu\right),\lambda_D\left(\varphi,\mu\right)\right)=\arg\max_{(\tau,\lambda)\in\tilde{S}_C(\lambda_P,\varphi,\mu)}v_P\left(\tau,\lambda\right)$. For the defintion of $V_i\left(l,\mu^H\right)$ see the previous footnote.

[10] Note that, for $\varphi<\tilde{\varphi}_{UNC}^{\lambda_P}=\min\left\{\min_{i,\lambda}\bar{\varphi}_i^{\lambda_P,\lambda_l}\left(0,\lambda\right),\min_{i,\lambda}\tilde{\varphi}_i^{\lambda_P,\lambda_s}\left(0,\lambda\right)\right\}$ this condition automatically holds, since there is no promise that can stop a coup.

[11] Note that

$$V_i\left(D,\varphi^L\right)=\left(1-\beta\right)^{-1}\left[1-\beta\left(1-q-r\right)\right]^{-1}\left\{\left[1-\beta\left(1-q\right)\right]v_i\left(\tau_P,\lambda_P\right)+\beta r y_i^{\lambda_l}-\beta r\left[1-\beta\left(1-q\right)\right]\varphi y_i^{\lambda_l}\right\},$$

and

$$V_i\left(l,\mu^L\right)-\varphi y_i^{\lambda_l}=\left(1-\beta\right)^{-1}\left[1-\beta\left(1-q-s\right)\right]^{-1}\left\{\left[1-\beta\left(1-r\right)\right]y_i^{\lambda_l}+\beta q v_i\left(\tau_P,\lambda_P\right)-\left[1-\beta\left(1-r\right)\right]\left[1-\beta\left(1-q\right)\right]\varphi y_i^{\lambda_l}\right\}.$$

For the definition of $V_i\left(s,\mu^L\right)$ and $V_i\left(s,\mu^H\right)$ see footnote 8.

(the capitalists) and the populace are pro-free-trade. If the cost of organizing a revolt is relatively high ($\mu \geq \bar{\mu}^A\left(\tau_P^F, F\right)$), then society remains non-democratic. If the autocracy is controlled by the aristocracy, the economy tends to operate under protectionism, except when the people are threatening to revolt and must be placated with temporary redistribution and possibly a short period of free trade. If the autocracy is controlled by the capitalists, there is always a free-trade policy and the potential proponents of a revolt are placated with temporary redistribution. The aristocracy will be more willing to transfer control over the autocracy to the capitalists if such an autocracy can stop revolts with much lower taxation than an autocracy controlled by the aristocracy. If the cost of organizing a revolt is moderate ($\bar{\mu}^F\left(\tau_P^F, F\right) \leq \mu < \bar{\mu}^A\left(\tau_P^F, F\right)$) and the cost of organizing a coup is high ($\varphi \geq \tilde{\varphi}_{CON}^F$), then, after the first revolt, society will switch from an autocracy controlled by the aristocracy, no income redistribution and a protectionist trade policy to an autocracy controlled by the capitalists, a free-trade policy and very little or no redistribution, except under the exceptional circumstances of a renewed threat of revolt by the people, who must then be placated with temporary redistribution. If the cost of organizing a revolt and the cost of organizing a coup are both moderate ($\bar{\mu}^F\left(\tau_P^F, F\right) \leq \mu < \bar{\mu}^A\left(\tau_P^F, F\right)$ and $\tilde{\varphi}_{SEM}^F \leq \varphi < \tilde{\varphi}_{CON}^F$, respectively), then, after the first revolt, society will switch from an autocracy controlled by the aristocracy, no redistribution and a protectionist trade policy to either a semi-consolidated democracy or an autocracy controlled by the capitalists. A semi-consolidated democracy usually implements high levels of income taxation and redistribution and a free-trade policy, but sometimes faces a coup threat, which it counters by moderating income taxation and by ushering in a short period of protectionism. An autocracy controlled by the capitalists usually does not redistribute and implements a free-trade policy, but it may sometimes be faced with a populace that threatens to revolt, which it placates with transitory redistribution. If the cost of organizing a revolt is moderate ($\bar{\mu}^F\left(\tau_P^F, F\right) \leq \mu < \bar{\mu}^A\left(\tau_P^F, F\right)$) and the cost of organizing a coup is low ($\varphi < \tilde{\varphi}_{SEM}^F$), then, after the first revolt, society will switch from an autocracy controlled by the aristocracy to either an unconsolidated democracy or an autocracy controlled by the capitalists. If the transition is to an unconsolidated democracy, society will continuously switch between political regimes, levels of income taxation, and trade policies. An autocracy controlled by the capitalists usually does not redistribute and implements a free-trade policy, but sometimes faces a populace that threatens to revolt and then placates the people with a temporary period of redistribution.

4.1 Comparative statics

Next, we perform some comparative static exercises. First, we study marginal changes either in the cost of the coup or in the cost of the revolt that do not affect the political regime. Second, we compare societies with different political regimes. Finally, we compare a society with an exogenously given trade policy with one in which there is intra-elite conflict and trade policy is determined endogenously.

Cost of a revolt / cost of a coup

Although the algebra involved in some of the proofs is somewhat tedious, the intuition behind the results is quite simple and clean. Consequently, we will informally discuss the intuition here while relegating the formal proofs to the appendix.

Within a political regime (autocracy). If the society is an autocracy, a change in the cost of a coup that does not change the political regime has no welfare effects, since the cost of a coup does not affect the equilibrium policy in an autocracy. If the autocracy is controlled by l, then, when a revolt is more costly, the populace is willing to accept a lower level of utility in exchange for not organizing a revolt, and the elite faction that controls the autocracy always has the chance to take advantage of

the new situation by, at least, offering less taxation and, in some circumstances, also making a favorable change in trade policy. In general, the elite faction s also benefits from an increase in the cost of a revolt, although there can be situations in which the change in μ allows l to change trade policy. In such circumstances, the elite faction s can be worse off after the increase in μ. If the autocracy is controlled by s, then, regardless of the value of μ, trade policy is always λ_s and the only relevant policy dimension is taxation. Thus, when a revolt is more costly, the populace is willing to accept a lower level of taxation in exchange for not organizing a revolt, which implies that the increase in μ makes both elite factions better off.

Within a political regime (democracy). If the society is a semi-consolidated democracy, then, when a coup is more costly, the populace can increase taxation and still defend democracy. The trade policy is not involved because, in this region of the parameter space, there is no semi-consolidated democracy that implements $\lambda_D = \lambda_P$ when $\varphi_t = \varphi^H$. The reason is that, if democratization leads to such a semi-consolidated democracy, the elite faction l prefers to not democratize and transfer control over the autocracy to s. Thus, an increase in the cost of a coup makes the populace better off and the elite factions worse off. When a revolt is more costly, it is cheaper for an autocracy controlled by s to placate the potential proponents of a revolt. Therefore, a coup that gives rise to an autocracy controlled by s is more attractive for the elite, which implies that the populace must reduce taxation in order to avoid such a coup. Thus, an increase in the cost of a revolt makes the populace worse off and both elite factions better off. If society is an unconsolidated democracy, then an increase in φ that does not change the political regime makes all the groups in society worse off, since there is no change in policy but, now, each time there is a coup, the welfare losses will be higher. A change in μ that does not affect the political regime has no welfare effect, since it doesn't affect the equilibrium policy implemented by the populace under a democracy or by the elite under a dictatorship.

Across political regimes. Hitherto we have compared two societies with the same political regime but different values of μ and φ. This is a useful way to see local welfare effects, but we also want to know how the welfare of the groups varies across political regimes. One way of doing so is to compare the regions identified in proposition 3. The first and very rough comparison is between regions 1 and 2. Consider two societies: society 1 is in region 1 and society 2 in region 2. Then, the elite faction l prefers society 1 to society 2. The intuition is as follows. (i) Since in region 1 l can placate the proponents of a revolt by keeping its control over the autocracy or transferring control to s, the expected utility of l in region 1 must be the highest between these two alternatives. (ii) From the point of view of l, an autocracy controlled by l in region 1 is always better than a semi-consolidated democracy in region 2 (the best a semi-consolidated democracy can offer is (τ_P, λ_P), when $\varphi_t = \varphi^L$, and $(0, \lambda_l)$, when $\varphi_t = \varphi^H$, while the worst autocracy controlled by l implements $(0, \lambda_l)$, when $\mu_t = \mu^L$, and (τ_P, λ_P), when $\mu_t = \mu^H$). (iii) An autocracy controlled by l in region 1 is always better than an unconsolidated democracy in region 2 (the unconsolidated democracy implements (τ_P, λ_P), when $\varphi_t = \varphi^L$ and $(0, \lambda_l)$, when $\mu_t = \mu^L$, with coups and democratization when $\varphi_t = \varphi^H$ and $\mu_t = \mu^H$, which is worse than the worst autocracy controlled by l). (iv) An autocracy controlled by s in region 1 is better than an autocracy controlled by s in region 2 (the political regime is the same, but μ is higher in region 1). It is not difficult to see that (i)-(iv) implies that the elite faction l prefers society 1 to society 2. If society 1 is an autocracy controlled by l, then the populace prefers society 2 to society 1. The intuition is that, in society 1, the cost of a revolt is higher and, hence, the expected utility which the populace demands in exchange for not organizing a revolt is lower. We can not apply the same intuition when society 1 is an autocracy controlled by s

because, if s can placate the proponents of a revolt by always implementing $(0, \lambda_s)$ in societies 1 and 2, it is possible that democratic society 1 gives lower expected utility to the populace than an autocratic society 1. Finally, if society 1 is an autocracy controlled by s, then the elite faction s prefers society 1 to society 2. The intuition is as follows. If society 2 is an autocracy controlled by s, then s prefers society 1 (the political regime is the same, but μ is higher in region 1). Moreover, from the point of view of s, even the worst autocracy controlled by s is better than any democratic regime.

The second comparison we make is more subtle. We want to compare the welfare of the different groups in regions 2.a, 2.b, and 2.c. There are two difficulties in doing so. First, since the expected utility obtained by each group under an autocracy controlled by s varies with the value of μ, it is possible that, for instance, a semi-consolidated democracy is better for the populace than an autocracy controlled by s with a high μ, but worse than another one with a low μ. Second, proposition 3 clearly establishes that in region 2.b (2.a) the political regime can be either a semi-consolidated (unconsolidated) democracy or an autocracy controlled by s; however, the question as to which particular regime prevails will depend in a very complicated way on the preferences of the groups. So, suppose we fix a value of $\mu \in \left[\bar{\mu}^{\lambda_s}(\tau_P, \lambda_P), \bar{\mu}^{\lambda_l}(\tau_P, \lambda_P)\right]$ and we start increasing φ. If we consider changes in φ that do not modify the political regime, we already know what impact they will have on the welfare of each group. However, if we keep increasing φ from 0 to 1, eventually we will go through societies in regions 2.c, 2.b and finally 2.a; therefore, we must consider the possibility that we are moving from one political regime to another. Furthermore, suppose that we partition the segment $[0, 1]$ into three smaller segments, with the first one belonging to region 2.c, the second to region 2.b, and the third to region 2.c. We then ask in which of these segments each group would like to be. And the answer to that question is: l weakly prefers regions 2.b and 2.c to 2.a, s prefers region 2.a to regions 2.b and 2.c, and, provided that $\mu < \bar{\mu}_P^{\lambda_s}(0, \lambda_s)$, the populace prefers region 2.b to 2.a and region 2.a to 2.c. The intuition behind these results is as follows. For a fixed value of μ, if the political regime is a democracy, it must be the case that l prefers it to an autocracy controlled by s, since the latter is always an available option. As we have already shown s, prefers the worst autocracy controlled by itself to any democratic regime. Finally, democratization must give the populace at least the expected utility it gets from a revolt, which, for $\mu < \bar{\mu}_P^{\lambda_s}(0, \lambda_s)$, is exactly the same expected utility as it gets under an autocracy controlled by s. Moreover, even the worst semi-consolidated democracy is better for the populace than an unconsolidated democracy with periodic coups that give rise to dictatorships controlled by l.

Endogenous vs. exogenous trade policy

Suppose for a moment that the trade policy is exogenously given. Then, if the elite faction l cannot defend the autocracy, the elite faction s cannot either, which implies that l never transfers the control of the autocracy to s. Thus, in order to have an autocracy controlled by the elite faction s and a switch in the control of the autocracy, we need intra-elite conflict and an endogenous determination of the trade policy.

In the appendix we present a detailed proof that formalizes these arguments. The following proposition summarizes the results.

Proposition 4 ***Comparative statics****. Consider a society with* ***intra-elite conflict over trade policy****. Under the assumptions of proposition 3:*

1. ***Cost of a revolt / cost of a coup***

(a) ***Within a political regime (autocracy)***. *If the political regime is an autocracy controlled by l, then an increase in μ that does not change the political regime makes l weakly better off, the populace weakly worse off, and s weakly better off, provided that there is no change in trade policy. If the political regime is an autocracy controlled by s, then, an increase in μ that does not change the regime, makes both elite factions weakly better off and the populace weakly worse off. In both cases, a change in φ that does not modify the regime has no welfare effect.*

(b) ***Within a political regime (democracy)***. *If the political regime is a semi-consolidated democracy, then an increase in φ and/or a decrease in μ that does not change the regime makes the populace weakly better off and both elite factions weakly worse off. If the political regime is an unconsolidated democracy, then an increase in φ that does not change the regime makes everybody worse off. An increase in μ that does not change the regime has no welfare effect.*

(c) ***Across political regimes***. *The elite faction l weakly prefers region 1 to region 2, the elite faction s weakly prefers an autocracy controlled by s in region 1 to region 2, and the populace weakly prefers region 2 to an autocracy controlled by l in region 1. Furthermore, if we fix a value of $\mu \in \left[\bar{\mu}_P^{\lambda_s}(\tau_P, \lambda_P), \bar{\mu}_P^{\lambda_l}(\tau_P, \lambda_P)\right]$, l weakly prefers regions 2.b and 2.c to 2.a, s weakly prefers region 2.a to regions 2.b and 2.c, and, provided that $\mu < \bar{\mu}_P^{\lambda_s}(0, \lambda_s)$, the populace weakly prefers region 2.b to 2.a and region 2a to 2.c.*

2. ***Endogenous vs. exogenous trade policy***. *If trade policy is exogenous l never transfers control over the autocracy to s and, therefore, there is never an autocracy controlled by s.*

In general, the message of proposition 4, part 1.a, is straightforward and, to some extent, expected. When the political regime is an autocracy, an increase in the cost of a revolt gives more power to the elite that controls the government, since the proponents of a revolt can be placated more easily; a change in the cost of a coup does not have any welfare effect, since a coup could occur only once there has been democratization, but cannot occur under an autocracy. The unexpected result is that, when the autocracy is controlled by l, sometimes an increase in μ has an ambiguous effect on the welfare of s. However, once we take into account that the elite factions have a common interest in reducing taxation, but conflicting interests in the trade policy dimension, the result looks reasonable. An increase in μ gives more power to l, which l exercises by reducing taxation (good news for s) but also, possibly, by changing trade policy from λ_s to λ_l (bad news for l). The ambiguity comes from these two opposite effects. Part 1.b of proposition 4 is intuitive. In a semi-consolidated democracy, an increase in φ gives more power to the populace, since the proponents of a coup can be placated more easily. The mechanism through which μ affects the expected utility of the groups in a semi-consolidated democracy is more complicated. When a revolt is more costly, it is cheaper for an autocracy controlled by s to placate the proponents of a revolt. Therefore, a coup that gives rise to an autocracy controlled by s is more attractive for the elite, which implies that it is more difficult for the populace to stop such a coup (recall that in region 2 a coup controlled by s gives rise to a permanent autocracy controlled by s rather than a transitory dictatorship.) In an unconsolidated democracy, μ has no welfare effect because each time there is a revolt threat, the elite must democratize; while an increase in φ makes everybody worse off because coups are more costly. As we have already mentioned, part 1.c of proposition 4 is more subtle. One clear message of this part is that, in region 2, that is when l cannot placate the proponents of a revolt without transferring control

over the autocracy, the elite factions have conflicting views about the cost of a coup. Specifically, keeping μ fixed, l favors low and intermediate values of φ to high values, while s favors high values of φ to low and intermediate values (l weakly prefers regions 2.b and 2.c to 2.a, while s weakly prefers region 2.a to regions 2.b and 2.c.) The populace, on the other hand, prefers intermediate values of φ rather than low values, which induce coups, and high values, which induce an autocracy controlled by s. Finally, part 2 of proposition 4 is a simple observation. It simply states that, if trade policy is not part of the political game, then transferring control over the autocracy to s is useless, in the sense that it does not help with the commitment problem.

Finally, it is worth highlighting the fact that some of the results in propositions 3 and 4 are impossible or very unlikely in a context with no intra-elite conflict. The two most important results of this sort are that, with no intra-elite conflict: (i) there is no equilibrium in which the primary elite faction transfers control over the autocracy to the secondary elite faction; and (ii) there is no conflict of interest between the elite factions over which one should controls dictatorships nor, as a consequence, over the appropriate value of μ and φ

5 Consolidation of democracy under intra-elite conflict

In this section, we study the case in which there is no other way of placating the proponents of a revolt than through democratization. Thus, the key issue here is not whether there is democracy or autocracy, but rather which type of democratic regime emerges after the first democratization. In other words, we investigate the problem of consolidation of democracy under intra-elite conflict and, in particular, we focus our attention on the nature of the coups that interrupt democratic periods.

Before we formally deduce the equilibrium, we briefly discuss the mechanism that is at work behind the scenes. As we have already mentioned, when $\mu < \bar{\mu}_P^{\lambda_s}(\tau_P, \lambda_P)$, the elite credibility problem is so severe that only a dramatic institutional change, namely democratization, is capable of placating the proponents of a revolt. Consequently, there will eventually be a revolt and the regime will be forced to switch to democracy. Thereafter, the new democratic institutions will face periodic coups threats. How the populace deals with these threats and the nature of the coups depends primarily on two issues. First, the extent to which the populace can and is willing to defend democracy or influence the nature of the coup. Second, how important taxation versus trade policy is for the elite and, particularly, for the elite faction s. Specifically for the elite faction l, democracy brings the double whammy of high income taxes and a hostile trade policy. Thus, the elite faction l is always ready to mount a coup. Furthermore, if possible, l tries to mount a coup that gives rise to a dictatorship controlled by l, which alleviates income taxation and temporarily ushers a favorable trade policy. If such a coup is not possible, l tries to mount a coup that gives rises to a dictatorship controlled by s, which at least reduces income taxation. For the populace, a dictatorship controlled by l brings the double whammy of low taxes and a hostile trade policy. Thus, the populace always tries to stop such a coup. The populace has mixed feelings about a dictatorship controlled by s, since such a regime implements a favorable trade policy, but low income taxation. Thus, the populace's stance depends on the point of comparison. At one extreme, if the populace can secure a reasonable democracy, it favors democracy and tries to avoid the dictatorship controlled by s. At the other extreme, if the alternative is a dictatorship controlled by l, the populace favors the dictatorship controlled by s. For the elite faction s, a dictatorship controlled by s alleviates income taxation and temporarily provides a favorable trade policy. A dictatorship controlled

by l alleviates income taxation, but at the cost of a hostile trade policy; and democracy brings a favorable trade policy but high income taxation. Thus, the elite faction s is always ready to support a coup that gives rise to a dictatorship controlled by s and has mixed feelings when the alternatives are a dictatorship controlled by s or democracy.

In the appendix we present a detailed proof that formalizes these arguments. The following proposition summarizes the results.

Proposition 5 ***Equilibrium***. *Consider a society with* ***intra-elite conflict over trade policy****, i.e.,* $\lambda_l \neq \lambda_s = \lambda_P$*, where* $l, s \in \{L, K\}$ *and* $l \neq s$*. Let* $\bar{\mu}_P^{\lambda_j}(\tau, \lambda)$*,* $\bar{\varphi}_i^{\lambda_P,\lambda_j}(\tau, \lambda)$ *and* $\tilde{\varphi}_i^{\lambda_P,\lambda_k}(\tau, \lambda)$ *be defined by (4), (9) and (10), respectively. Then, there is a unique Markov perfect equilibrium* $(\sigma_L, \sigma_K, \sigma_P)$ *in the game. In this equilibrium, before the first time that* $\mu_t = \mu^H$*, the autocracy is controlled by the elite faction* l*, which sets* $(0, \lambda_l)$*. After this:*

3. *If* $\mu < \bar{\mu}_P^{\lambda_s}(\tau_P, \lambda_P)$*, then:*

   (a) *If* $\varphi \geq \max_{\lambda_j} \min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(\tau_P, \lambda_P)$*, the first time that* $\mu_t = \mu^H$*, society switches to a* ***fully consolidated democracy. If*** $\lambda_P = A$ ***(***$\lambda_P = F$***), there is always a protectionist (free-trade) policy****. Taxes are always given by* τ_P*.*

   (b) *If* $\max_{\lambda_j} \min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(0, \lambda_P) \leq \varphi < \max_{\lambda_j} \min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(\tau_P, \lambda_P)$*, the first time that* $\mu_t = \mu^H$*, society switches to a* ***semi-consolidated democracy. If*** $\lambda_P = A$ ***(***$\lambda_P = F$***), there is always, or most of the time, a protectionist (free-trade) policy****. In particular, when* $\varphi_t = \varphi^L$*, the populace sets* (τ_P, λ_P)*; when* $\varphi_t = \varphi^H$*, it sets* $(\tau_D(\varphi), \lambda_D(\varphi)) = \arg\max_{(\tau,\lambda)\in\bar{S}_C(\lambda_P,\varphi)} v_P(\tau, \lambda)$*.*

   (c) *If* $\min_\lambda \max_{\lambda_j} \min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(0, \lambda) \leq \varphi < \max_{\lambda_j} \min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(0, \lambda_P)$*, the first time that* $\mu_t = \mu^H$*, society switches to* ***either a semi-consolidated democracy or an unconsolidated democracy. In the first situation, if*** $\lambda_P = A$ ***(***$\lambda_P = F$***), there is a protectionist (free-trade) policy most of the time****. In particular, when* $\varphi_t = \varphi^L$*, the populace sets* (τ_P, λ_P)*; when* $\varphi_t = \varphi^H$*, it sets* $\tau_D(\varphi) = \arg\max_{(\tau,\lambda_l)\in\bar{S}_C(\lambda_P,\varphi)} v_P(\tau, \lambda_l)$ *and* $\lambda_D(\varphi) = \lambda_l$*.* ***In the second situation, society continuously switches between political regimes, but it always maintains the same trade policy*** *(****if*** $\lambda_P = A$ ***(***$\lambda_P = F$***), there is always a protectionist (free-trade) policy****). In particular, when* $\mu_t = \mu^L$*, the elites set* $(0, \lambda_s)$*; when* $\mu_t = \mu^H$*, there is democratization and the populace sets* (τ_P, λ_P)*; when* $\varphi_t = \varphi^L$*, the populace sets* (τ_P, λ_P)*; and when* $\varphi_t = \varphi^H$*, there is a coup and the elites set* $(0, \lambda_s)$*. Society switches to a semi-consolidated democracy if and only if there is no* $(\tau, \lambda) \in \bar{S}_C(\lambda_P, \lambda_l, \varphi) - \bar{S}_C(\lambda_P, \lambda_s, \varphi)$ *or*

$$V_P\left(D, \varphi^H, \tau_D(\varphi), \lambda_D(\varphi)\right) \geq V_P\left(s, \mu^L\right) - \varphi y_P^{\lambda_s}.^{12}$$

   (d) *If* $\min_{i,\lambda} \bar{\varphi}_i^{\lambda_P,\lambda_l}(0, \lambda) \leq \varphi < \min_\lambda \max_{\lambda_j} \min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(0, \lambda)$*, the first time that* $\mu_t = \mu^H$*, society switches to an* ***unconsolidated democracy****. Thereafter,* ***society continuously switches between political regimes, but it always maintains the same trade policy (if*** $\lambda_P = A$ ***(***$\lambda_P = F$***) there is always a protectionist (free) trade policy)****. In particular, when* $\mu_t = \mu^L$*, the elites set* $(0, \lambda_s)$*; when* $\mu_t = \mu^H$*, there is democratization and the populace sets* (τ_P, λ_P)*; when* $\varphi_t = \varphi^L$*, the populace sets* (τ_P, λ_P)*; and when* $\varphi_t = \varphi^H$*, there is a coup and the elites set* $(0, \lambda_s)$*.*

(e) If $\varphi < \min_{i,\lambda} \bar{\varphi}_i^{\lambda_P,\lambda_l}(0,\lambda)$*, the first time* $\mu_t = \mu^H$*, society switches to an* ***unconsolidated democracy****. Thereafter,* ***society continuously switches between political regimes and trade policies****. In particular, when* $\mu_t = \mu^L$*, the elites set* $(0,\lambda_l)$*; when* $\mu_t = \mu^H$*, there is democratization and the populace sets* (τ_P,λ_P)*; when* $\varphi_t = \varphi^L$*, the populace sets* (τ_P,λ_P)*; and when* $\varphi_t = \varphi^H$*, there is a coup and the elites set* $(0,\lambda_l)$*.*

The main message of proposition 5 can be easily summarized in a less formal way. In order to highlight the relations between the political regime and the trade policy, we first consider the case in which there is a protectionist primary elite faction ($\lambda_l = A$), a pro-free-trade secondary elite faction and a pro-free-trade populace ($\lambda_s = \lambda_P = F$). As already mentioned, this situation can represent the economic cleavages of nineteenth century England. We then, consider the case of a pro-free-trade primary elite faction ($\lambda_l = F$), a protectionist secondary elite faction and a protectionist populace ($\lambda_s = \lambda_P = A$). This can represent, for example, the economic cleavages of Argentina in the second half of the twentieth century.

Consider a society with **intra-elite conflict over trade policy and a pro-free-trade populace** ($\lambda_l = A$ and $\lambda_s = \lambda_P = F$). Suppose that the cost of organizing a revolt is relatively low ($\mu < \bar{\mu}_P^F\left(\tau_P^F, F\right)$). If the cost of mounting a coup is very high ($\varphi \geq \max_{\lambda_j} \min_i \bar{\varphi}_i^{F,\lambda_j}\left(\tau_P^F, F\right)$), then, after the first revolt, society will switch from an autocracy controlled by the primary faction of the elite, no redistribution and a protectionist trade policy to a consolidated democracy that implements high levels of taxation and redistribution and a free trade policy. If the cost of mounting a coup is high ($\max_{\lambda_j} \min_i \bar{\varphi}_i^{F,\lambda_j}(0,F) \leq \varphi < \max_{\lambda_j} \min_i \bar{\varphi}_i^{F,\lambda_j}\left(\tau_P^F, F\right)$), then, after the first revolt, society will switch from an autocracy controlled by the primary faction of the elite, no redistribution and a protectionist trade policy to a semi-consolidated democracy which usually implements high levels of redistribution and a free trade policy, but which sometimes lowers income taxes and may introduce protectionism for a short period of time in order to counter a threatened coup. If the cost of a coup is moderate ($\min_\lambda \max_{\lambda_j} \min_i \bar{\varphi}_i^{F,\lambda_j}(0,\lambda) \leq \varphi < \max_{\lambda_j} \min_i \bar{\varphi}_i^{F,\lambda_j}(0,F)$), then, after the first revolt, society will switch from an autocracy controlled by the primary faction of the elite, no redistribution and a protectionist policy to either a semi-consolidated or an unconsolidated democracy. A semi-consolidated democracy usually implements high levels of taxation and redistribution and a free-trade policy, but may sometimes face a coup threat which it will counter by lowering income taxes and temporarily instituting a protectionist trade policy. If the transition is to an unconsolidated democracy, society will continuously switch between political regimes and levels of income taxation and redistribution, but the free-trade policy will always be retained. If the cost of a coup is low ($\min_{i,\lambda} \bar{\varphi}_i^{F,\lambda_l}(0,\lambda) \leq \varphi < \min_\lambda \max_{\lambda_j} \min_i \bar{\varphi}_i^{F,\lambda_j}(0,\lambda)$), then, after the first revolt, society will switch from an autocracy controlled by the primary faction of the elite, no redistribution and a protectionist trade policy to an unconsolidated democracy, with ongoing changes in the political regime and income taxation and redistribution, but with a stable free-trade policy. If the cost of a coup is very low ($\varphi < \min_{i,\lambda} \bar{\varphi}_i^{F,\lambda_l}(0,\lambda)$), then, after the first revolt, society will switch from an autocracy controlled by the primary faction of the elite, no redistribution and a protectionist trade policy to an unconsolidated democracy, with continuous changes in the political regime, income taxation and redistribution, and trade policy.

Consider a society with **intra-elite conflict over trade policy and a protectionist populace** ($\lambda_l = F$ and $\lambda_s = \lambda_P = A$.) Suppose that the cost of organizing a revolt is relatively low ($\mu < \bar{\mu}_P^A\left(\tau_P^A, A\right)$). If the cost of mounting a coup is very high ($\varphi \geq \max_{\lambda_j} \min_i \bar{\varphi}_i^{A,\lambda_j}\left(\tau_P^A, A\right)$), then, after the first revolt,

society will switch from an autocracy controlled by the primary faction of the elite, no redistribution and a free trade policy to a consolidated democracy that implements high levels of taxation and redistribution and a protectionist trade policy. If the cost of mounting a coup is high ($\max_{\lambda_j} \min_i \bar{\varphi}_i^{A,\lambda_j}(0,A) \leq \varphi < \max_{\lambda_j} \min_i \bar{\varphi}_i^{A,\lambda_j}\left(\tau_P^A, A\right)$), then, after the first revolt, society will switch from an autocracy controlled by the primary faction of the elite, no redistribution and a free-trade policy to a semi-consolidated democracy which usually implements high levels of redistribution and a protectionist trade policy, but which sometimes lowers income taxes and may introduce free trade for a short period of time in order to counter a threatened coup. If the cost of the coup is moderate ($\min_\lambda \max_{\lambda_j} \min_i \bar{\varphi}_i^{A,\lambda_j}(0,\lambda) \leq \varphi < \max_{\lambda_j} \min_i \bar{\varphi}_i^{A,\lambda_j}(0,A)$), then, after the first revolt, society will switch from an autocracy controlled by the primary faction of the elite, no redistribution and a free-trade policy to either a semi-consolidated or an unconsolidated democracy. A semi-consolidated democracy usually implements high levels of taxation and redistribution and a protectionist trade policy, but sometimes faces a coup threat which it counters by lowering income taxes and temporarily instituting a free trade policy. If the transition is to an unconsolidated democracy, society will continuously switch between political regimes and levels of income taxation and redistribution, but the protectionist trade policy will always be retained. If the cost of a coup is low ($\min_{i,\lambda} \bar{\varphi}_i^{F,\lambda_l}(0,\lambda) \leq \varphi < \min_\lambda \max_{\lambda_j} \min_i \bar{\varphi}_i^{A,\lambda_j}(0,\lambda)$), then, after the first revolt, society will switch from a dictatorship controlled by the primary faction of the elite, no redistribution and a free-trade policy to an unconsolidated democracy, with ongoing changes in the political regime and levels of income taxation and redistribution, but with a stable protectionist trade policy. If the cost of a coup is very low ($\varphi < \min_{i,\lambda} \bar{\varphi}_i^{F,\lambda_l}(0,\lambda)$), then, after the first revolt, society will switch from an autocracy controlled by the primary faction of the elite, no redistribution and a free-trade policy to an unconsolidated democracy, with continuous changes in the political regime, and levels of income taxation and redistribution, and trade policy.

5.1 Comparative statics

Next, we perform some comparative static exercises. First, we investigate the welfare effects of changes in the cost of a coup. In particular, we consider marginal changes in the cost of a coup that do not affect the political regime. We also compare societies with different political regimes. Finally, we explore the effects of an increase in populism.

Cost of a coup φ

Within a political regime. Suppose that the political regime is a consolidated democracy. Then, a change in φ that does not modify the political regime has no welfare effect since, in a fully consolidated democracy, the utility of each group does not depend on φ. Suppose that the political regime is a semi-consolidated democracy. Then, from proposition 5 (regions 3.b and 3.c), a change in φ that does not modify the political regime affects the policy offered by the populace only when $\varphi_t = \varphi^H$. This policy is given by $(\tau_D(\varphi), \lambda_D(\varphi)) = \arg\max_{(\tau,\lambda)\in \bar{S}_C(\lambda_P,\varphi)} v_P(\tau,\lambda)$. Since $\varphi^1 \leq \varphi^2$, $\bar{S}_C\left(\lambda_P, \varphi^1\right) \subseteq \bar{S}_C\left(\lambda_P, \varphi^2\right)$, it must be the case that $v_P\left(\tau_D\left(\varphi^2\right), \lambda_D\left(\varphi^2\right)\right) \geq v_P\left(\tau_D\left(\varphi^1\right), \lambda_D\left(\varphi^1\right)\right)$. Thus, the increase in φ makes the populace weakly better off. If the increase in φ does not change the trade policy, i.e., $\lambda_D\left(\varphi^1\right) = \lambda_D\left(\varphi^2\right)$, it also makes both elite factions weakly worse off. In order to prove this, note that for a given λ, $v_P(\tau,\lambda)$ is a strictly increasing function of τ. Thus, $v_P\left(\tau_D\left(\varphi^2\right), \lambda_D\left(\varphi^2\right)\right) \geq v_P\left(\tau_D\left(\varphi^1\right), \lambda_D\left(\varphi^1\right)\right)$ and $\lambda_D\left(\varphi^1\right) = \lambda_D\left(\varphi^2\right)$ imply $\tau_D\left(\varphi^2\right) \geq \tau_D\left(\varphi^1\right)$; and therefore, $v_i\left(\tau_D\left(\varphi^2\right), \lambda_D\left(\varphi^2\right)\right) \leq v_i\left(\tau_D\left(\varphi^1\right), \lambda_D\left(\varphi^1\right)\right)$ for $i = l, s$. Finally, suppose that the political regime is an unconsolidated democracy with periodic coups

that give rise to a dictatorship controlled by l (s). Then, an increase in φ that does not affect the political regime has no impact equilibrium policies. However, it makes everybody worse off because, each time there is a coup, society will have higher losses.

Across political regimes. We begin with the elite faction l. Since, in region 3.e, whenever $\varphi_t = \varphi^H$, there is a coup that gives rise to a dictatorship controlled by l, it must be the case that the populace has no way of avoiding such a coup. In other words, even if, when $\varphi_t = \varphi^H$, the populace promises $(0, \lambda_l)$, the elite faction l still prefers to mount a coup. This implies that l prefers an unconsolidated democracy with periodic coups that give rise to a dictatorship controlled by l to the most favorable semi-consolidated democracy. Thus, l prefers region 3.e to regions 3.a, 3.b, and a semi-consolidated democracy in region 3.c. Moreover, the elite faction l always prefers an unconsolidated democracy in region 3.e to an unconsolidated democracy in regions 3.d and 3.c., since the cost of a coup is lower in region 3.e than in regions 3.d and 3.c and the dictatorships in region 3.e are controlled by l, while the dictatorships in regions 3.d and 3.c are controlled by s. Thus, the elite faction l prefers region 3.e to any other region.

Now, consider the elite faction s. Since, in region 3.e, whenever $\varphi_t = \varphi^H$, there is a coup that gives rise to a dictatorship controlled by l, it must be the case that the populace has no way of avoiding such a coup. Thus, even if, when $\varphi_t = \varphi^H$, the populace promises $(0, \lambda_s)$, the elite faction s still prefers to support the coup. This implies that s prefers an unconsolidated democracy with periodic coups that give rise to a dictatorship controlled by l to the most favorable semi-consolidated democracy. Thus, s prefers region 3.e to regions 3.a, 3.b, and a semi-consolidated democracy in region 3.c. In region 3.d, the populace can always avoid a dictatorship controlled by l, but it cannot, at the same time, stop a dictatorship controlled by s. Thus, in region 3.d, the best that the populace can do is to induce a dictatorship controlled by s. Suppose that the populace can do so by offering $(0, \lambda_s)$ when $\varphi_t = \varphi^H$. Then, it must be the case that the elite faction s prefers an unconsolidated democracy with periodic coups that give rise to a dictatorship controlled by s to the populace's offer, that is, to the most favorable semi-consolidated democracy. Therefore, if by offering $(0, \lambda_s)$ when $\varphi_t = \varphi^H$, the elite faction s can induce a coup that gives rise to a dictatorship controlled by s, then s prefers region 3.d to regions 3.a, 3.b, and a semi-consolidated democracy in region 3.c. Moreover, s always prefers an unconsolidated democracy in region 3.d to an unconsolidated democracy in region 3.c, since the cost of a coup is lower in region 3.d.

Clearly, the populace prefers region 3.a to region 3.b. The reason is that, in region 3.a, the populace can always implement its preferred policy, while, in region 3.b, when $\varphi_t = \varphi^H$, the populace must moderate income taxation and/or change trade policy. The populace also prefers region 3.b to regions 3.c, 3.d and 3.e. If the political regime in region 3.c is also a semi-consolidated democracy, then, as we have already proven, the populace must be better off in region 3.b, since, although we are comparing two semi-consolidated democracies, the one in region 3.b has a higher φ. If the political regime in region 3.c is an unconsolidated democracy or we are in region 3.d, the populace gets $V_P\left(D, \varphi^H\right) = \frac{[1-\beta(1-r)]y_P^{\lambda_s} + \beta q v_P(\tau_P, \lambda_P) - [1-\beta(1-r)][1-\beta(1-q)]\varphi y_P^{\lambda_s}}{(1-\beta)[1-\beta(1-q-r)]}$. If we are in region 3.e, the populace gets $V_P\left(D, \varphi^H\right) = \frac{[1-\beta(1-r)]y_P^{\lambda_l} + \beta q v_P(\tau_P, \lambda_P) - [1-\beta(1-r)][1-\beta(1-q)]\varphi y_P^{\lambda_l}}{(1-\beta)[1-\beta(1-q-r)]}$. The lowest expected utility that the populace can obtain in region 3.b is $V_P\left(D, \varphi^H, 0, \lambda_P\right) = (1-\beta)^{-1}\left\{[1-\beta(1-r)]\, y_P^{\lambda_P} + \beta(1-r)\, v_P(\tau_P, \lambda_P)\right\}$ (this comes from implementing (τ_P, λ_P) when $\varphi_t = \varphi^L$ and $(0, \lambda_P)$ when $\varphi_t = \varphi^H$). Finally, it is not difficult to verify that $V_P\left(D, \varphi^H, 0, \lambda_P\right) \geq V_P\left(D, \varphi^H\right)$.

Populism

Recall from section 3 that we associate populism with two different parameters of our model, namely, s and χ_P. Now we are interesting in studying how s and χ_P affect the political regime and, in particular, the nature of coups. From proposition 5 we know that if $\varphi < \min_{i,\lambda} \bar{\varphi}_i^{\lambda_P,\lambda_l}(0,\lambda)$, there is a coup that gives rise to a dictatorship controlled by l. From the definition of $\bar{\varphi}_i^{\lambda_P,\lambda_j}(\tau,\lambda)$ in (9), it is not difficult to check that $\min_{i,\lambda} \bar{\varphi}_i^{\lambda_P,\lambda_l}(0,\lambda) = \min\left\{\bar{\varphi}_l^{\lambda_P,\lambda_l}(0,\lambda_l), \bar{\varphi}_s^{\lambda_P,\lambda_l}(0,\lambda_s)\right\}$. This simply means that the best the populace can do in order to stop a coup controlled by l is either target the elite faction l with the offer $(0,\lambda_l)$, or the elite faction s with the offer $(0,\lambda_s)$. Moreover, $\bar{\varphi}_l^{\lambda_P,\lambda_l}(0,\lambda_l)$ and $\bar{\varphi}_s^{\lambda_P,\lambda_l}(0,\lambda_s)$ are increasing functions of s and χ_{P_1}. In order to prove so, note that:

$$\begin{aligned}
\bar{\varphi}_l^{\lambda_P,\lambda_l}(0,\lambda_l) &= \frac{\beta(1-q-r)\left[y_l^{\lambda_l} - v_l(\tau_P,\lambda_P)\right]}{[1-\beta(1-q)]\, y_l^{\lambda_l}}, \\
\bar{\varphi}_s^{\lambda_P,\lambda_l}(0,\lambda_s) &= \frac{\left(y_s^{\lambda_l} - y_s^{\lambda_s}\right) + \beta(1-q-r)\left[y_s^{\lambda_s} - v_s(\tau_P,\lambda_P)\right]}{[1-\beta(1-q)]\, y_s^{\lambda_l}}.
\end{aligned}$$

Since $y_l^{\lambda_l} > v_l(\tau_P,\lambda_P)$ and $y_s^{\lambda_s} > v_s(\tau_P,\lambda_P)$, $\frac{\partial \bar{\varphi}_l^{\lambda_P,\lambda_l}(0,\lambda_l)}{\partial r} < 0$ and $\frac{\partial \bar{\varphi}_s^{\lambda_P,\lambda_l}(0,\lambda_s)}{\partial r} < 0$.[13] Since $v_i(\tau_P,\lambda_P)$ decreases as $\chi_P$increases, $\bar{\varphi}_l^{\lambda_P,\lambda_l}(0,\lambda_l)$ and $\bar{\varphi}_s^{\lambda_P,\lambda_l}(0,\lambda_s)$ are decreasing functions of χ_P. Therefore, coups that give rise to a dictatorship controlled by l are more likely when populism increases.

From proposition 5, if $\varphi \geq \max_{\lambda_j} \min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(\tau_P,\lambda_P)$, there is a fully consolidated democracy. From (9), $\bar{\varphi}_i^{\lambda_P,\lambda_j}(\tau_P,\lambda_P) = [1-\beta(1-q)]^{-1}\left[1 - v_i(\tau_P,\lambda_P)/y_i^{\lambda_j}\right]$. Note that $\bar{\varphi}_i^{\lambda_P,\lambda_j}(\tau_P,\lambda_P)$ is an increasing function of χ_P ($v_i(\tau_P,\lambda_P)$ decreases as χ_P increases), while it does not depend on r. Thus, an increase in χ_P makes $\max_{\lambda_j} \min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(\tau_P,\lambda_P)$ bigger and, hence, a fully consolidated democratic regime less likely. A decrease in r has no effect on $\max_{\lambda_j} \min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(\tau_P,\lambda_P)$, but, as we already have shown, it increases $\min_{i,\lambda} \bar{\varphi}_i^{\lambda_P,\lambda_l}(0,\lambda)$. Thus, a decrease in r, makes either a dictatorship controlled by the secondary faction of the elite or a semi-consolidated democracy less likely.

The following proposition summarizes the results.

Proposition 6 ***Comparative statics***. *Consider a society with* ***intra-elite conflict over trade policy***. *Under the assumptions of proposition 5:*

1. ***Cost of a coup*** φ

[13] If we take the derivative of $\bar{\varphi}_l^{\lambda_P,\lambda_l}(0,\lambda_l)$ and $\bar{\varphi}_s^{\lambda_P,\lambda_l}(0,\lambda_s)$ with respect to r we obtain:

$$\frac{\partial \bar{\varphi}_l^{\lambda_P,\lambda_l}(0,\lambda_l)}{\partial r} = \frac{-\beta\left[y_l^{\lambda_l} - v_l(\tau_P,\lambda_P)\right]}{[1-\beta(1-q)]\, y_l^{\lambda_l}} < 0,$$

and

$$\frac{\partial \bar{\varphi}_s^{\lambda_P,\lambda_l}(0,\lambda_s)}{\partial r} = \frac{-\beta\left[y_s^{\lambda_s} - v_s(\tau_P,\lambda_P)\right]}{[1-\beta(1-q)]\, y_s^{\lambda_l}} < 0,$$

respectively.

(a) ***Within a political regime***. *If the political regime is a consolidated democracy, an increase in the cost of a coup has no welfare effect. If the political regime is a semi-consolidated democracy, an increase in the cost of a coup that does not change the regime, makes the populace better off and at least one of the elite factions worse off. If the political regime is an unconsolidated democracy with periodic coups that give rise to a dictatorship controlled by s (l), then an increase in the cost of a coup that does not change the regime, makes everybody worse off.*

(b) ***Across political regimes***. *The elite faction l prefers region 3.e to any other region. The elite faction s prefers region 3.e to regions 3. a, 3.b and a semi-consolidated democracy in region 3.c. Moreover, if in region 3.e the populace can stop a dictatorship controlled by l by offering* $(0, \lambda_s)$ *when* $\varphi_t = \varphi^H$*, then s prefers region 3.d to regions 3.a, 3.b, and 3.c. The populace prefers region 3.a to region 3.b and prefers region 3.b to regions 3.c, 3.d and 3.e.*

2. ***Populism***. *A more populist democracy, measured by an increase in* χ_P *or a decrease in r, heightens the likelihood of coups that give rise to a dictatorship controlled by the primary faction of the elite. An increase in* χ_P *also makes a fully consolidated democratic regime less likely, while a decrease in r, reduces the likelihood of either a dictatorship controlled by the secondary faction of the elite or a semi-consolidated democracy less likely.*

Next, we discuss and interpret proposition 6. The welfare effects of a change in φ that does not modify the political regime are relatively simple. Changes in φ that affect the political regime are more interesting, but also a bit more complicated. Not surprisingly, the primary elite faction always prefers an unconsolidated democracy with periodic coups that give rise to a dictatorship controlled by l to any other political regime. The intuition is that, while a dictatorship controlled by l does not face a revolt, it implements $(0, \lambda_l)$, which is l's preferred policy. The populace prefers a consolidated democracy to any other regime and prefers a semi-consolidated democracy that can be defended with a moderation in income taxation to any kind of unconsolidated democracy. The intuition is as follows. If the populace can defend democracy without giving up its preferred trade policy, it can secure at least $(0, \lambda_P)$ when $\varphi_t = \varphi^H$ and (τ_P, λ_P) when $\varphi_t = \varphi^L$, which cannot be matched by even the best unconsolidated democracy. The elite faction s prefers an unconsolidated democracy with periodic coups that give rise to a dictatorship controlled by l to a semi-consolidated or fully consolidated democracy. The intuition is that there is an unconsolidated democracy with such characteristics only when the populace cannot stop a dictatorship controlled by l by offering either $(0, \lambda_l)$ or $(0, \lambda_s)$, or by targeting either l nor s. Thus, from the point of view of s, the dictatorship must be better than the best semi-consolidated democracy. Suppose that we are in region 3.d. and the populace can stop a dictatorship controlled by l by offering $(0, \lambda_s)$ when $\varphi_t = \varphi^H$. Then, it must be the case that $(0, \lambda_s)$ cannot stop a dictatorship controlled by s. However, this implies that the elite faction s prefers to support a coup that gives rise to a dictatorship controlled by s rather than to accept the people's offer.

A more populist democracy increases the likelihood of coups that give rise to a dictatorship controlled by the primary faction of the elite. The intuition is simple. When the primary faction of the elite mounts a coup that gives rise to a dictatorship controlled by l, the secondary faction of the elite faces a dilemma. If, on the one hand, s supports the coup, then the subsequent dictatorship will implement a very favorable tax policy but a very harmful trade policy. On the other hand, if s does not support the coup, then the populace will promise to moderate income taxation and possibly to support a favorable trade policy. However, this promise is only partially credible because, once there is no longer any coup threat, the

populace will once again support high taxation. The greater the degree of populism, the higher τ_P will be and the less credible the promise of moderation will be. Thus, as populism increases, the elite faction s is more welling to accept a dictatorship controlled by l.

Finally, it is worthwhile to emphasize that some of the results in propositions 5 and 6 are impossible in a context with no intra-elite conflict. The main results of this type are that, with no intra-elite conflict, it is impossible to generate both coups that open and coups that close the economy in a single society unless there is a reversal in the comparative advantage of the economy that completely turns around the trade policy cleavages of the elite and the populace. Nor is it possible to have an equilibrium in which the populace does not defend democracy when it is within its power to do so or to have an elite faction that prefers more costly coups.

6 Two historical examples

In this section, we discuss in more detail the cases of Great Britain in the nineteenth century and Argentina in the twentieth century.

6.1 Great Britain in the nineteenth century

Britain's bold move toward free trade in 1846 was both unprecedented and unilateral; moreover, it violated the core protectionist ideology of the conservative party while simultaneously undercutting the economic interests of the ruling landed aristocracy. Thereafter, Great Britain had a stable free-trade policy throughout its transition to a fully consolidated democracy, even during international crises and depressions that put the system under stress and prompted many British trading partners to adopt protectionist measures.

Before the Reform Act of 1832, the rural aristocracy dominated British politics. The Reform Act established the right to vote based solely on income and property, thereby considerably changing the distribution of political power. As discussed in Acemoglu and Robinson (2006), the Reform Act had three main features. First, it was passed primarily because there was a fear of social disturbances. Second, it was a strategic concession on the part of the aristocracy, since it did not create a full democracy, but rather simply extended the franchise to the new industrial and commercial elite and the upper-middle class. Third, the working classes were completely excluded by the reform. In terms of our model, the rural aristocracy was the primary elite faction and the industrial and commercial elite was the secondary elite faction. Before the reform, the aristocracy controlled the autocratic government. The reform, although it did not completely transfer control over the autocracy to the industrial and commercial elite, did erode the power of the aristocracy and significantly expand the power of the new industrial and commercial elite. However, this was just the beginning of a process that reallocated political power between the aristocracy and the industrial and commercial elite. The debate about the Corn Laws was another decisive factor in this process, as well as an excellent test for the new distribution of political power.

Manufacturers had opposed the protectionist Corn Laws as early as the 1820s, but were never strong enough to repeal them. But, beginning in 1836, an economic downturn, together with a series of poor harvests, goaded the industrialists into action. High food prices and unemployment also gave impetus to both the middle and working classes, with the former being organized as the Anti-Corn Law League and the latter as the Chartist movement. The Anti-Corn Law was the first modern and national-level political

pressure group to emerge in Britain (see, among others, Howe, 1984, and Turner, 1995). The leaders of the League were manufacturers and professionals engaged in export trade. By the 1840s, the Anti-Corn League had garnered the support of many urban groups, including some urban workers. The Chartists were an organized working-class movement that sought parliamentary reform, arguing that reform must encompass the entire social and political horizon. In contrast, the League chose a single-issue strategy in it efforts to gain repeal (Schonhard-Bailey, 2006).

The Conservatives entered the government in 1841 with a strong and unified commitment to protecting agriculture, yet their leader, Prime Minister Sir Robert Peel, completely reversed this stance within a few years. In 1846, Prime Minister Peel decided to accept the repeal of the Corn Laws, and about a third of members of Parliament in his party followed his lead; the rest remained firmly committed to protecting agriculture. Within a month of securing the repeal, the Peel government fell, while the Conservatives remained divided (the repeal of the Corn Laws triggered the expulsion of the Peelite faction from the Tories, led by Bentink and Disraeli) and out of office for decades. This division paved the way for almost 30 years of Whig and Liberal dominance, which "rested on a firm alliance of the urban working and middle classes, of labor and capital" (Rogowski, 1989). During this period, a free-trade policy was the norm. Moreover, "liberal governments steadily pursued even freer trade, lower taxes, and transaction costs, expansion of the franchise, and diminution of the remaining powers of local landowners, the Crown, and the House of Lords" (Rogowski, 1989).

Schonhardt-Bailey (2006) tells a simple but compelling story: economic interests accounted for the momentum behind repeal, a momentum that overshadowed almost all else. Indeed, as part of a broader impulse toward democratic reform, these same interests, left unsatisfied, could have snowballed into revolution, as Peel and others had feared (and as happened, just two years later, in France). Schonhard-Bailey (2006) rightly argues that the fatal factor for the Corn Laws was the growth of the British manufacturing industry and export trade, especially in textiles. More particularly, as the industrial prosperity and export boom of the early 1830s began to wane, industrialists became increasingly vocal about the "unfair" protection enjoyed by agriculturists. In fact, after the repeal of the Corn Laws, Peel himself argued, in an elaborate display of concessionary politics, that he sought repeal in order to " satisfy the wishes of those outside" (the middle-class industrialists). He implied that a "narrow representation of Parliament" (control of Parliament by the landed aristocracy) required that concessions be made to satisfy interests clamoring for reform. The alternative, he implied, was that pressures for reform might become overwhelming, as they had in France (see Schonhard-Bailey, 2006). In sum, repeal was an attempt to moderate the mounting pressures for parliamentary reform: by satisfying the middle class and industrialists with repeal, their drive to gain control of parliamentary seats would cease and, moreover, the working-class Chartist movement (seeking more radical reform of Parliament) would lose momentum (see Searle, 1993, and Schonhard-Bailey, 2006). In terms of our model, the protectionist aristocracy, by partially transferring the control of the government to the pro-free-trade industrialists (the Reform Act of 1832) and allowing a switch in trade policy (the repeal of the Corn Laws in 1846), placated the populace, thereby convincing it to relinquish its more radical demands.

In such a context, the only option for the Conservatives was to match the set of policies offered by the Liberals. In fact, in 1867, Disraeli supported the Second Reform Act, which significantly extended the franchise. Indeed, after the reform, "working-class voters became the majority in all urban constituencies" (Acemoglu and Robinson, 2006). The particular events leading up to the Second Reform Act were similar to those that preceded the Reform Act of 1832: riots and social disturbances that convinced the capitalist

and commercial elite that the only alternative to a revolt was an extension of the franchise to the working classes. In fact, the Chartist movement had significantly increased its power since 1832.

The 1873-1876 crisis provided an excellent test for trade policy. After 1875, imports from America had a significant impact on landowners, and the Conservatives, led by Disraeli, had a majority in Parliament. A group of Conservatives, guided by "Joseph Chamberlain[,] tried to organize a coalition with a family resemblance of Bismarck's grouping of industrialists, farmers and workers hit by foreign competition" (Gourevitch 1986) and attempted to reopen the discussion about tariffs. However, this attempt did not succeed, since even "Disraeli - who had made protection his by-word in the 1840s - flatly refused to help" (Rogowski, 1989). Moreover, this time, workers were clearly against protectionism. "Labor, by the 1870s, was quite strong in support of free trade. In the 1840s anti-corn-law activists had argued that labor ought to support free trade in order to keep down consumer costs, especially the price of food. Labor activists at the time were more skeptical, seeing tariffs as a middle-class concern that distracted attention from the broader political demands of Chartism. It was only after experiencing the prosperity of the 1850s and 1860s that British labor accepted free trade." (Gourevitch 1986). It is worth mentioning that the protectionist pressures that were brought to bear during the 1873-1876 crisis were really very strong. Internally, some of the consequences of the free-trade policy were "a new wave of bitterness and violence in Ireland (still almost wholly agricultural) [and] the bankruptcy and reform of the Oxford colleges (whose endowments were largely in land)." (Rogowski, 1989). Internationally, almost all the countries that played an important role in the international arena, including Germany, France and the United States, implemented protectionist measures, although of different types and degrees (Gourevitch, 1986, and Rogowski, 1989).

In 1884 the Third Reform Act extended voting regulations to rural constituencies and the "Redistribution Act of 1885 removed many remaining inequalities in the distribution of seats" (Acemoglu and Robinson, 2006). The result was that "after 1884, about 60% of the male adults were enfranchised" (Acemoglu and Robinson, 2006). Mainly negotiated during the war, "the Representation of the People Act of 1918 gave the vote to all adult males over the age of twenty-one and women over the age of thirty who were ratepayers or married to ratepayers" (Acemoglu and Robinson, 2006). In the realm of trade policy, there was no further attempt to alter the free trade status quo. As already mentioned, this is what we should expect, since the newly enfranchised members of the population were industrial workers who supported free trade. Moreover, it is likely that the new industrial and commercial elite was less reluctant to extend the franchise to industrial workers. This was true for two reasons. First, workers did not pose a threat to the free-trade policy favored by this elite group. Second, free trade probably reduced income inequality, thereby making workers less willing to support redistribution through income taxation. The old aristocracy, already severely weakened, preferred this democratization path, which was coupled with a stable free-trade policy, because, at the least, it restrained the workers' most extreme redistributionist policy proposals. The industrial and commercial elite always had a huge advantage in their negotiations with the aristocracy. If the aristocrats refused to support free trade, the industrial and commercial elite could always accelerate the democratization process and obtain free trade anyway. Of course, this came at a price, namely, welfare legislation.

Summing up, Great Britain in the nineteenth century was an example of intra-elite conflict (the protectionist landed aristocracy and the pro-free-trade industrial and commercial elite) in combination with a pro-free-trade populace. The aristocracy, facing radical demands, had no other option but to gradually concede political power to the new industrial and commercial elite. The Reform Act of 1832

and the repeal of the Corn Laws in 1846 were two landmark events in this process. The repeal of the Corn Laws was an unprecedented move toward free trade that both reflected and reinforced the new distribution of political power. Proposition 3 captures this reallocation of political power among the elite, as well as the switch in trade policy. After 1846, Great Britain had a stable free-trade policy throughout the entire transition to a consolidated democracy, which was fully completed in the twentieth century. The transition was primarily an ongoing bargaining process between industrialists and workers over welfare legislation. Proposition 5 properly captures this transition.

6.2 Argentina in the twentieth century

At the beginning of the twentieth century, Argentina's factor endowment resembled that of a specialized natural-resource-rich economy. Both the elite and the people supported free trade. However, during the interwar period, trade opportunities and the terms of trade worsened, and this triggered an industrialization process which then accelerated with the Great Depression during the 1930s and the Second World War. As a result, Argentina started the second half of the twentieth century with a very different economic configuration. Once workers voted on a large scale for the first time, in 1946, an urban-rural cleavage developed which lasted until the dictatorship of 1976. This new political equilibrium took the economy close to autarky. Democracy was not consolidated, and a series of coups and democratizations took place during this period. However, none of the dictatorships that ruled the country until the coup of 1976, which deposed a highly populist government, were ruled by the agricultural free-trade elite, and none of them opened up the economy to any significant degree. Instead, the military government that took power in 1976 was mainly ruled by the agricultural elite and brought the economy back from autarky.

Argentina integrated its economy into world markets in the last quarter of the nineteenth century as an exporter of rural products. Until the 1930s, the country had a specialized economy with very little industrial development, and almost all of the domestic demand for manufactures was met with imports. As the country grew, the service sector in the major cities, particularly Buenos Aires, developed rapidly. The state invested heavily in the infrastructure that was required in order to export rural products, such as railroads and harbors, and, later, also in public education (see Galiani et al., 2008). Thousands of immigrants arrived in the country during this period, particularly from Spain and Italy. Although the country was formally a democracy with a constitution and republican institutions, the rural elite had a predominant role in government. Democratization pressures came almost exclusively from the urban middle class. In fact, in 1914 a new electoral law was passed that has been interpreted as an extension of the franchise to the middle class. Nevertheless, trade policy was never a crucial political issue, and the economy remained under a free-trade regime throughout the period in question (see Galiani and Somaini, 2010).

The Great Depression of the 1930s is generally considered to mark the beginning of the import-substitution process in Argentina. The collapse of commodity prices hit the country's economy very hard, since it was so heavily dependent upon exports of agricultural products. In economic and political terms, the 1930s were a transitional period (see Galiani and Somaini, 2010). On the one hand, the rural elite retained most of the political power and tried to use it to mitigate the effects of the change in the terms of trade. On the other hand, two new urban groups were emerging: industrial capitalists and industrial workers. Thus, the society was transitioning away from a specialized economy mainly controlled by members of a rural elite (who were faced with a middle class which demanded political

participation and some redistribution, but which did not represent a threat to the country's integration into world markets) and toward a much more complex society with two elite factions: the traditional rural elite and the new industrial elite (in conjunction with a large number of protectionist industrial workers, who could easily become a majority in a free election).

The new economic configuration affected almost all the economic and political institutions of the country. In fact, the 1940s were years of direct industrial promotion, and the state played the leading role in the country's industrial development. First, shortly before Perón assumed power in June 1946, the government created the Argentine Institute for the Promotion of Trade (IAPI). This institution held a monopoly over the country's foreign trade. In its early years, it was clearly anti-agriculture, as it withheld a percentage of the high prices that agricultural products were bringing in the world market after the end of the war. Together with this, a package of what was by then typical protectionist measures was implemented: import tariffs were raised, the multiple exchange-rate system was maintained and a scheme of import permits was created in order to manage the flow of foreign currency. Second, an interventionist state became an active agent in the economy as a result of the large wave of nationalizations that the country witnessed in the early Peronist years.

After the Peronist experience, it was clear to all concerned that democracy meant protectionism and populism; thus, the traditional rural elite had a huge incentive to mount a coup, while the new industrial elite had mixed incentives in that regard. Two elements completed the scene. First, the effervescence of subsidies, industrial promotion efforts and ambitious social programs periodically faced a key problem, namely the appearance of a large gap in the balance of payments (Diaz Alejandro, 1970). Second, the military was no longer a united force that was obedient to the traditional rural elite. On the contrary, the development of important industrial sectors was now in the armed forces' sphere of influence, when not under their direct control. The coup of 1955 reflected this new and complex situation. Although the coup was welcomed by the traditional rural elite and a majority of the middle class, and the new government implemented transitory policies to promote agricultural exports, the import-substitution policies were never abandoned. In terms of our model (proposition 5), the industrialists supported the coup because they could control the dictatorship and, hence, keep industrial protection mechanisms in place.[14]

The exclusion of the Peronist party, and hence of industrial workers, from the political arena after 1955 eventually put a great deal of pressure on the government, particularly since, by then, industrial workers were well-organized in unions and worshiped Perón as their national leader. Thus, political tensions persisted. In principle, the elites were willing to accept democracy, but only if populist policies were rescinded. Industrial workers preferred this type of democracy to a dictatorship, but they could not credibly pledge to not vote for Perón if free elections were allowed. The "solution" was a democratic regime in combination with the proscription of the Peronist party. Under the proscription scheme, Arturo Frondizi was elected President in 1958 with the support of industrial workers and part of the middle class. Fear of a balance-of-payments crisis paved the way for the "developmentalist" strategy originally envisioned by Perón in 1952-1955 and carried out by Frondizi between 1958 and 1962. Under this strategy, the basic input sector, namely, the metallurgical and oil extraction sector, was developed

[14] Symbolically, one of the most famous phrases used by the new government to describe this new policy was "Peronism without Perón", which essentially meant industrialization through import substitution without the populist component of the Peronist policies. In fact, most of the measures that promoted agricultural exports (for example, a devaluation) were thought to alleviate the balance-of-payments restriction; what is more, most of the burden of these measures fell on urban workers rather than on the industrialist elite.

as a way of overcoming the chronic deficit in the balance of payments.[15] After a few years, a new item appeared on the economic policy agenda: the local-market solution for industry was increasingly seen as inefficient, and the idea of an export industry was gaining support among the country's authorities. A military coup overthrew a democratic government in 1966, but economic policy did not change radically.

At the beginning of the 1970s, the limitations of the proscription scheme as a permanent solution became increasingly clear. First, the proscription was apparently not enough to convince the elite to refrain from mounting coups, and it did not completely avert populist policies either. In fact, all the democratic governments after 1955 somehow met their demise when they reached the point where there was not sufficient maneuvering room to simultaneously satisfy the opposing demands of unionized industrial workers and the armed forces (read " the elites"). Second, some of the industrial workers, although not the traditional Peronist unions, and part of the middle class began to radicalize their position toward socialism. In this context, the proscription scheme was abandoned and the democratic elections of 1973 resulted in the formation of a new Peronist government, which then proceeded to carry out an extreme version of the previous developmentalist strategy. However, the possibilities of growth under import substitution had, by then, been exhausted. The country rapidly slid into chaos: in 1975, in the midst of a social, political and economic crisis that would trigger Argentina's bloodiest military coup the following year, the government's fiscal deficit amounted to almost 15% of GDP. The military government that took power in March 1976 very rapidly made it clear that the import-substitution strategy was no longer part of the government's agenda. This time, the authorities opted for a policy of trade openness. Industrial capitalists accepted this policy because the alternative was, at best, a highly populist democracy, if not an outright changeover to socialism. Propositions 5 and 6 capture this change. Note, in particular, that proposition 6 implies that an increase in populism makes a coup controlled by the pro-free-trade rural elite more likely.

Summing up, in terms of our model: in the second half of the twentieth century Argentina appears to be a particularly clear example of a case in which intra-elite conflict (the pro-free-trade landlords and the protectionist industrialists) is combined with a protectionist populace. In fact, as O'Donnell (1977) pointed out, the oscillations in the political regime resulted from shifting alliances between social classes. When industrialists were allied with the working class, democracy prevailed, as did a highly protectionist trade policy and redistributive pressures that were curbed by the proscription of the Peronist party. Two destabilizing forces appeared in this context. First, as soon as economic activity gained strength, a balance-of-payments problem appeared as industrial imports grew and agricultural exports remained stagnated. Second, industrial workers demanded more redistribution and the elimination of the proscription of the Peronist party. In that context, industrialists allied themselves with the landlords in order to force a coup and a devaluation of the currency, which basically raised the real revenues of both of these sectors while depressing workers' real wages. After this economic slump came renewed growth, and, under those circumstances, the industrialists again allied themselves with the working class, particularly when the regime was threatened with strikes, riots and demonstrations that seriously disrupted the order of the industrial workforce. And then the cycle began again. Viewed from this perspective, it is understandable why, between 1945 and 1975, Argentina continuously went back and forth from one political regime to the next, but nonetheless invariably maintained its import-substitution industrialization policy as its core development strategy. The radicalization of popular demands at the

[15] In addition, the automotive industry (which was not particularly "heavy" but nonetheless quite in tune with growing middle-class demands) was actively promoted.

beginning of the 1970s paved the way for the breakdown of the proscription solution, which ultimately led to the 1976 coup and the opening of the economy. As predicted by proposition 5, industrialists supported this policy because the alternative was, at best, a highly populist democracy, if not an outright changeover to socialism.

7 Conclusions

In this paper we have reviewed some of the connections between the political regime and trade policy. As we have shown, international trade can crucially affect political alignments and hence the political regime, as well as trade policy. Indeed, our model suggests that significant connections exist among political transitions, trade policy switches, and the comparative advantage of the economy. The critical point is that trade policy opens the way for a political cleavage other than the rich-poor/elite-populace cleavage. Indeed, though we stress the role of trade policy in this paper, our model is more general and applies to any policy variable that could potentially divide the elites.

In fact, once we introduce trade policy as an endogenous outcome of the political game, even when there is no intra-elite conflict over trade policy, the model predicts that major changes in the political regime are associated with major switches in trade policy. Moreover, the direction of those switches depends on the comparative advantage of the economy and the nature of the political change that occurs. Thus, for instance, democratization in societies with a protectionist elite and a pro-free-trade populace should be associated with an opening of the economy, while democratization in societies with a pro-free-trade elite and a protectionist populace should be accompanied by the proliferation of protectionist measures. When we also incorporate intra-elite conflict over trade policy into the model, a new and more diverse landscape emerges. First, as we have already mentioned in connection with the case of Great Britain, a crucial switch in trade policy can happen before full democratization through a reallocation of political power within the elite. Second, as we discussed in relation to the case of Argentina, there can be coups that give rise to dictatorships that maintain protectionist policies or to dictatorships that open up the economy.

Additionally, for societies with no intra-elite conflict and a pro-free-trade (protectionist) populace, our model predicts a democratization process that begins with an autocracy implementing a protectionist (free-trade) policy; it then moves to a period of unconsolidated democracy and an unstable trade policy, and ends with a consolidated democracy with a free-trade (protectionist) policy. On the other hand, for societies with intra-elite conflict, the model predicts a much more complicated democratization process that can potentially include a changeover in the control of the prevailing autocracy and coups that either close or open the economy. The discussion of the cases of Great Britain and Argentina shows that intra-elite conflict over trade policy is an important factor for an understanding of the different political and economic paths followed by these countries.

The comparative statics exercises that we performed also suggest interesting implications for some institutions and organizations, such as unions or the armed forces, which affect the cost of coups and revolts. For example, unionization probably decreases the cost of a revolt and increases the cost of a coup. If this is the case, then our model can tell us how the different groups will react to legislation that promotes labor unions. Similarly, the cost of a coup depends on the availability and organization of the armed forces. Thus, our model can indicate which groups will be more willing to extend financial support to the military. In general, we have shown that, when there is no intra-elite conflict, the elite is better

off when the cost of a coup is low and the cost of a revolt is high, while the opposite is generally true for the general public. However, when there is intra-elite conflict, the analysis is more subtle. In particular, we have shown that it is perfectly possible that one of the elite factions will be better off when a coup would be more costly or when a revolt would be less costly. The details are somewhat involved, but the intuition is simple. Consider, for example, the situation of the commercial and industrial elite in Great Britain at the beginning of the nineteenth century. While a revolt would have been very costly for the populace, the aristocracy was able to placate the people without relinquishing control of the government. However, when the people found that a revolt would be less costly, the aristocracy was forced to transfer its control over the autocracy to the commercial and industrial elite, which paved the way for the repeal of the Corn Laws. Thus, it is very likely that a moderate decrease in the cost of a revolt was beneficial for the commercial and industrial elite.

Another interesting set of results refers to how populism affects the political regime. Since populism tends to be an elusive and sometimes not very precise concept, we adopted an agnostic approach and simply associated populism with two parameters of our model. One parameter captures how credible the people's promises are. In this sense, we can say that populism is greater when the people's promises become less credible. A second parameter captures the degree of redistributive pressures in democratic institutions. In this second sense, we can say that populism is greater when democratic institutions are more redistributionist. We have shown that, for a society with no intra-elite conflict, a more populist democracy, measured in either of the two alternative ways, makes coups more likely, and, hence, the consolidation of democracy less likely. We have also shown that, for a society with intra-elite conflict, populism affects the nature of coups. In particular, a more populist democracy, measured in either of the two alternative ways, increases the likelihood of coups that give rise to a dictatorship controlled by the primary faction of the elite. Thus, for example, as Argentina's democracy became more populist in the 1970s, the protectionist industrial elite agreed to join the pro-free-trade landlords in mounting a coup that did away with protectionist barriers. Finally, we have shown that a decrease in the credibility of policy pledges on the part of the populace reduces the likelihood of either a dictatorship controlled by the secondary faction of the elite or a semi-consolidated democracy, while a more redistributionist democracy makes a fully consolidated democratic regime less likely. Again, Argentina in the 1970s provides an excellent example. As the people radicalized their positions, it became more difficult to sustain a fully consolidated democracy or even a dictatorship that kept protectionist barriers in place.

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8 Appendix

In this appendix we present the proofs for propositions 3, 4 and 5.

8.1 Proof of proposition 3

Region 1: $\mu \geq \bar{\mu}_P^{\lambda_l}(\tau_P, \lambda_P)$

If $\mu \geq \bar{\mu}_P^{\lambda_l}(\tau_P, \lambda_P)$, the elite faction l must select the best way of defending the autocracy when there is a revolt threat. Democratization, although an available alternative, is clearly dominated by implementing (τ_P, λ_P), when $\mu_t = \mu^H$, and $(0, \lambda_l)$, when $\mu_t = \mu^L$; this is a policy that always placates the proponents of a revolt in this region. Thus, the relevant decision is between defending the autocracy with or without transferring the control to s. On the one hand, if l decides to placate the proponents of a revolt without transferring control to s, the best way of doing so is to implement $(\tau_E(\lambda_l, \mu), \lambda_E(\lambda_l, \mu)) = \arg\max_{(\tau,\lambda)\in\bar{S}_R(\lambda_l,\mu)} v_l(\tau, \lambda)$, where $\bar{S}_R(\lambda_l, \mu) = \left\{(\tau, \lambda) \in S : \mu \geq \bar{\mu}_P^{\lambda_l}(\tau, \lambda)\right\}$, when $\mu_t = \mu^H$, and $(0, \lambda_l)$, when $\mu_t = \mu^L$. If such a policy is implemented, then expression (3) implies that the expected utility of group i when $\mu_t = \mu^H$ is given by:

$$V_i\left(l, \mu^H\right) = \frac{\left[1 - \beta(1-q)\right] v_i\left(\tau_E(\lambda_l, \mu), \lambda_E(\lambda_l, \mu)\right) + \beta(1-q)\, y_i^{\lambda_l}}{1-\beta}.$$

On the other hand, if l transfers control to s, then s placates the proponents of revolt, and the best way in which s do so is to implement $(\tau_E(\lambda_s, \mu), \lambda_E(\lambda_s, \mu)) = \arg\max_{(\tau,\lambda)\in\bar{S}_R(\lambda_s,\mu)} v_s(\tau, \lambda)$, where $\bar{S}_R(\lambda_s, \mu) = \left\{(\tau, \lambda) \in S : \mu \geq \bar{\mu}_P^{\lambda_s}(\tau, \lambda)\right\}$, when $\mu_t = \mu^H$, and $(0, \lambda_s)$, when $\mu_t = \mu^L$. Since, for s, the preferred trade policy is λ_s, it must be the case that $v_s(\tau, \lambda_s) \geq v_s(\tau, \lambda)$ for all $(\tau, \lambda) \in S$. Since the populace and s share the same trade policy preferences, from (4) we have $\bar{\mu}_P^{\lambda_s}(\tau, \lambda) \geq \bar{\mu}_P^{\lambda_s}(\tau, \lambda_s)$ for all $(\tau, \lambda) \in S$. Therefore, $\lambda_E(\lambda_s, \mu) = \lambda_s$. From expression (3), the expected utility of group i is given by:

$$V_i\left(s, \mu^H\right) = \frac{\left[1 - \beta(1-q)\right] v_i\left(\tau_E(\lambda_s, \mu), \lambda_s\right) + \beta(1-q)\, y_i^{\lambda_s}}{1-\beta}.$$

Therefore, l does not transfer control over the autocracy to s, and defends the autocracy itself, if and only if $V_l\left(l, \mu^H\right) \geq V_l\left(s, \mu^H\right)$.

Region 2: $\bar{\mu}_P^{\lambda_s}(\tau_P, \lambda_P) \leq \mu < \bar{\mu}_P^{\lambda_l}(\tau_P, \lambda_P)$

If $\bar{\mu}_P^{\lambda_s}(\tau_P, \lambda_P) \leq \mu < \bar{\mu}_P^{\lambda_l}(\tau_P, \lambda_P)$, then the elite faction l has only two available options for placating the proponents of a revolt. First, l can transfer control over the autocracy to s, in which case the expected utility of l will be $V_l\left(s, \mu^H\right)$. Second, l can democratize, in which case several political regimes can arise, depending on the cost of mounting a coup. From (9), $\bar{\varphi}_i^{\lambda_P,\lambda_l}(\tau_P, \lambda_P)$ denotes the critical value of φ such that, if the populace always implements (τ_P, λ_P), then the elite group $i \in \{L, K\}$ is indifferent between a coup that gives rise to a dictatorship controlled by l and a fully consolidated democracy. Similarly, from (9), $\bar{\varphi}_i^{\lambda_P,\lambda_l}(0, \lambda_D)$ is the critical value of φ such that, if the populace implements (τ_P, λ_P) when $\varphi_t = \varphi^L$, and $(0, \lambda_D)$ when $\varphi_t = \varphi^H$, then the elite group $i \in \{L, K\}$ is indifferent between a coup that gives rise to a dictatorship controlled by l and a semi-consolidated democracy. Of course, once l democratizes, it is also possible that the first time that $\varphi_t = \varphi^H$, the elite mounts a coup that gives rise to a permanent autocracy controlled by s. From (10), $\tilde{\varphi}_i^{\lambda_P,\lambda_s}(\tau_P, \lambda_P)$ denotes the critical value of φ such

that, if the populace always implements (τ_P, λ_P), then the elite group $i \in \{L, K\}$ is indifferent between a coup that gives rise to a dictatorship controlled by s and a consolidated democracy. Similarly, from (10) $\tilde{\varphi}_i^{\lambda_P,\lambda_s}(0, \lambda_D)$ is the critical value of φ such that, if the populace implements (τ_P, λ_P) when $\varphi_t = \varphi^L$, and $(0, \lambda_D)$ when $\varphi_t = \varphi^H$, then the elite group $i \in \{L, K\}$ is indifferent between a coup that gives rise to a permanent autocracy controlled by s and a semi-consolidated democracy.

Region 2.a: $\varphi \geq \tilde{\varphi}_{CON}^{\lambda_P} = \max\left\{\min_i \bar{\varphi}_i^{\lambda_P,\lambda_l}(\tau_P, \lambda_P), \min_i \tilde{\varphi}_i^{\lambda_P,\lambda_s}(\tau_P, \lambda_P)\right\}$

Suppose that, the first time that $\mu_t = \mu^H$, the elite faction l democratizes. Then, society switches to a consolidated democracy because the populace can stop any coup just by implementing its preferred policy (τ_P, λ_P). Since, from the point of view of l, a consolidated democracy is the worst possible political regime, the first time that $\mu_t = \mu^H$, l transfers control over the autocracy to s and, thereafter, there is an autocracy controlled by s forever.

Region 2.b: $\min_\lambda \max\left\{\min_i \bar{\varphi}_i^{\lambda_P,\lambda_l}(0, \lambda), \min_i \tilde{\varphi}_i^{\lambda_P,\lambda_s}(0, \lambda)\right\} = \tilde{\varphi}_{SEM}^{\lambda_P} \leq \varphi < \tilde{\varphi}_{CON}^{\lambda_P}$

Suppose that, the first time that $\mu_t = \mu^H$, the elite faction l democratizes. Then, the populace has the ability to stop any coup, although it must make some concessions when $\varphi_t = \varphi^H$. The populace is always willing to stop a coup that gives rise to a dictatorship controlled by l, since, for the populace, the worst conceivable semi-consolidated democracy is better than an unconsolidated democracy with periodic coups controlled by l. However, it is possible that the populace prefers a coup that gives rise to a permanent autocracy controlled by s to a semi-consolidated democracy (something that can happen only when the populace must promise $\lambda_D = \lambda_l$ in order to stop the coup when $\varphi_t = \varphi^H$). If this is the case, the populace has an incentive to promise a policy that induces a coup controlled by s.[16]

If the populace decides to defend democracy, the best way for it to do so is to offer $(\tau_D(\varphi, \mu), \lambda_D(\varphi, \mu)) = \arg\max_{(\tau,\lambda)\in\tilde{S}_C(\lambda_P,\varphi,\mu)} v_P(\tau, \lambda)$, where $\tilde{S}_C(\lambda_P, \varphi, \mu) = \tilde{S}_C(\lambda_P, \lambda_s, \varphi, \mu) \cap \bar{S}_C(\lambda_P, \lambda_l, \varphi)$, when $\varphi_t = \varphi^H$. Then, from expressions (5) and (6), the expected utility of group i is given by:

$$V_i\left(D, \varphi^L\right) = \frac{\beta r v_i(\tau_D(\varphi, \mu), \lambda_D(\varphi, \mu)) + (1 - \beta r) v_i(\tau_P, \lambda_P)}{1 - \beta},$$

whenever $\varphi_t = \varphi^L$, while it is given by:

$$V_i\left(D, \varphi^H, \tau_D(\varphi, \mu), \lambda_D(\varphi, \mu)\right) = \frac{[1 - \beta(1 - r)] v_i(\tau_D(\varphi, \mu), \lambda_D(\varphi, \mu)) + \beta(1 - r) v_i(\tau_P, \lambda_P)}{1 - \beta},$$

whenever $\varphi_t = \varphi^H$. If the populace induces a coup that gives rise to a permanent autocracy controlled by s, from (2) and (3), the expected utility of group i when $\mu_t = \mu^L$ is given by:

$$V_i\left(s, \mu^L\right) = \frac{\beta q v_i(\tau_E(\lambda_s, \mu), \lambda_s) + (1 - \beta q) y_i^{\lambda_s}}{1 - \beta},$$

while, when $\mu_t = \mu^H$, it is given by:

$$V_i\left(s, \mu^H\right) = \frac{[1 - \beta(1 - q)] v_i(\tau_E(\lambda_s, \mu), \lambda_s) + \beta(1 - q) y_i^{\lambda_s}}{1 - \beta}.$$

[16] Such a policy may not exist. If this is the case, the populace will defend democracy and, hence, democracy will be semi-consolidated.

Therefore, if l democratizes, there will be a semi-consolidated democracy whenever there is no $(\tau, \lambda) \in \bar{S}_C(\lambda_P, \lambda_l, \varphi) - \tilde{S}_C(\lambda_P, \lambda_s, \varphi, \mu)$ or

$$V_P\left(D, \varphi^H, \tau_D(\varphi, \mu), \lambda_D(\varphi, \mu)\right) \geq (1-\varphi) y_P^{\lambda_s} + \beta\left[qV_P\left(s, \mu^H\right) + (1-q) V_P\left(s, \mu^L\right)\right].$$

Otherwise, there will be a democracy until the first time that $\varphi_t = \varphi^H$, when a coup will give rise to an autocracy controlled by s.

Finally, we must consider the decision of l the first time that $\mu_t = \mu^H$. Suppose that democratization leads to a semi-consolidated democracy. Then, l prefers to transfer the control of the dictatorship to s if $V_l\left(s, \mu^H\right) \geq V_l\left(D, \varphi^L\right)$. Otherwise, l prefers to democratize. On the other hand, if democratization leads to an autocracy controlled by s, l always prefers to transfer the control of the dictatorship to s the first time that $\mu_t = \mu^H$, since it makes no sense for l to democratize for the sole purpose of postponing the arrival of an autocracy controlled by s.[17]

Region 2.c: $\varphi < \tilde{\varphi}_{SEM}^{\lambda_P}$

First, consider the case when $\varphi \geq \tilde{\varphi}_{UNC}^{\lambda_P} = \min\left\{\min_{i,\lambda} \bar{\varphi}_i^{\lambda_P, \lambda_l}(0, \lambda), \min_{i,\lambda} \tilde{\varphi}_i^{\lambda_P, \lambda_s}(0, \lambda)\right\}$. Suppose that l democratizes the first that time $\mu_t = \mu^H$. Then, no matter what policy is implemented by the populace, there is always an available coup. Thus, democracy cannot be semi-consolidated, and the most that the populace can do is to influence which faction controls the dictatorship after the coup. From expressions (7) and (8), the expected utility of group i when $\mu_t = \mu^H$ $(\varphi_t = \varphi^L)$ is given by:

$$V_i\left(l, \mu^H\right) = V_i\left(D, \varphi^L\right) = \frac{\left[1-\beta(1-q)\right] v_i(\tau_P, \lambda_P) + \beta r y_i^{\lambda_l} - \beta r\left[1-\beta(1-q)\right] \varphi y_i^{\lambda_l}}{(1-\beta)\left[1-\beta(1-q-r)\right]},$$

while, when $\varphi_t = \varphi^H$ $(\mu_t = \mu^L)$, it is given by:

$$V_i\left(l, \mu^L\right) - \varphi y_i^{\lambda_l} = V_i\left(D, \varphi^H\right) = \frac{\left[1-\beta(1-r)\right] y_i^{\lambda_l} + \beta q v_i(\tau_P, \lambda_P) - \left[1-\beta(1-r)\right]\left[1-\beta(1-q)\right] \varphi y_i^{\lambda_l}}{(1-\beta)\left[1-\beta(1-q-r)\right]}.$$

Therefore, if l democratizes, there will be an unconsolidated democracy if there is $(\tau, \lambda) \in \tilde{S}_C(\lambda_P, \lambda_s, \varphi, \mu) - \bar{S}_C(\lambda_P, \lambda_l, \varphi)$ and:

$$V_P\left(l, \mu^L\right) - \varphi y_P^{\lambda_l} \geq (1-\varphi) y_P^{\lambda_s} + \beta\left[qV_P\left(s, \mu^H\right) + (1-q) V_P\left(s, \mu^L\right)\right].$$

Otherwise, the first time that $\varphi_t = \varphi^H$, there will be a coup that gives rise to an autocracy controlled by s.

Finally, we must consider the decision of l the first time that $\mu_t = \mu^H$. If democratization leads to an unconsolidated democracy, l prefers to transfer control over the dictatorship to s if $V_l\left(s, \mu^H\right) \geq V_l\left(D, \varphi^L\right)$. Otherwise, l prefers to democratize. On the other hand, if democratization leads to an autocracy controlled by s, l always prefers to transfer control over the dictatorship to s the first time that $\mu_t = \mu^H$. The reason for this is that it makes no sense for l, to democratize for the sole purpose of postponing the arrival of an autocracy controlled by s.

[17] To prove this, suppose that the first time that $\mu_t = \mu^H$, l democratizes and, then, the first time that $\varphi_t = \varphi^H$, the elite mounts a coup controlled by s. Then, democratization would lead to (τ_P, λ_P) untill the first time that $\varphi_t = \varphi^H$, when a coup gives rise to an autocracy controlled by s that lasts for ever (once s takes control of the autocracy, it will never have an incentive to give it up). However, if the first time that $\mu_t = \mu^H$, l transfers control over the autocracy to s, then the first policy to be implemented will be $\tau_E \leq \tau_P$ and $\lambda_E = \lambda_s = \lambda_P$, followed by a dictatorship controlled by s.

Second, consider the case when $\varphi < \tilde{\varphi}_{UNC}^{\lambda_P}$. Suppose that l democratizes the first time that $\mu_t = \mu^H$. Then, there is no way that the populace can stop a coup, nor can it influence who controls the dictatorship after the coup. Therefore, if l democratizes, democracy will be unconsolidated if:

$$V_l\left(l, \mu^L\right) - \varphi y_l^{\lambda_l} \geq (1-\varphi)\, y_l^{\lambda_s} + \beta\left[qV_l\left(s, \mu^H\right) + (1-q)\, V_l\left(s, \mu^L\right)\right].$$

Otherwise, the first time that $\varphi_t = \varphi^H$, there will be a coup that gives rise to an autocracy controlled by s.

Finally, we focus on the decision of l the first time that $\mu_t = \mu^H$. If democratization leads to an unconsolidated democracy, l prefers to transfer control over the dictatorship to s if $V_l\left(s, \mu^H\right) \geq V_l\left(D, \varphi^L\right)$. Otherwise, l prefers to democratize. On the other hand, if democratization leads to an autocracy controlled by s, l always prefers to transfer control over the dictatorship to s the first time that $\mu_t = \mu^H$. **QED**.

8.2 Proof of proposition 4

8.2.1 Cost of a revolt / cost of a coup. Within a political regime (autocracy)

Autocracy controlled by l. Suppose that the political regime is an autocracy controlled by l and consider an increase in the cost of a revolt that does not modify the political regime. This change can only affect the policy chosen by the elite faction l when $\mu_t = \mu^H$. From proposition 3, this policy is given by $\left(\tau_E\left(\lambda_l, \mu\right), \lambda_E\left(\lambda_l, \mu\right)\right) = \arg\max_{(\tau,\lambda)\in \bar{S}_R(\lambda_l,\mu)} v_l\left(\tau, \lambda\right)$, where $\bar{S}_R\left(\lambda_l, \mu\right) = \left\{(\tau, \lambda) \in S : \mu \geq \bar{\mu}_P^{\lambda_l}\left(\tau, \lambda\right)\right\}$. Specifically, consider two autocracies controlled by l that differ only in the cost of a revolt, denoted by $\mu^1 > \mu^2$. From the definition of $\bar{S}_R\left(\lambda_l, \mu\right)$, it is clear that $\bar{S}_R\left(\lambda_l, \mu^1\right) \subseteq \bar{S}_R\left(\lambda_l, \mu^2\right)$, and it therefore must always be the case that $v_l\left(\tau_E\left(\lambda_l, \mu^2\right), \lambda_E\left(\lambda_l, \mu^2\right)\right) \geq v_l\left(\tau_E\left(\lambda_l, \mu^1\right), \lambda_E\left(\lambda_l, \mu^1\right)\right)$. Thus, the increase in μ makes the elite faction l weakly better off.

Next, we study how μ affects the utilities of the populace and the elite faction s. In order to do so, note that, if $\left(\tau_E\left(\lambda_l, \mu\right), \lambda_E\left(\lambda_l, \mu\right)\right) \neq (0, \lambda)$, it cannot be the case that $\mu > \bar{\mu}_P^{\lambda_l}\left(\tau_E\left(\lambda_l, \mu\right), \lambda_E\left(\lambda_l, \mu\right)\right)$, or l could have picked $\tau < \tau_E\left(\lambda_l, \mu\right)$, such that $\left(\tau, \lambda_E\left(\lambda_l, \mu\right)\right) \in \bar{S}_R\left(\lambda_l, \mu\right)$ and $v_l\left(\tau, \lambda_E\left(\lambda_l, \mu\right)\right) \geq v_l\left(\tau_E\left(\lambda_l, \mu\right), \lambda_E\left(\lambda_l, \mu\right)\right)$, which is a contradiction. Thus, if $\left(\tau_E\left(\lambda_l, \mu\right), \lambda_E\left(\lambda_l, \mu\right)\right) \neq (0, \lambda)$, then $\mu = \bar{\mu}_P^{\lambda_l}\left(\tau_E\left(\lambda_l, \mu\right), \lambda_E\left(\lambda_l, \mu\right)\right)$. Also note that since the proponents of a revolt can always be placated with $\lambda = \lambda_s$, then, for each μ, either there exist $\tau \geq 0$ such that, $\mu = \bar{\mu}_P^{\lambda_l}\left(\tau, \lambda_s\right)$ or $\mu > \bar{\mu}_P^{\lambda_l}\left(0, \lambda_s\right)$. Now, consider the following four possible situations.

1. If $\left(\tau_E\left(\lambda_l, \mu^1\right), \lambda_E\left(\lambda_l, \mu^1\right)\right) = (0, \lambda_l)$, then $\left(\tau_E\left(\lambda_l, \mu^2\right), \lambda_E\left(\lambda_l, \mu^2\right)\right) = (0, \lambda_l)$, since l was already selecting its preferred policy before its opportunity set expanded. Therefore, if $\left(\tau_E\left(\lambda_l, \mu^1\right), \lambda_E\left(\lambda_l, \mu^1\right)\right) = (0, \lambda_l)$, an increase in μ does not have any welfare effect.

2. If $\left(\tau_E\left(\lambda_l, \mu^1\right), \lambda_E\left(\lambda_l, \mu^1\right)\right) = (0, \lambda_s)$, then either $\left(\tau_E\left(\lambda_l, \mu^2\right), \lambda_E\left(\lambda_l, \mu^2\right)\right) = (0, \lambda_s)$, or $\left(\tau_E\left(\lambda_l, \mu^2\right), \lambda_E\left(\lambda_l, \mu^2\right)\right) = (\tau, \lambda_l)$ with $\tau \geq 0$. If $\left(\tau_E\left(\lambda_l, \mu^2\right), \lambda_E\left(\lambda_l, \mu^2\right)\right) = (0, \lambda_s)$, the increase in μ has no welfare effects. If $\left(\tau_E\left(\lambda_l, \mu^2\right), \lambda_E\left(\lambda_l, \mu^2\right)\right) = (0, \lambda_l)$, the increase in μ makes the populace and the elite faction s worse off. Finally, if $\left(\tau_E\left(\lambda_l, \mu^2\right), \lambda_E\left(\lambda_l, \mu^2\right)\right) = (\tau, \lambda_l)$ with $\tau > 0$, the increase in μ clearly makes elite faction s worse off. Also, $\bar{\mu}_P^{\lambda_l}\left(\tau_E\left(\lambda_l, \mu^2\right), \lambda_E\left(\lambda_l, \mu^2\right)\right) = \mu^2 > \mu^1 \geq \bar{\mu}_P^{\lambda_l}\left(\tau_E\left(\lambda_l, \mu^1\right), \lambda_E\left(\lambda_l, \mu^1\right)\right)$, which implies that $v_P\left(\tau_E\left(\lambda_l, \mu^1\right), \lambda_E\left(\lambda_l, \mu^1\right)\right) >$

$v_P\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)$, since $\bar{\mu}_P^{\lambda_l}(\tau,\lambda)$ is a strictly decreasing function of $v_P(\tau,\lambda)$. Therefore, if $\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)=(0,\lambda_s)$, an increase in μ either has no welfare effects or makes the populace and the elite faction s worse off.

3. If $\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)=(\tau,\lambda_l)$ with $\tau>0$, then either $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=(0,\lambda_s)$, $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=(0,\lambda_l)$, $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)\neq(0,\lambda)$. Suppose that $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=(0,\lambda_s)$. Since the proponents of a revolt can always be placated with λ_s, there exists $\tau\geq 0$ such that $\mu^1=\bar{\mu}_P^{\lambda_l}(\tau,\lambda_s)$ or $\mu^1>\bar{\mu}_P^{\lambda_l}(0,\lambda_s)$. However, $\mu^1>\bar{\mu}_P^{\lambda_l}(0,\lambda_s)$ leads to a contradiction. The reason is that $\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)=(\tau,\lambda_l)$ when $\mu^1>\bar{\mu}_P^{\lambda_l}(0,\lambda_s)$ implies $v_l\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)=v_l(\tau,\lambda_l)\geq v_l(0,\lambda_s)=v_l\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)$; while $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=(0,\lambda_s)$ implies $v_l\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=v_l(0,\lambda_s)>v_l(\tau,\lambda_l)=v_l\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)$, since $\left(\tau_E\left(\lambda_l,\mu^1\right)-\epsilon,\lambda_E\left(\lambda_l,\mu^1\right)\right)\in\bar{S}_R\left(\lambda_l,\mu^2\right)$ for $\epsilon>0$ small enough. Thus, the only option is that there exists $\tau\geq 0$ such that $\mu^1=\bar{\mu}_P^{\lambda_l}(\tau,\lambda_s)$. Since we also have $\mu^1=\bar{\mu}_P^{\lambda_l}\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)$, it must be the case that when $\mu^H=\mu^1$, the populace is indifferent between $\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)$ and (τ,λ_s), which implies that $v_P\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)=v_P(\tau,\lambda_s)>v_P(0,\lambda_s)=v_P\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)$. If $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=(0,\lambda_l)$, then $v_P\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)=v_P(\tau,\lambda_l)>v_P(0,\lambda_l)=v_P\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)$. Finally, if $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)\neq(0,\lambda)$, then $\bar{\mu}_P^{\lambda_l}\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=\mu^2>\mu^1=\bar{\mu}_P^{\lambda_l}\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)$, which implies that $v_P\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)>v_P\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)$ since $\bar{\mu}_P^{\lambda_l}(\tau,\lambda)$ is a strictly decreasing function of $v_P(\tau,\lambda)$. Therefore, if $\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)=(\tau,\lambda_l)$ with $\tau>0$, an increase in μ makes the populace worse off. Regarding the elite faction s, it is easy to see that the increase in μ always makes the group better off, whether solely through a reduction in taxation or through a reduction in taxation combined with a favorable change in trade policy.

4. If $\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)=(\tau,\lambda_s)$ with $\tau>0$, then either $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=(0,\lambda_s)$, $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=(0,\lambda_l)$, $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)\neq(0,\lambda)$. If $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=(0,\lambda_s)$, then $v_P\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)=v_P(\tau,\lambda_s)>v_P(0,\lambda_s)=v_P\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)$. If $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=(0,\lambda_l)$, then $v_P\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)=v_P(\tau,\lambda_s)>v_P(0,\lambda_l)=v_P\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)$ since $(0,\lambda_l)$ is the worst policy for the populace. Finally, if $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)\neq(0,\lambda)$, then $\bar{\mu}_P^{\lambda_l}\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=\mu^2>\mu^1=\bar{\mu}_P^{\lambda_l}\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)$, which implies that $v_P\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)>v_P\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)$ since $\bar{\mu}_P^{\lambda_l}(\tau,\lambda)$ is a strictly decreasing function of $v_P(\tau,\lambda)$. Therefore, if $\left(\tau_E\left(\lambda_l,\mu^1\right),\lambda_E\left(\lambda_l,\mu^1\right)\right)=(\tau,\lambda_s)$ with $\tau>0$, an increase in μ makes the populace worse off. Regarding the elite faction s, the increase in μ makes the group better off when there is no change in trade policy, i.e., $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=(\tau,\lambda_s)$, while the effect is ambiguous when there is a change in trade policy, i.e., $\left(\tau_E\left(\lambda_l,\mu^2\right),\lambda_E\left(\lambda_l,\mu^2\right)\right)=(\tau,\lambda_l)$.

Autocracy controlled by s. Suppose that the political regime is an autocracy controlled by s and consider an increase in the cost of a revolt that does not modify the political regime. This change can affect the policy chosen by the elite faction s only when $\mu_t=\mu^H$. From proposition 3, this policy is given by $\tau_E(\lambda_s,\mu)=\arg\max_{(\tau,\lambda)\in\bar{S}_R(\lambda_s,\mu)}v_s(\tau,\lambda_s)$ and $\lambda_E(\lambda_s,\mu)=\lambda_s$, where $\bar{S}_R(\lambda_s,\mu)=\left\{(\tau,\lambda)\in S:\mu\geq\bar{\mu}_P^{\lambda_s}(\tau,\lambda)\right\}$. From the definition of $\tau_E(\lambda_s,\mu)$, it is easy to see that, for

$\mu < \bar{\mu}_P^{\lambda_s}(0, \lambda_s)$, any increase in μ induces a decrease in $\tau_E(\lambda_s, \mu)$, while for $\mu \geq \bar{\mu}_P^{\lambda_s}(0, \lambda_s)$, there is no effect on $\tau_E(\lambda_s, \mu)$. Therefore, an increase in μ makes both elite factions weakly better off and the populace weakly worse off. **QED**.

8.2.2 Cost of a revolt / cost of a coup. Within a political regime (democracy)

Semi-consolidated democracy. Suppose that the political regime is a semi-consolidated democracy and consider an increase in the cost of a coup that does not modify the political regime. This change can affect the policy chosen by the people only when $\mu_t = \mu^H$. From proposition 3, this policy is given by $\tau_D(\varphi, \mu) = \arg\max_{(\tau,\lambda)\in\tilde{S}_C(\lambda_P,\varphi,\mu)} v_P(\tau, \lambda_l)$ and $\lambda_D(\varphi, \mu) = \lambda_l$, where $\tilde{S}_C(\lambda_P, \varphi, \mu) = \bar{S}_C(\lambda_P, \lambda_l, \varphi) \cap \tilde{S}_C(\lambda_P, \lambda_s, \varphi, \mu)$. Specifically, consider two semi-consolidated democracies that differ only in terms of the cost of a coup, denoted by $\varphi^2 > \varphi^1$. Since $\tilde{S}_C(\lambda_P, \varphi^1, \mu) \subseteq \tilde{S}_C(\lambda_P, \varphi^2, \mu)$,[18] we have $\tau_D(\varphi^2, \mu) \geq \tau_D(\varphi^1, \mu)$; hence $v_P(\tau_D(\varphi^2, \mu), \lambda_l) \geq v_P(\tau_D(\varphi^1, \mu), \lambda_l)$ and $v_i(\tau_D(\varphi^2, \mu), \lambda_l) \leq v_i(\tau_D(\varphi^1, \mu), \lambda_l)$. Therefore, an increase in φ makes the populace weakly better off and both elite factions weakly worse off. Analogously, suppose that the political regime is a semi-consolidated democracy and consider an increase in the cost of a revolt that does not modify the political regime. This change can affect the policy chosen by the people only when $\mu_t = \mu^H$. Specifically, consider two semi-consolidated democracies that differ only in terms of the cost of a revolt, denoted by $\mu^2 > \mu^1$. Since $\tilde{S}_C(\lambda_P, \varphi, \mu^2) \subseteq \tilde{S}_C(\lambda_P, \varphi, \mu^1)$,[19] we have $\tau_D(\varphi, \mu^2) \leq \tau_D(\varphi, \mu^1)$; hence $v_P(\tau_D(\varphi, \mu^2), \lambda_l) \leq v_P(\tau_D(\varphi, \mu^1), \lambda_l)$ and $v_i(\tau_D(\varphi, \mu^2), \lambda_l) \geq v_i(\tau_D(\varphi, \mu^1), \lambda_l)$. Therefore, an increase in μ makes the populace weakly worse off and both elite factions weakly better off.

Unconsolidated democracy. Finally, suppose that the political regime is an unconsolidated democracy. Then, an increase in φ that does not change the political regime makes all the groups in society worse off, since there is no change in policy but, now, each time there is a coup the welfare losses are higher. **QED**.

8.2.3 Cost of a revolt / cost of a coup. Across regions

Hitherto we have compared two societies with the same political regime but with different values of μ and φ. This is useful in order to see local welfare effects, but we also want to know how the welfare of the groups varies across political regimes. One way of doing so is to compare the regions identified in proposition 3. We begin with a broad comparison between regions 1 and 2.

Consider two societies: society 1 is in region 1 and society 2 is in region 2. From proposition 3, we know that society 1 is an autocracy, either controlled by l or s, while society 2 can be an autocracy controlled by s, a semi-consolidated democracy or an unconsolidated democracy. Moreover, we also know that μ^1, the cost of a revolt in society 1, is higher than μ^2, the cost of a revolt in society 2, so that $\mu^1 > \mu^2$.

The elite faction l. First, we focus on the elite faction l and we show that l weakly prefers society 1 to society 2.

[18] Note that $\bar{S}_C(\lambda_P, \lambda_l, \varphi^1) \subseteq \bar{S}_C(\lambda_P, \lambda_l, \varphi^2)$ and $\tilde{S}_C(\lambda_P, \lambda_s, \varphi^1, \mu) \subseteq \tilde{S}_C(\lambda_P, \lambda_s, \varphi^2, \mu)$, which implies $\tilde{S}_C(\lambda_P, \varphi^1, \mu) \subseteq \tilde{S}_C(\lambda_P, \varphi^2, \mu)$.

[19] Note that $\tilde{S}_C(\lambda_P, \lambda_s, \varphi, \mu^2) \subseteq \tilde{S}_C(\lambda_P, \lambda_s, \varphi, \mu^1)$, while $\tilde{S}_C(\lambda_P, \lambda_l, \varphi)$ does not depend on μ, which implies $\tilde{S}_C(\lambda_P, \varphi, \mu^1) \subseteq \tilde{S}_C(\lambda_P, \varphi, \mu^2)$.

Suppose that society 1 is an autocracy controlled by l. Since, in society 1, l always has the option to placate the proponents of a revolt by transferring control over the autocracy to s, it must be the case that $V_l\left(l, \mu^H = \mu^1\right) \geq V_l\left(s, \mu^H = \mu^1\right)$. If society 2 is an autocracy controlled by s, then the expected utility of the elite faction l is $V_l\left(s, \mu^H = \mu^2\right)$. Since $\mu^1 > \mu^2$, we have $V_l\left(s, \mu^H = \mu^1\right) \geq V_l\left(s, \mu^H = \mu^2\right)$, and therefore $V_l\left(l, \mu^H = \mu^1\right) \geq V_l\left(s, \mu^H = \mu^2\right)$. If society 2 is a semi-consolidated democracy, the highest expected utility that the elite faction l can get is $V_l\left(D, \varphi^L\right) = (1-\beta)^{-1}\left[\beta r y_l^{\lambda_l} + (1-\beta r)\, v_l\left(\tau_P, \lambda_P\right)\right]$; if society 2 is an unconsolidated democracy, the expected utility of group l is $V_l\left(D, \varphi^L\right) = (1-\beta)^{-1}\left[1-\beta\left(1-q-r\right)\right]^{-1}\left\{\left[1-\beta\left(1-q\right)\right] v_l\left(\tau_P, \lambda_P\right) + \beta r y_l^{\lambda_l} - \beta r\left[1-\beta\left(1-q\right)\right]\varphi y_l^{\lambda_l}\right\}$. It is easy to show that in any case $V_l\left(l, \mu^H = \mu^1\right) > V_l\left(D, \varphi^L\right)$.[20]

Suppose that society 1 is an autocracy controlled by s. If society 2 is also an autocracy controlled by s, the expected utility of the elite faction l is $V_l\left(s, \mu^H = \mu^2\right)$. Since $\mu^1 > \mu^2$, we have $V_l\left(s, \mu^H = \mu^1\right) \geq V_l\left(s, \mu^H = \mu^2\right)$. If society 2 is a semi-consolidated democracy or an unconsolidated democracy, then, as we have already shown , $V_l\left(l, \mu^H = \mu^1\right) > V_l\left(D, \varphi^L\right)$. Since, in society 1, l always has the option to placate proponents of a revolt without transferring control over the autocracy to s, it must be the case that $V_l\left(s, \mu^H = \mu^1\right) \geq V_l\left(l, \mu^H = \mu^1\right)$ and, therefore, $V_l\left(s, \mu^H = \mu^1\right) > V_l\left(D, \varphi^L\right)$.

The populace. Second, we focus on the populace and show that, if society 1 is an autocracy controlled by l, then the populace will weakly prefer society 2 to 1.

Suppose that society 1 is an autocracy controlled by l. As we have already shown, within this regime the expected utility of the populace is decreasing on μ, which implies that the highest utility that the populace can obtain must be lower than the utility it achieves by organizing a revolution when $\mu^1 = \bar{\mu}_P^{\lambda_l}\left(\tau_P, \lambda_P\right)$. If society 2 is an autocracy controlled by s, the populace must get at least the expected utility it gets from a revolution when $\mu^H = \mu^2$; if society 2 is a democracy, the populace must get at least the expected utility necessary to placate the proponents of a revolt when $\mu^H = \mu^2$, since, otherwise, democracy would not be a way of placating the proponents of a revolt. Since $\mu^1 > \mu^2$, in any case, the expected utility of the populace in society 2 is higher than in society 1.

The elite faction s. Third, we focus on the elite faction s and show that, if society 1 is an autocracy controlled by s, the elite faction s weakly prefers it to society 2. In order to prove this, note that if society 2 is an autocracy controlled by s, the lowest expected utility s can get is $V_s\left(s, \mu^H\right) = (1-\beta)^{-1}\left\{\left[1-\beta\left(1-q\right)\right] v_s\left(\tau_P, \lambda_P\right) + \beta\left(1-q\right) y_s^{\lambda_s}\right\}$; when society 2 is a semi-consolidated democracy, the highest expected utility s can get is $V_l\left(D, \varphi^L\right) = (1-\beta)^{-1}\left[\beta r y_l^{\lambda_l} + (1-\beta r)\, v_l\left(\tau_P, \lambda_P\right)\right]$; and when society 2 is an unconsolidated s obtains $V_l\left(D, \varphi^L\right) = (1-\beta)^{-1}\left[1-\beta\left(1-q-r\right)\right]^{-1}\left\{\left[1-\beta\left(1-q\right)\right] v_l\left(\tau_P, \lambda_P\right) + \beta r y_l^{\lambda_l} - \beta r\left[1-\beta\left(1-q\right)\right]\varphi y_l^{\lambda_l}\right\}$. Since $V_s\left(s, \mu^H\right) > V_l\left(D, \varphi^L\right)$, in region 2, s always prefers an autocracy controlled by s to any semi-consolidated or unconsolidated democracy. Furthermore, as we have already shown s weakly prefers an autocracy controlled by s with a high cost of revolt than one with a low cost of revolt.

[20] In fact, even the worst autocracy controlled by l is better for l than a semi-consolidated democracy or an unconsolidated democracy. The lowest expected utility that l can get under an autocracy controlled by l is:

$$V_l\left(l, \mu^H\right) = (1-\beta)^{-1}\left\{\left[1-\beta\left(1-q\right)\right] v_l\left(\tau_P, \lambda_P\right) + \beta\left(1-q\right) y_l^{\lambda_l}\right\}.$$

Since $y_l^{\lambda_l} > v_l\left(\tau_P, \lambda_P\right)$, it is always the case that $V_l\left(l, \mu^H\right) > V_l\left(D, \varphi^L\right)$.

For a fixed value of μ. Set a value of $\mu \in \left[\bar{\mu}_P^{\lambda_s}(\tau_P, \lambda_P), \bar{\mu}_P^{\lambda_l}(\tau_P, \lambda_P)\right]$ and consider three societies. Society 2.a is in region 2.a, society 2.b is in region 2.b and society 2.c is in region 2.c. From proposition 3, we know that society 2.a is an autocracy controlled by s, society 2.b is either an autocracy controlled by s or a semi-consolidated democracy, and society 2.c is either an autocracy controlled by s or an unconsolidated democracy. It is easy to see that l weakly prefers societies 2.b and 2.c to society 2.a. The reason is that l always has the option to transfer control over the autocracy to s and, therefore, if we are in a democratic regime, it must be the case that l prefers it to an autocracy controlled by s. The elite faction s weakly prefers society 2.a to societies 2.b and 2.c. since, as we have already proven, even the worst autocracy controlled by s gives s more expected utility than any democracy. Finally, suppose that we further restrict μ to not only belong to region 2 but also to $\mu \in \left[\bar{\mu}_P^{\lambda_s}(\tau_P, \lambda_P), \bar{\mu}_P^{\lambda_s}(0, \lambda_s)\right]$, where $\bar{\mu}_P^{\lambda_s}(0, \lambda_s) < \bar{\mu}_P^{\lambda_l}(\tau_P, \lambda_P)$. Since democratization placates the proponents of a revolt, if society 2.b (2.c) is a democracy, then the populace obtains at least the expected utility that it would have gotten by organizing a revolt when $\mu^H = \mu$, which is exactly the utility that the populace obtains in society 2.a. Since we have fixed μ, if society 2.b (2.c) is an autocracy controlled by s, then societies 2.b (2.c) and 2.a are equivalent. The lowest expected utility that the populace can secure in society 2.b is $V_P\left(D, \varphi^L\right) = (1-\beta)^{-1}\left[\beta r y_P^{\lambda_l} + (1-\beta r)\, v_P(\tau_P, \lambda_P)\right]$, while in society 2.c, the populace gets $V_P\left(D, \varphi^L\right) = (1-\beta)^{-1}\left[1-\beta(1-q-r)\right]^{-1}\left\{\left[1-\beta(1-q)\right] v_P(\tau_P, \lambda_P) + \beta r y_P^{\lambda_l} - \beta r\left[1-\beta(1-q)\right]\varphi y_P^{\lambda_l}\right\}$. Since $v_P(\tau_P, \lambda_P) > y_P^{\lambda_l}$, the former is higher than the latter. Therefore, the populace weakly prefers society 2.b to society 2.c and society 2.c to 2.a. **QED**.

8.3 Proof of Proposition 5

Region 3: $\mu < \bar{\mu}_P^{\lambda_s}(\tau_P, \lambda_P)$

If $\mu < \bar{\mu}_P^{\lambda_s}(\tau_P, \lambda_P)$, then, when $\mu_t = \mu^H$, the elite can placate the proponents of a revolt only through democratization. Democratization can lead to the advent of several different political regimes, depending on the cost of mounting a coup. From (9), $\bar{\varphi}_i^{\lambda_P, \lambda_j}(\tau_P, \lambda_P)$ denotes the critical value of φ such that, if the populace always implements (τ_P, λ_P), the elite group $i \in \{L, K\}$ is indifferent between a coup that gives rise to a dictatorship controlled by j and a fully consolidated democracy. Similarly, from (9), $\bar{\varphi}_i^{\lambda_P, \lambda_j}(0, \lambda_D)$ is the critical value of φ such that, if the populace implements (τ_P, λ_P), when $\varphi_t = \varphi^L$, and $\tau_D = 0$ and λ_D, when $\varphi_t = \varphi^H$, the elite group $i \in \{L, K\}$ is indifferent between a coup that gives rise to a dictatorship controlled by j and a semi-consolidated democracy.

Region 3.a: $\varphi \geq \max_{\lambda_j} \min_i \bar{\varphi}_i^{\lambda_P, \lambda_j}(\tau_P, \lambda_P)$

In this region, the populace can stop a coup by promising (τ_P, λ_P), which implies that democracy is consolidated.

Region 3.b: $\max_{\lambda_j} \min_i \bar{\varphi}_i^{\lambda_P, \lambda_j}(0, \lambda_P) \leq \varphi < \max_{\lambda_j} \min_i \bar{\varphi}_i^{\lambda_P, \lambda_j}(\tau_P, \lambda_P)$

In this region, the populace can stop a coup by promising $(0, \lambda_P)$, but not by promising (τ_P, λ_P), which implies that democracy cannot be fully consolidated, but it can be semi-consolidated, however, since the populace can always moderate income redistribution and at least one faction of the elite will find that a coup would be too costly. Moreover, not only can the populace defend democracy, but it is also willing to do so. Therefore, in this region, democracy is semi-consolidated. Moreover, the best way of defending democracy is to offer $(\tau_D, \lambda_D) = \arg\max_{(\tau, \lambda) \in \bar{S}_C(\lambda_P, \varphi)} v_P(\tau, \lambda)$, where $\bar{S}_C(\lambda_P, \varphi) = \cap_j \bar{S}_C(\lambda_P, \lambda_j, \varphi)$.

Region 3.c: $\min_{\lambda}\max_{\lambda_j}\min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(0,\lambda) \leq \varphi < \max_{\lambda_j}\min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(0,\lambda_P)$

In this region, the populace has the ability to stop any coup. Clearly, the populace is willing to stop a coup that gives rise to a dictatorship controlled by l, since for the populace the worst semi-consolidated democracy is better than an unconsolidated democracy with periodic coups controlled by l. However, it is possible that the populace prefers a coup that gives rise to a dictatorship controlled by s to a semi-consolidated democracy. If this is the case, the populace has an incentive to promise a policy that induces a coup controlled by s.

The populace can then stop a coup, but not by promising $(0,\lambda_P)$. Thus, the people face a dilemma: they can defend democracy with the promise $\tau_D = 0$ and $\lambda_D \neq \lambda_P$, or they can simply promise $\tau_D = 0$ and $\lambda_D = \lambda_P$, which lead to a coup. Therefore, if it is the people's will, democracy can be semi-consolidated. However, it is also possible that the people prefer a coup that gives rise to a dictatorship controlled by the secondary elite faction, which has the same trade policy preference as the people, rather than defend democracy by seducing the primary faction of the elite, which has the opposite trade policy preference. If the people decide to defend democracy, the best policy that they can choose is $\lambda_D \neq \lambda_P$ and $\tau_D = \arg\max_{(\tau,\lambda_D)\in\bar{S}_C(\lambda_P,\varphi)} v_P(\tau,\lambda_D)$, where $\bar{S}_C(\lambda_P,\varphi) = \cap_j \bar{S}_C(\lambda_P,\lambda_j,\varphi)$. Then, from expressions (5) and (6), the expected utility of group i when $\varphi_t = \varphi^L$ is given by:

$$V_i\left(D,\varphi^L\right) = \frac{\beta r v_i(\tau_D,\lambda_D) + (1-\beta r)\, v_i(\tau_P,\lambda_P)}{1-\beta},$$

while, when $\varphi_t = \varphi^H$, it is given by:

$$V_i\left(D,\varphi^H,\tau_D,\lambda_D\right) = \frac{[1-\beta(1-r)]\, v_i(\tau_D,\lambda_D) + \beta(1-r)\, v_i(\tau_P,\lambda_P)}{1-\beta}.$$

If the people don't defend democracy, and they can induce a coup controlled by s, i.e. there exists $(\tau,\lambda) \in \bar{S}_C(\lambda_P,\lambda_l,\varphi) - \bar{S}_C(\lambda_P,\lambda_s,\varphi)$, then, from expression (8), the expected utility of group i when $\varphi_t = \varphi^H$ is given by:

$$V_i\left(s,\mu^L\right) - \varphi y_i^{\lambda_s} = V_i\left(D,\varphi^H\right) = \frac{[1-\beta(1-r)]\, y_i^{\lambda_s} + \beta q v_i(\tau_P,\lambda_P) - [1-\beta(1-r)]\,[1-\beta(1-q)]\,\varphi y_i^{\lambda_s}}{(1-\beta)\,[1-\beta(1-q-r)]}.$$

Therefore, the people defend democracy if and only if there is no $(\tau,\lambda) \in \bar{S}_C(\lambda_P,\lambda_l,\varphi) - \tilde{S}_C(\lambda_P,\lambda_s,\varphi)$ or

$$V_P\left(D,\varphi^H,\tau_D,\lambda_D\right) \geq V_P\left(s,\mu^L\right) - \varphi y_P^{\lambda_s}$$

Note, in particular, that if the choice to not defend democracy would lead to a coup controlled by the primary faction of the elite, the populace will always be willing to defend democracy. However, if the choice to not defend democracy would lead to a coup controlled by the secondary faction of the elite, it is possible that the populace will prefer such a coup rather than a costly defense.

Region 3.d: $\min_{i,\lambda}\bar{\varphi}_i^{\lambda_P,\lambda_l}(0,\lambda) \leq \varphi < \min_{\lambda}\max_{\lambda_j}\min_i \bar{\varphi}_i^{\lambda_P,\lambda_j}(0,\lambda)$

In this region, the people can stop a coup controlled by l, but cannot stop a coup controlled by s. Thus, the people cannot stop a coup, but they can influence who controls the dictatorship after the coup. Since the people always prefer a dictatorship controlled by s to one controlled by the l, the coup will be controlled by s. Thus, in this region, we have an unconsolidated democracy with periodic dictatorships controlled by s.

Region 3.e: If $\varphi < \min_{i,\lambda} \bar{\varphi}_i^{\lambda_P,\lambda_l}(0,\lambda)$, there is no credible promise that the people can make to stop a coup controlled by l. Thus, in this region democracy is unconsolidated; whenever $\varphi_t = \varphi^H$, there will be a coup controlled by l. **QED**.