Persistence of Power, Elites and Institutions[*]

Daron Acemoglu[†]   **James A. Robinson**[‡]

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Abstract

In this paper, we construct a simple model of simultaneous change and persistence in institutions. The model consists of landowning elites and workers, and the key economic decision concerns the form of economic institutions regulating the transaction of labor (e.g., competitive markets versus labor repression). The main idea is that equilibrium economic institutions are a result of the exercise of *de jure* and *de facto* political power. A change in political institutions, for example a move from nondemocracy to democracy, alters the distribution of the jure political power, but the elite can intensify their investments in de facto political power, such as lobbying or use of paramilitary forces, to partially or fully offset their loss of de jure power. In the most extreme form, equilibrium changes in political institutions will have no effect on the (stochastic) equilibrium distribution of economic institutions, leading to a particular form of "hysteresis" in equilibrium institutions. When the model is enriched to allow for limits on the exercise of de facto power by the elite in democracy or the costs of changing economic institutions, the equilibrium takes the form of a Markov-switching process with persistence both in economic and political institutions. If, on the other hand, we allow for the possibility that changing political institutions is more difficult than economic institutions, the model leads to an interesting pattern of "captured" democracy, whereby a democratic regime may survive, but choose economic institutions favoring the elite. The main ideas featuring in the model are illustrated using historical examples from the U.S. South, Latin America and Liberia.

Keywords: de facto and de jure power, elites, hysteresis, institutions, labor repression, persistence, political economy.
JEL Classification: H2, N10, N40, P16.

Very Preliminary and Incomplete. Please Do Not Circulate.

"Plus ça change plus c'est la même chose." French Proverb

1 Introduction

Current empirical work and theoretical discussions of the impact of institutions on economic development either implicitly or explicitly assume that institutions persist (e.g., North, 1990, Engerman and Sokoloff, 1997, Acemoglu, Johnson and Robinson, 2001, 2002). In fact, some of the most popular empirical strategies in gauging the effect of institutions on economic performance use the persistence of institutions over centuries as part of their conceptual approach and identification strategy.

But many aspects of "institutions" show substantial change over periods much shorter than a century. Many less-developed countries, especially those in Latin America and Africa, have changed their political institutions all too often over the past 150 years, with frequent switches between democracy and dictatorship (see, e.g., Acemoglu and Robinson, 2006a) and multiple changes in constitutions. The same pattern also emerges when we turn to economic institutions. For example, while many historians and economists trace the economic problems of Latin America to colonial labor practices such as the *encomienda* or the *mita*, and those of the Caribbean to slavery and to the plantation complex, all of these economic institutions vanished long ago.[1] Beneath this pattern of change, however, the economic systems of the societies show surprising continuity. Quite strikingly, the form of agricultural labor relations in many of Latin American and Caribbean countries changed little after colonialism, and perhaps relatedly, these societies continued to suffer various economic problems, slow growth, economic and political instability throughout the 20th century. Another interesting example comes from the U. S. South. Even though slavery was abolished at the end of the Civil War, the U.S. South maintained the same agricultural system, based on large plantations and cheap labor, and remained relatively poor until the middle of the 20th century.[2]

In this paper, we provide a possible explanation for this paradoxical pattern of coexistence of frequent changes in political institutions, associated with persistence in certain (important) aspects of economic institutions. Our baseline model illustrates a feature, which we refer

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[1] In Latin America, the last form of official forced labor, *pongueaje*, was abolished in Bolivia in 1952 (Klein, 1992, Chapter 8). Unpaid labor services lasted in Guatemala until 1945 (McCreery, 1994). By the 1820s all Latin American countries were free of colonial rule, became republics (with the exception of Brazil), adopted the civil code, introduced elections and even liberal constitutions. Slaves were gradually freed, for example in 1850 in Colombia. In the British Caribbean slavery was abolished after 1834 though it lasted until in 1886 in Cuba and 1888 in Brazil.

[2] The South started a rapid process of convergence with the North of the United States only in the 1940s.

to as *hysteresis*, whereby a change in political institutions from nondemocracy to democracy leads to no change in the (stochastic) equilibrium process of economic institutions and of the distribution of resources in society.

Before elaborating on our approach, it is first necessary to be specific about the terms that are being used. Two features of institutional persistence are important. First, it refers to the persistence of the *broad cluster of institutions* that are important for economic performance, for example, the extent of enforcement of property rights for a broad cross-section of society. Lack of property rights enforcement may have its roots in quite different specific economic institutions, including risk of expropriation by the government or elites; extreme corruption; economic systems such as serfdom or slavery preventing large segments of the population from selling their labor freely or from investing in most economic activities; legal rules making it impossible for those without political connections to have their contracts enforced; or entry barriers creating a non-level playing field. Similarly, the broad cluster of economic institutions based on use of cheap labor in agriculture can be supported by slavery, forced labor or seemingly free labor markets dominated by the paramilitary or monopsony power of large landlords. These different specific economic institutions, in turn, may exist under the umbrella of different political institutions, for example, the dictatorship of a narrow elite, an absolutist monarchy, an oligarchic regime, a corrupt democracy or even a populist democracy. Thus it is important to be specific (in the context of a model) about which dimensions of economic and political institutions change and which others persist.

Second, we use the term "hysteresis" with a meaning similar to that in other areas of economics, to designate a tendency for the (stochastic) equilibrium to replicate itself unless disturbed by a large shock or a fundamental reform.[3] Institutional persistence, on the other hand, refers to a broader (or weaker) notion where a given economic or political system is more likely to endure once in place. Importantly, both of these notions emphasize that two different sets of institutions superimposed over the same set of economic relations will lead to different equilibrium configurations and will create a tendency to self-replicate, rather than the tendency of equilibrium institutions to remain the same because some characteristics of the economy (such as natural resource abundance or economic inequality) are themselves persistent.[4]

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[3]See, for example, David (1985), Arthur (1989), Krugman (1991) or Matsuyama (1991) for models of hysteresis in the context of technology adoption, Blanchard and Summers (1987) in the context of unemployment, and Dixit (1989a,b) in the context of entry by domestic or foreign firms in the presence of uncertainty. The main difference is that in these models, hysteresis corresponds to either a unit-root like stochastic process or existence of multiple equilibria, whereas here it corresponds to the invariance of the stochastic equilibrium distribution to the underlying distribution of de jure political power.

[4]The popular idea that economic inequality or certain forms of natural resource endowments tilt the balance

The underlying idea of our approach is that equilibrium economic institutions emerge from the interaction between political institutions, which allocate *de jure political power*, and the distribution of *de facto political power* across social groups (see Acemoglu and Robinson, 2006a, and Acemoglu, Johnson and Robinson, 2005b). De Facto power is power that is not allocated by institutions (such as elections) but rather is possessed by groups as a result of their wealth, weapons or ability to solve the collective action problem. A change in political institutions that modifies the distribution of de jure power need not lead to a change in equilibrium process for economic institutions if it is associated with an offsetting change in the distribution of de facto political power. The central argument in this paper is that there is a natural reason to expect changes in the distribution of de facto political power to partially or entirely offset changes in de jure power brought about by reforms in specific political institutions as long as these reforms do not radically alter the political structure of society, the identity of the elites, or the source of economic rents for the elites.

To make these ideas precise, we develop a simple model consisting of two groups, a landed elite and the citizens. The key economic institution concerns the organization of the labor market, in particular, whether wages are at their competitive level or are repressed below this level by some means. Our focus on labor markets in agriculture is motivated by the fact that land relations have played an important role historically (e.g., during the colonial period and during the early industrialization phase of European countries) and continue to be important today in view of the fact that many less developed countries are still highly rural.[5] In the model, economic institutions are decided either by the landed elite or the citizens (workers) depending on who has more political power. Political power, in turn, is determined by both political institutions that allocate de jure power and the distribution of de facto power, which is derived, at least partly, from a social group's ability to solve their collective action problem. The key observation is that landowners, by virtue of their smaller numbers and their established position, have a comparative advantage in solving the collective action problem (Olson, 1965). This observation implies that the amount of de facto political power of the elite is an equilibrium outcome, and responds to incentives and the underlying structure of political institutions. Nevertheless, political institutions and de jure political power also matter for

towards bad institutions is therefore different from our notion of institutional persistence, since this idea stresses the persistence of economic characteristics that then lead to the persistence of institutions (e.g., Engerman and Sokoloff, 1997, Benabou, 2000, 2005). Moreover, approaches based on this idea do not provide a natural framework for analyzing the coexistence of persistence and change in institutions.

[5]See, for example, Northrup (1995) for the colonial agricultural labor policies in general, Moore (1966) and Tawney (1941) for agricultural relations in the process of European development, Wright, (1978,1986) and Woodward (1951) for the U.S. South, and Paige (1997) on rural relations in Central America today.

equilibrium outcomes. In particular, the society may be either democratic or nondemocratic. In democracy, de jure political power is allocated to the majority, so the balance of power is tilted towards the citizens (see Acemoglu and Robinson, 2006a). In addition, freedom of political organization and existence of political parties may help the citizens in solving their collective action problem more effectively, thus facilitating their exercise of de facto political power.

Consequently, in the model society, in every period, there is a potential "contest" between the elite and the citizens, and political institutions (democracy versus nondemocracy) determine how level the playing field is in this contest. Those with greater political power at the end determine economic institutions today, and they may also be able to change political institutions tomorrow. Because of their smaller numbers, each elite agent understands that their contributions to the de facto power of their group will have an impact on equilibrium outcomes. This does not entirely remove the free-rider problem, but it nonetheless encourages the members of the elite to make positive contributions to activities that increase their de facto power (e.g., lobbying, bribery, contribution to paramilitary forces etc.). The most interesting result of our framework is that, because the elite's de facto political power is an equilibrium outcome, it will partly undo the effect of changes in political institutions. In particular, the elite will invest more in their de facto political power in democracy than in nondemocracy.

In the baseline model we construct, this effect is so strong that the (stochastic) distribution of equilibrium economic institutions is *identical* in democracy and nondemocracy—thus leading to the pattern of hysteresis as defined above.[6] This pattern shows that it could be mistaken to infer from frequent changes in certain dimensions of political institutions that there is little institutional persistence. The result also starkly illustrates how changes in some specific dimensions of political institutions can be undone by the greater exercise of de facto political power by the elite. The intuition for this result is simple: each individual elite will invest in activities increasing their group's de facto power until the marginal cost of one more dollar of investment is equal to the marginal benefit, which is determined in equilibrium in terms of the probability of the elite controlling economic institutions. Since the cost of investing in these activities does not change as a function of political institutions, the equilibrium necessitates the same probability of the elite controlling economic institutions under different political institutions, and the adjustment simply takes the form of different amounts of contributions

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[6] In the baseline model, there *are* changes in economic institutions, but the *equilibrium distribution* of economic institutions is *invariant* to political institutions.

by the elite.

Even though in this baseline model there is hysteresis, making the equilibrium probability distribution of economic institutions independent of whether the society is democratic or nondemocratic, this probability is still affected by economic fundamentals. The comparative static results illustrate this. The most interesting among those is that the economic structure of the society, for example the presence of sectors competing with agriculture for labor, will have a first-order effect on the equilibrium. The more productive are these sectors, the less the elite have to gain from using repressive methods, and democracy is more likely to arise and persist. Second, the smaller are the numbers of the elite, the more cohesive they are and the more able they will be to solve the collective action problem and dominate politics. Third, the ease with which the elites can invest in de facto power will also have a major effect on the form of equilibrium. Finally, and more paradoxically, the political advantage created by a democracy for the citizens may lead to a greater domination of politics by the elite. Intuitively, this emerges because the democratic advantage of the citizens creates a future cost for the elite and they are willing to invest in activities to increase their de facto power to avoid this future cost.

It is also interesting to note that in this baseline model, there is greater inefficiency in democracy than in nondemocracy, because in democracy the economic allocations are the same as in nondemocracy, but there is greater exercise of de facto political power by the elite, which is costly. This result also suggests some insights about why some potential reforms in specific political institutions in many less-developed countries may have failed to generate significant economic growth (as some had expected at the time).

The full hysteresis result, that the de facto political power of the elite can *entirely* undo the effect of changes in political institutions, is special. In the rest of the paper, we generalize our baseline model in a number of ways to show how, under certain circumstances, the de facto political power of the elite will *only partially* undo the effect of changes in political institutions, creating a pattern of institutional persistence with a Markov-switching structure. The two natural extensions we consider are as follows: first, we allow democracy to place some limits on the exercise of de facto power by the elite (e.g., limits on their use of paramilitaries or cooption of politicians); second, we introduce the feature that changing economic institutions may be costly in the short run, for example because the democratic regime has already undertaken some redistributive measures.[7] Both of these extensions lead to an equilibrium structure where

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[7]This extension also shows the importance of the interaction between the equilibrium distribution of political

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the society switches between democracy and nondemocracy, with different sets of economic institutions in the two regimes. These Markov-switching models, therefore, exhibit persistence both in political institutions and in economic institutions, in the sense that now the distribution of economic (and political) institutions is different depending on whether we are in a democratic or nondemocratic society.

We also analyze a richer model in which political institutions are more *durable*, in the sense that, in democracy, it is more difficult for the elite to change political institutions than economic institutions. This model leads to an interesting pattern, which we refer to as *captured democracy*; the equilibrium features the emergence and persistence of democracy for a long span of time, but throughout the economic institutions will be those favoring the elite. In fact, strikingly, the model predicts that the equilibrium probability of labor-repressive institutions may be higher in democracy than in nondemocracy, motivating the term captured democracy.

Finally, the model also sheds some light on how the hysteresis of economic institutions can be broken. It suggests that an effective democracy requires both reforms in specific political institutions (such as voting rules or electoral procedures), but also a way of curbing the de facto political power of the elite. This latter can be achieved either by reducing the ability of the elite to use de facto political power in democracy (e.g., their ability to capture the political system), or by reforming the economic structure so that with reduced land rents, they have less incentive to thwart democracy.

The model's insights enable us to interpret the experience of many less developed countries in a different light. For example, in the Americas, labor repression was of central importance during the colonial era, and was achieved by various means including the *encomienda*, the *mita*, and slavery. Yet repression did not end when the *mita* and slavery were abolished. It continued with domination of politics by local landed elites, with the creation of labor market monopsonies (Solberg, 1969, McGreevey, 1971, Coatsworth, 1974, McCreery, 1986), and the systematic threat of violence against peasants in rural areas (see the more detailed discussion in Section 7). Similarly, in the sugar plantations of the British Caribbean, Natal or Mauritius, slavery was replaced by the use of cheap indentured laborers from the Indian subcontinent (Tinker, 1974, Northrup, 1995). In the U.S. South, slavery was replaced by monopsonistic arrangements (Ransom and Sutch, 2001) complemented by policies designed to impede labor mobility (Wright, 1986, Alston and Ferrie, 1999), political disenfranchisement (Key, 1949, Kousser, 1974) and sheer intimidation, violence and lynching (Woodward, 1955).[8]

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power and the limits that groups with political power face in manipulating economic institutions.

[8]This discussion and the general approach in the paper beg the question of how the elite are able to exercise

In addition to the works already mentioned above, this paper is related to the literature on the persistence of institutions in political science (e.g., Steinmo, Thelen and Longstreth, 1992, Pierson, 2004, Thelen, 2004). Nevertheless, like many of the other approaches mentioned before, this literature also tends to focus on how specific institutions persist over long periods of time.[9] From a modeling point of view, this paper builds on the framework in Acemoglu and Robinson (2001, 2006a), where de facto political power drives changes in political institutions and the future distribution of de jure political power.[10] The major difference is that we now model the process of the elite investing in their de facto political power.[11] This difference also leads to some significant differences in the results. While Acemoglu and Robinson (2001, 2006a) emphasize that democracy is more "pro-citizen", the analysis here shows this may not be the case if the elite are able to garner sufficient de facto political power in democracy.

The rest of the paper is organized as follows. Section 2 outlines the basic economic environment. Section 3 provides the results of the baseline model, where the de facto political power of the elite in democracy can be sufficiently high that the elite are able to achieve the same outcomes in democracy as in nondemocracy, leading to the hysteresis pattern discussed above. Section 4 generalizes this framework in a number of directions and shows how under more general circumstances, only partial offset will occur, and the equilibrium will correspond to a Markov regime-switching model, with fluctuations between democracy and nondemocracy. Section 5 introduces the richer model in which changing political institutions is more difficult than influencing economic institutions and shows how an equilibrium pattern of cap-

de facto political power in democracy. This is also discussed in detail in Section 7, where we present a number of historical case studies illustrating the pattern of persistence modelled here and also emphasize two specific channels: the capture of the party system in democracy by the elites and the threat of violence. Both these methods were extensively used the U.S. South after the Civil War and are still present in many Latin American countries such as Brazil, Bolivia or Colombia. The classic reference to the non-competitive one-party system in the U.S. South after the Civil War is Key (1949). For the elitist and collusive nature of the party system in Colombia, see Dix (1967), Wilde (1978) and Hartlyn (1988). On the impact of violence on entry into Colombian politics, see Kline (1999). On elite control of party politics in Barzil, see Chilcote (1990) and Hagopian (1996).

[9]In addition to these approaches, persistence of institutions can arise in models in which social conventions or norms emerge from local interactions and learning (e.g., Young, 1998), and in models in which agents make specific investments in activities whose value would be destroyed by changes in social arrangements (Coate and Morris, 1999).

[10]See also Acemoglu, Johnson and Robinson (2005a,b), Ticchi and Vindigni (2005), Jack and Lagunoff (2006), and Lagunoff (2006) for related approaches.

[11]A complementary mechanism for institutional persistence, based on Robert Michels' (1911) classic book, is developed in Acemoglu and Robinson (2006b). This mechanism, which we refer to as *The Iron Law of Oligarchy*, emphasizes that even when the identity of the elite changes, economic institutions and policies can remain unchanged, because new oligarchies will form. This mechanism is starkly illustrated by the historical experience of countries such as Bolivia, Zimbabwe, Kenya and Ghana. See Acemoglu and Robinson (2006b) for a more general discussion of these examples and the relationship between our work and the classic sociological literature on elites, e.g., by Mills (1956), Mosca (1967) and Pareto (1968).

tured democracy can arise with landed elites dictating their favorite economic institutions in democracy. Section 6 briefly discusses how simultaneous reforms in multiple dimensions of political institutions or economic institutions can be effective in terminating the "hysteresis" in economic institutions. Section 7 discusses a number of historical case studies that both motivate and substantiate the ideas in the paper. This section also provides greater detail on how, in practice, the elite are able to exercise de facto political power in democracy. Section 8 concludes.

2   Baseline Model

2.1   Demographics, Preferences and Production Structure

Consider an infinite-horizon society in discrete time with a unique final good and populated by a continuum 1 of workers and (a finite) number $M > 1$ of the elites. All agents have the same risk-neutral preferences with discount factor β, given by

$$\sum_{j=0}^{\infty} \beta^j c_{t+j}^i \tag{1}$$

at time t where c_{t+j}^i denotes consumption of agent i at time $t + j$ in terms of the final good. We use the notation $i \in \mathcal{E}$ to denote an elite agent, and $i \in \mathcal{C}$ to denote a citizen.

All workers own one unit of labor, which they supply inelastically, while each member of the elite owns L/M units of land (and no labor), which is also supplied inelastically (i.e., has zero value if not used in the production process). Throughout the paper, we also assume that elite agents cannot buy or sell land.[12]

The final good is produced using two alternative technologies. The first is a land-based technology with constant returns to scale to land and labor. The aggregate production function of this technology is

$$Y_L = F(L, N_L), \tag{2}$$

where L denotes total land (which is all used in production by assumption) and N_L denotes total labor supply used in this sector. The alternative can be interpreted as small-scale production by the laborers themselves (or a low productivity proto-industry technology). This

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[12]Otherwise, given the free-rider problem in investment in de facto political power, explained below, all land will be concentrated in the hands of a single elite agent. This extreme outcome can be prevented by introducing some diminishing returns. Since diminishing returns complicates the analysis without adding new insights, we prefer to focus on the main mechanism of interest for this paper by assuming that there are no transactions in the land market.

alternative technology exhibits constant returns to scale to labor:

$$Y_A = AN_A. \tag{3}$$

Clearly, total output of the unique final good in the economy will be $Y = Y_L + Y_A$, and the market clearing condition for labor is

$$N_L + N_A \leq 1. \tag{4}$$

Below, we will assume that the land-based technology (2) is more productive than the alternative technology, (3), so the main role of the alternative technology will be to restrict how low wages can fall in this economy.

We will consider two different *economic institutions*. In the first, labor markets are *competitive*.[13] Since F exhibits constant returns to scale, we can write per capita output as:

$$y = F\left(\frac{L}{N_L}, 1\right) = f\left(\frac{L}{N_L}\right), \tag{5}$$

and by standard arguments, if there are competitive labor markets, which we denote by $\tau = 1$, the wage rate (and the wage earnings of each worker), as a function of labor allocated to this sector, N_L, is

$$w^c[N_L] \equiv f\left(\frac{L}{N_L}\right) - \frac{L}{N_L} f'\left(\frac{L}{N_L}\right), \tag{6}$$

where the superscript c denotes "competitive". The return to landowners with competitive markets is similarly

$$R^c[N_L] \equiv f'\left(\frac{L}{N_L}\right), \tag{7}$$

with each landowner receiving $R^c L/M$.

We assume that even when all workers work in the land sector, this sector is more productive than the alternative. In particular:

Assumption 1

$$f(L) - Lf'(L) > A.$$

This assumption implies that even if when $N_L = 1$ (i.e., when $L/N_L = L$), the competitive wage in this sector is greater than the marginal product of labor in the alternative technology. Therefore, both the efficient allocation and the competitive equilibrium allocation will have all

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[13] This implies that, by law, landowning elites cannot restrict their labor demand to affect prices.

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workers allocated to the land sector, i.e., $N_L = 1$. In light of this, the relevant competitive wage and rental return on land are denoted

$$w^c \equiv w^c (N_L = 1) \equiv f(L) - Lf'(L),$$ (8)

and

$$R^c \equiv R^c (N_L = 1) \equiv f'(L).$$ (9)

In particular, we have $w_t = w(\tau_t = 1) = w^c$ and $R_t = R(\tau_t = 1) = R^c$, so that when economic institutions correspond to competitive labor markets in agriculture, factor prices will be given by (8) and (9).[14]

Alternative economic institution are one of land repression, where the land-owner elite controls political power, and can use their political power to force workers to take a lower wage than the competitive wage. They cannot, however, force workers to work (i.e., slavery is not allowed), so workers always have access to the alternative small-scale production technology. Consequently, when economic institutions are *labor repressive*, denoted by $\tau = 0$, the lowest wage that the elite can pay the workers, while still ensuring that $N_L = 1$, is A. This implies that factor prices under these economic institutions are

$$w^r \equiv A,$$ (10)

and

$$R^r \equiv \frac{f(L) - A}{L}.$$ (11)

(Recall that the landed elite are paying the wage of A to a total of $N_L = 1$ workers). When economic institutions are labor repressive, then we will have $w_t = w(\tau_t = 0) = w^r$ and $R_t = R(\tau_t = 0) = R^r$. Assumption 1 immediately implies that $R^r > R^c$, since with labor repressive economic institutions, wages are kept artificially low and land owners enjoy greater rents. For future reference, we define

$$\begin{aligned} \Delta R &\equiv R^r - R^c \\ &= \frac{f(L) - A}{L} - f'(L) > 0, \end{aligned}$$ (12)

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[14]More formally, the second welfare theorem combined with preferences in (1) implies that a competitive equilibrium is a solution to the following program:

$$\max_{N_L, N_A, \tilde{L}} f\left(\frac{\tilde{L}}{N_L}\right) N_L + AN_A$$

subject to (4) and $\tilde{L} \leq L$. Assumption 1 ensures that the solution involves $N_L = 1$ and $\tilde{L} = L$, and the equilibrium factor prices are given by the shadow prices of this program.

where the fact that $\Delta R > 0$ follows from Assumption 1.

One feature to note here is that the simple environment outlined here implies that both competitive labor markets and labor repression will generate the same total output, and will differ only in terms of their distributional implications. Naturally, it is possible to introduce additional costs from labor repressive economic institutions, which may include standard monopsony distortions or other costs involved in monitoring and forcing laborers to work at below market-clearing wages (such as wasteful expenditures on monitoring, paramilitaries, or lower efficiency of workers because of the lower payments they receive). Incorporating such costs has no effect on the analysis, and throughout, one may wish to consider the labor repressive institutions as corresponding to "worse economic institutions".

2.2 Political Regimes and De Facto Political Power

There are two possible political regimes, denoted by D and N, corresponding to democracy and nondemocracy. The distribution of de jure political power will vary between these two regimes (Acemoglu and Robinson, 2006a). At any point in time, the "state" of this society will be represented by $s_t \in \{D, N\}$, which designates which political regime applies at that date. Importantly, irrespective of the political regime (state), the identity of landowners and workers are not changed; the same M individuals are still the potential elite controlling the land, and have the potential to exercise additional political power.

Overall political power is determined by the interaction of de facto and de jure political power. Since there is a continuum of citizens, they will have difficulty in solving the collective action problem to exercise de facto political power. Consequently, their de facto political power will come from their sheer numbers rather than their financial contributions to acquiring de facto political power.

In contrast, elites can spend part of their earnings to gather further de facto political power. In particular, suppose that elite $i \in \mathcal{E}$ spends an amount $\theta_t^i \geq 0$ as contribution to activities increasing their group's de facto power. Then total elite spending on such activities will be $Z_t = \sum_{i \in \mathcal{E}} \theta_t^i$, and we assume that their de facto political power is

$$P_t^E = \phi Z_t, \tag{13}$$

where $\phi > 0$. The reason why the elites may choose to spend a positive amount on such activities is that there is a finite number, M, of them, so each of them will take into account that their own contribution to total spending, Z_t, will have an effect on equilibrium outcomes.

An important assumption implicit in (13) is that the technology for generating de facto political power for the elite is the same in democracy and nondemocracy. There may be a number of reasons for why the elite's ability to lobby and bribe politicians, or use paramilitaries may be more restricted in democracy, so in Section 4, we will allow this technology to differ between democracy and nondemocracy.

Even though the citizens cannot solve the collective action problem to invest to increase their de facto political power further, since they form the majority in society they always possess some de facto political power. The extent of this power depends on whether the political regime is democratic or nondemocratic. In particular, we model their de facto political power in a reduced-form manner by assuming that it is given by

$$P_t^C = \omega_t + \eta I\left(s_t = D\right), \tag{14}$$

where $I\left(s_t = D\right)$ is an indicator function for $s_t = D$, such that $I\left(s_t = D\right) = 1$ while $I\left(s_t = N\right) = 0$. Also $\eta > 0$, and ω_t is a random variable drawn independently and identically over time from a given distribution $F\left(\cdot\right)$.

There are two important assumptions embedded in equation (14). The first is that the political power of the citizens fluctuates over time, and is hard to predict in advance. This assumption is used extensively in Acemoglu and Robinson (2006a), and defended there. Briefly, given their large numbers, whether and how effectively citizens will be able to organize is difficult to predict in advance, and will change from time to time. The randomness of ω_t captures this in a simple way. The second assumption is that when the political regime is democratic, i.e., $s_t = D$, citizens have greater political power. This represents in a very simple way the fact that democracy allocates de jure political power in favor of the majority. This will be both because of the formal rules of democracy and also because in democratic politics, parties may partly solve the collective action problem of the citizens. Put differently, equation (14) implies that in democracy the political power of the citizens shifts to the right in the sense of first-order stochastic dominance. To simplify the discussion, we make the following assumptions on F:

Assumption 2 F is defined over $(\underline{\omega}, \infty)$ for some $\underline{\omega} < 0$, is everywhere strictly increasing and twice continuously differentiable (so that its density f and the derivative of the density, f', exist everywhere). Moreover, $f\left(\omega\right)$ is single peaked (in the sense that there exists ω^* such that $f'\left(\omega\right) > 0$ for all $\omega < \omega^*$ and $f'\left(\omega\right) < 0$ for all $\omega > \omega^*$) and satisfies $\lim_{\omega \to \infty} f\left(\omega\right) = 0$.

All of the assumptions embedded in Assumption 2 are for convenience, and are only useful in simplifying the analysis below.

We introduce the variable $\pi \in \{0, 1\}$ to denote whether the elite have more (total) political power. In particular, when $P_t^E \geq P_t^C$, we have $\pi_t = 0$ and the elite have more political power and will make the key decisions. In contrast, whenever $P_t^E < P_t^C$, $\pi_t = 1$ and citizens have more political power, and they will make the key decisions.

To complete the description of the environment, it remains to specify what these key decisions are. We assume that the group with greater political power will decide both economic institutions at time t, τ_t, and what the political regime will be in the following period, s_{t+1}.

When elites have more political power, a representative elite agent makes the key decisions, and when citizens have more political power, a representative citizen does so. Since the political preferences of all elites and all citizens are the same, these representative agents will always make the decisions favored by their group.

2.3 Timing of Events

We now briefly recoup the timing of events in this basic environment.

At each date t, society starts with a state variable $s_t \in \{D, N\}$. Given this, the following sequence of events take place:

1. Each elite agent $i \in \mathcal{E}$ simultaneously chooses how much to spend to acquire de facto political power for their group, $\theta_t^i \geq 0$, and P_t^E is determined according to (13).

2. The random variable ω_t is drawn from the distribution F, and P_t^C is determined according to (14).

3. If $P_t^E \geq P_t^C$ (i.e., $\pi_t = 0$), a representative elite agent chooses (τ_t, s_{t+1}), and if $P_t^E < P_t^C$ (i.e., $\pi_t = 1$), a representative citizen chooses (τ_t, s_{t+1}).

4. Given τ_t, transactions in the land and labor market take place, R_t and w_t are paid to elites and workers respectively, and consumption takes place.

5. The following date, $t + 1$, starts with state s_{t+1}.

3 Analysis of Baseline Model

We now analyze the baseline model described in the previous section. Throughout, we focus on symmetric Markov Perfect Equilibrium (MPE) of the game described above. An MPE imposes

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the restriction that equilibrium strategies are mappings from payoff-relevant states, which here only include $s \in \{D, N\}$. In particular, in an MPE strategies are not conditioned on the past history of the game over and above the influence of this past history on the payoff-relevant state s. An MPE will consist of contribution functions $\left\{\theta^i(s)\right\}_{i \in \mathcal{E}}$ for each elite agent as a function of the political state, and decision variables $\tau(\pi)$ and $s'(\pi)$ as a function of $\pi \in \{0, 1\}$ denoting which side has more political power, and equilibrium factor prices as given by (8)-(11).[15] Here the function $\tau(\pi)$ determines the equilibrium decision about labor repression conditional on who has power and the function $s'(\pi) \in \{D, N\}$ determines the political state at the start of the next period. Symmetric MPE will in addition impose the condition that contribution functions take the form $\theta(s)$, i.e., does not depend on the identity of the elite, i. Symmetry is also a natural feature here, and simplifies the analysis. We discuss asymmetric MPE for completeness below. A more formal definition of an MPE is given below.

Our focus on MPE is motivated by the fact that we want to model the degree to which the elite are able to solve the collective action problem by independent actions. Looking at subgame perfect equilibrium will allow the elite greater latitude in solving the collective action problem by using implicit punishment strategies. For completeness, we briefly discuss subgame perfect equilibria in subsection 3.3.

3.1 Basic Analysis

The MPE can be characterized by backward induction within the stage game for some arbitrary date t, given the state $s \in \{D, N\}$. At the last stage of the game, it is immediate to see that whenever the elite have political power, i.e., $\pi = 0$, they will choose economic institutions that favor them, i.e., $\tau = 0$, and a political system that gives them more power in the future, i.e., $s' = N$. In contrast, whenever citizens have political power, i.e., $\pi = 1$, they will choose $\tau = 1$ and $s' = D$.[16] This implies that choices over economic institutions and political states are straightforward. Moreover the determination of market prices under different economic institutions has already been specified above (recall equations (8)-(11)). Thus the only remaining

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[15] More generally, we could have $\tau(\pi, s)$ and $s'(\pi, s)$, so that the choice of economic institutions and future political institutions are conditioned on which party has political power, π, and the current state, s. Nevertheless, since it is clear that the current state will have no effect on these decisions, we use the more economical notation $\tau(\pi)$ and $s'(\pi)$.

[16] We will see in Proposition 1 that the equilibrium distribution over economic institutions is the same in democracy and nondemocracy, so citizens will be indifferent between $s' = D$ and $s' = N$. Throughout, without loss of any generality, we assume that, when indifferent, citizens choose $s' = D$, and we impose this in the analysis. Alternatively, in Section 5, we introduce more general preferences (see equation (50)), which make $s' = D$ a strictly preferred strategy for the citizens.

decisions are the contributions of each elite agent to their de facto power, θ_t^i. Therefore, a symmetric MPE can be summarized by a level of contribution as a function of the state $\theta(s)$. It will be convenient to characterize the MPE by writing the payoff to elite agents recursively, and for this reason, we denote the equilibrium value of an elite agent in state s by $V(s)$ (i.e., $V(D)$ for democracy and $V(N)$ for nondemocracy).

Let us begin with nondemocracy. Since we are focusing on symmetric MPE, suppose that all other elite agents, except $i \in \mathcal{E}$, have chosen a level of contribution to de facto power equal to $\theta(N)$. Consequently, when agent $i \in \mathcal{E}$ chooses θ^i, their total power will be

$$P^E\left(\theta^i, \theta(N) \mid N\right) = \phi\left((M-1)\theta(N) + \theta^i\right).$$

The elite will have political power if

$$P^E\left(\theta^i, \theta(N) \mid N\right) = \phi\left((M-1)\theta(N) + \theta^i\right) \geq \omega_t.$$

Expressed differently, the probability that the elite will have political power in this state is

$$p\left(\theta^i, \theta(N) \mid N\right) = F\left(\phi\left((M-1)\theta(N) + \theta^i\right)\right). \tag{15}$$

We can then write the net present discounted value of agent $i \in \mathcal{E}$ recursively as

$$
\begin{aligned}
V\left(N \mid \theta(N), \theta(D)\right) &= \max_{\theta^i \geq 0}\left\{-\theta^i + p\left(\theta^i, \theta(N) \mid N\right)\left(\frac{R^r L}{M} + \beta V\left(N \mid \theta(N), \theta(D)\right)\right)\right. \\
&\left. + \left(1 - p\left(\theta^i, \theta(N) \mid N\right)\right)\left(\frac{R^c L}{M} + \beta V\left(D \mid \theta(N), \theta(D)\right)\right)\right\}, \tag{16}
\end{aligned}
$$

where recall that R^c is the rate of return on land in competitive markets, given by (9) and R^r is the rate of return on land under labor repressive economic institutions, given by (11). The function $V\left(N \mid \theta(N), \theta(D)\right)$ denotes the value of an elite agent in nondemocracy when all other elite agents choose contributions $\theta(N)$ in nondemocracy and $\theta(D)$ in democracy. Similarly, $V\left(D \mid \theta(N), \theta(D)\right)$ is the value in democracy under the same circumstances. Notice that the same value functions are used for all elite agents for continuation values, which is an implication of our focus on symmetric MPE.

The form of the value function in (16) is intuitive. It consists of the forgone consumption because of the expenditure θ^i, plus the revenues and the continuation values. In particular, given his contribution θ^i and those of other elite agents in nondemocracy, $\theta(N)$, political power will remain in the hands of the elite with probability $p\left(\theta^i, \theta(N) \mid N\right)$, in which case economic institutions will be labor repressive, and this elite agent receives revenue equal to $R^r L / M$ (rate

of return under labor repressive economic institutions, R^r, times his land holdings, L/M) and the discounted continuation value of remaining in nondemocracy, $\beta V (N \mid \theta (N), \theta (D))$. With probability $1 - p \left(\theta^i, \theta (N) \mid N \right)$, citizens have greater political power, so they choose $\tau = 1$ and labor markets are competitive, so he receives revenue equal to $R^c L/M$ and continuation value $\beta V (D \mid \theta (N), \theta (D))$, since with power in their hands, the citizens will choose to change the political system to $s_{t+1} = D$.

Agent $i \in \mathcal{E}$ chooses θ^i to maximize his net expected present discounted utility. Let the policy function (correspondence) for the maximization in (16) be $\Gamma^N [\theta (N), \theta (D)]$, so that any $\theta^i \in \Gamma^N [\theta (N), \theta (D)]$ is an optimal policy for the value function in (16) (in state $s = N$).

Since F is continuously differentiable and everywhere increasing (from Assumption 2), so is $p \left(\theta^i, \theta (N) \mid N \right)$, which implies a particularly simple first-order necessary condition for (16):

$$\phi f \left(\phi \left((M - 1) \theta (N) + \theta^i \right) \right) \left(\frac{\Delta R L}{M} + \beta \left(V (N \mid \theta (N), \theta (D)) - V (D \mid \theta (N), \theta (D)) \right) \right) \leq 1, \tag{17}$$

and $\theta^i \geq 0$, with complementary slackness,[17] where recall that $\Delta R \equiv R^r - R^c$ as defined in (12), and f is the density function of the distribution function F. Moreover, it is clear that we need the additional second-order condition that $f' \left(\phi \left((M - 1) \theta (N) + \theta^i \right) \right) < 0$.[18] The reason why the maximization problem for individual i in this recursive formulation is so simple is that θ^i does not affect $V (N \mid \theta (N), \theta (D))$ or $V (D \mid \theta (N), \theta (D))$, so differentiability of the maximand is guaranteed.

Expressed differently, any $\theta^i \in \Gamma^N [\theta (N), \theta (D)]$ must solve (17) and satisfy the corresponding second-order condition. The first-order condition is quite intuitive: the cost of forgone consumption, which is the right hand side of (17), must be equal to (or less than) the benefit from this contribution, which is the marginal increase in probability of the elite having more political power than the citizens, given by the first term on the left-hand side, $\phi f (\cdot)$, and the benefit that the agent will derive from this political power, which is the second term on the left-hand side, consisting of the direct benefit $\Delta R L/M$ plus the benefit in terms of continuation value. Moreover, since we are focusing on a symmetric MPE, $\theta^i > 0$ is equivalent to $\theta (N) > 0$, so if there is any investment in de facto power by the elite, then (17) must hold as equality.

Next, consider the society starting in democracy. With the same argument as above, the

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[17] That is, either $\theta^i = 0$ or (17) holds as equality.

[18] The condition $f' \left(\phi \left((M - 1) \theta (N) + \theta^i \right) \right) < 0$ is sufficient, while $f' \left(\phi \left((M - 1) \theta (N) + \theta^i \right) \right) \leq 0$ would be necessary but not sufficient. We impose the sufficient condition throughout to simplify the discussion.

elite will have political power if

$$P^D \left(\theta^i, \theta \left(D \right) \mid D \right) = \phi \left(\left(M - 1 \right) \theta \left(D \right) + \theta^i \right) \geq \omega_t + \eta,$$

which only differs from the above expression because with $s_t = D$, the citizens have an additional advantage as captured by the positive parameter η. Then the probability that the elite will capture political power in democracy is

$$p \left(\theta^i, \theta \left(D \right) \mid D \right) = F \left(\phi \left(\left(M - 1 \right) \theta \left(D \right) + \theta^i \right) - \eta \right), \tag{18}$$

and using the same reasoning as before, we can write the value function for elite agent $i \in \mathcal{E}$ as

$$
\begin{aligned}
V \left(D \mid \theta \left(N \right), \theta \left(D \right) \right) \; = \; \max_{\theta^i \geq 0} & \left\{ -\theta^i + p \left(\theta^i, \theta \left(D \right) \mid D \right) \left(\frac{R^r L}{M} + \beta V \left(N \mid \theta \left(N \right), \theta \left(D \right) \right) \right) \right. \\
& \left. + \left(1 - p \left(\theta^i, \theta \left(D \right) \mid D \right) \right) \left(\frac{R^c L}{M} + \beta V \left(D \mid \theta \left(N \right), \theta \left(D \right) \right) \right) \right\} \tag{19}
\end{aligned}
$$

which has first-order necessary condition

$$\phi f \left(\phi \left(\left(M - 1 \right) \theta \left(D \right) + \theta^i \right) - \eta \right) \left(\frac{\Delta R L}{M} + \beta \left(V \left(N \mid \theta \left(N \right), \theta \left(D \right) \right) - V \left(D \mid \theta \left(N \right), \theta \left(D \right) \right) \right) \right) \leq 1, \tag{20}$$

and $\theta^i \geq 0$, again with complementary slackness and with second-order condition $f' \left(\phi \left(\left(M - 1 \right) \theta \left(N \right) + \theta^i \right) - \eta \right) < 0$. Denote the policy function (correspondence) implied by the maximization in (19) by $\Gamma^D \left[\theta \left(N \right), \theta \left(D \right) \right]$, so that any $\theta^i \in \Gamma^D \left[\theta \left(N \right), \theta \left(D \right) \right]$ solves (20).

Consequently, denoting the decision of current economic institutions by $\tau \left(\pi \right)$ and future political system by $s' \left(\pi \right)$, we can define:

Definition 1 A symmetric MPE consists of a pair of contribution levels for elite agents $\theta \left(N \right)$ and $\theta \left(D \right)$, such that $\theta \left(N \right) \in \Gamma^N \left[\theta \left(N \right), \theta \left(D \right) \right]$ and $\theta \left(D \right) \in \Gamma^D \left[\theta \left(N \right), \theta \left(D \right) \right]$. In addition, economic and political decisions $\tau \left(\pi \right)$ and $s' \left(\pi \right)$ are such that $\tau \left(\pi = 0 \right) = 0$, $s' \left(\pi = 0 \right) = N$, $\tau \left(\pi = 1 \right) = 1$ and $s' \left(\pi = 1 \right) = D$, and factor prices are given by (8)-(11) as a function of $\tau \in \{0, 1\}$.

This definition highlights that the main economic actions, in particular, the investments in de facto power, are taken by elite agents, so the characterization of the MPE will involve solving for their optimal behavior.

In a symmetric MPE, θ^i that solves (17) must equal $\theta \left(N \right)$, thus when strictly positive, $\theta \left(N \right)$, must be given by:

$$\phi f \left(\phi M \theta \left(N \right) \right) \left(\frac{\Delta R L}{M} + \beta V \left(N \mid \theta \left(N \right), \theta \left(D \right) \right) - \beta V \left(D \mid \theta \left(N \right), \theta \left(D \right) \right) \right) = 1, \tag{21}$$

and similarly the equilibrium condition for $\theta(D)$ (when strictly positive) is

$$\phi f\left(\phi M\theta(D) - \eta\right)\left(\frac{\Delta RL}{M} + \beta V\left(N \mid \theta(N), \theta(D)\right) - \beta V\left(D \mid \theta(N), \theta(D)\right)\right) = 1. \qquad (22)$$

These two equations completely characterize a symmetric MPE with $\theta(N) > 0$ and $\theta(D) > 0$ given the rest of Definition 1.

Comparison of (21) and (22) immediately implies that

$$\theta(D) = \theta(N) + \frac{\eta}{\phi M}. \qquad (23)$$

Moreover inspection of (21) and (22), combined with the fact that F is continuously differentiable, yields

$$p(D) \equiv p\left(\theta(D), \theta(D) \mid D\right) = p\left(\theta(N), \theta(N) \mid N\right) \equiv p(N), \qquad (24)$$

which also defines $p(D)$ and $p(N)$ as the respective probabilities of the elite gaining (or maintaining) political power in democracy and nondemocracy.

Intuitively, in democracy the elites invest sufficiently more to increase their de facto political power that they entirely offset the advantage of the citizens coming from their de jure power. A more technical intuition for this result is that the optimal contribution conditions for elite agents both in nondemocracy and democracy equates the marginal cost of contribution, which is always equal to 1, to the marginal benefit. Since the marginal costs are equal, equilibrium benefits in the two regimes also have to be equal. The marginal benefits consist of the immediate gain of economic rents, $\Delta RL/M$, plus the continuation value which depends on probabilities $p(D)$ and $p(N)$, and can be equated only if $p(D) = p(N)$ as in (24).

It is also straightforward to specify when there will be positive investment in de facto power. In particular, the following assumption is sufficient to ensure that the equilibrium will have positive contribution by elite agents to their de facto power:

Assumption 3

$$\min\left\{\phi f(0)\frac{\Delta RL}{M}, \phi f(-\eta)\frac{\Delta RL}{M}\right\} > 1.$$

Intuitively, this assumption ensures that in both regimes, an individual would like to make a positive contribution even if nobody else is doing so. If this assumption is not satisfied, there may also exist equilibria in which the elite make no contribution to increasing their de facto power. For example, when $\phi f(-\eta)\Delta RL/M < 1$ and $\phi f(0)\Delta RL/M < 1$, it is an equilibrium for all elite agents to choose $\theta(D) = \theta(N) = 0$.[19]

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[19] In this case, the equilibrium with $p(D) = p(N) > 0$ characterized in Proposition 1 below may still exist.

We now have the main result of this section:

Proposition 1 *(Hysteresis)* Suppose Assumptions 1-3 hold. Then in the baseline model, there exists a unique symmetric MPE. This equilibrium involves $p(D) = p(N) \in (0, 1)$, so that the probability distribution over economic institutions is non-degenerate and independent of whether the society is democratic or nondemocratic.

Proof. Assumption 3 ensures that $\theta(D) = \theta(N) = 0$ cannot be an equilibrium. Since Assumption 2 implies that $f(\omega)$ is continuous and $\lim_{\omega \to \infty} f(\omega) = 0$, both conditions (21) and (22) must hold as equalities for some interior values of $\theta(D)$ and $\theta(N)$, establishing existence. In addition, again from Assumption 2, $f(\omega)$ is single peaked, so only a unique pair of $\theta(D)$ and $\theta(N)$ could satisfy (21) and (22) with $f'(\phi M \theta(N)) < 0$ and $f'(\phi M \theta(D) - \eta) < 0$, establishing uniqueness. The result that $p(D) = p(N) > 0$ then follows immediately from the comparison of these two equalities, which establishes (24). The fact that $p(D) = p(N) < 1$ follows from Assumption 2, which imposes that F is strictly increasing throughout its support, so for any interior $\theta(D)$ and $\theta(N)$, $F(\phi M \theta(D) - \eta) = F(\phi M \theta(N)) < 1$. ∎

This proposition is one of the main results of the paper. It shows that there will be equilibrium changes from democracy to nondemocracy and the other way round (this follows from the fact that the equilibrium probability distribution is non-degenerate, i.e., $p(D) = p(N) \in (0, 1)$). Moreover, by assumption these changes in political institutions will affect the distribution of de jure power. Nevertheless, Proposition 1 implies that they will *not* translate into changes in the law of motion of economic institutions and economic allocations, i.e., we have $p(D) = p(N)$.[20] This is the sense in which there is "hysteresis" in equilibrium; even when shocks change the political institutions, the probability distribution over equilibrium economic institutions remains unchanged.[21] This result also illustrates how institutional change and persistence can coexist—while political institutions change frequently, the equilibrium process for economic institutions remains unchanged.

The result that $p(D) = p(N)$ is a consequence of the offsetting changes in the de facto political power of groups that are able to solve the collective action problem. The reason why these changes are fully offsetting the changes in de jure power is easy to understand. The technology for generating de facto political power for the elite (by investing in their private armies, lobbying or other means) is identical in democracy and nondemocracy. Therefore, in both regimes they will contribute until the marginal benefit is equal to the marginal cost

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[20] Yet, naturally, economic institutions will change when total power shifts from one group to another.
[21] In Section 6, we discuss what types of reforms will break this hysteresis.

(which is constant and equal to 1 for one unit of contribution). This means that the marginal benefit from investing in de facto political power has to be equalized in the two regimes, which leads to the same probability of the elite capturing political power and imposing their favorite economic institutions.

Remark 1 Assumptions 2 and 3 can be relaxed without affecting the basic conclusions in Proposition 1. For example, if we relax the single-peakedness assumption on $f(\omega)$, the conclusions in Proposition 1 would continue to apply, except that the symmetric MPE may no longer be unique. Multiple equilibria here are of potential interest, as they correspond to situations in which expectations of future behavior affects current behavior (see, e.g., Hassler et al., 2003). Also, if the feature that is F is increasing everywhere and $\lim_{\omega \to \infty} f(\omega) = 0$ in Assumption 2 are relaxed, we can obtain corner solutions, whereby $p(N) = p(D) = 1$, and there would be no transitions to democracy from nondemocracy (essentially because returns to individual elites from lobbying at high levels of investments still remain high). Alternatively, if Assumption 3 is relaxed, we can have equilibria with $p(N) = p(D) = 0$. Assumptions 2 and 3 rule out these "corner" equilibria.

3.2 Non-Symmetric MPE

We now show that the same result obtains without the restriction to the symmetric MPE. To do this, we first extend our treatment above and define an MPE more generally. Without symmetry, the power of the elite in nondemocracy as a function of contribution θ^i by agent $i \in \mathcal{E}$ and the distribution of contributions by all other agents, $\theta^{-i}(N) \equiv \left\{\theta^j(N)\right\}_{j \in \mathcal{E}, j \neq i}$, is given by

$$P^E\left(\theta^i, \theta^{-i}(N) \mid N\right) = \phi\left(\sum_{j \in \mathcal{E}, j \neq i} \theta^j(N) + \theta^i\right).$$

Similar to before, in nondemocracy the elite will have political power with probability

$$p\left(\theta^i, \theta^{-i}(N) \mid N\right) = F\left(\phi\left(\sum_{j \in \mathcal{E}, j \neq i} \theta^j(N) + \theta^i\right)\right). \tag{25}$$

In democracy, with the same reasoning as before, this probability is given by

$$p\left(\theta^i, \theta^{-i}(D) \mid D\right) = F\left(\phi\left(\sum_{j \in \mathcal{E}, j \neq i} \theta^j(D) + \theta^i\right) - \eta\right). \tag{26}$$

The possibility that different individuals will contribute different amounts to the de facto power of the elite implies that value functions can also differ across elite agents, and must also

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be indexed by i. Therefore, the net present discounted value of agent $i \in \mathcal{E}$ is

$$V^i \left(N \mid \theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right) \tag{27}$$

$$= \max_{\theta^i \geq 0} \left\{ -\theta^i + p \left(\theta^i, \theta^{-i} \left(N \right) \mid N \right) \left(\frac{R^r L}{M} + \beta V^i \left(N \mid \theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right) \right) \right.$$

$$\left. + \left(1 - p \left(\theta^i, \theta^{-i} \left(N \right) \mid N \right) \right) \left(\frac{R^c L}{M} + \beta V^i \left(D \mid \theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right) \right) \right\}.$$

Here $V^i \left(N \mid \theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right)$ denotes the value of agent i in nondemocracy when all other elite agents choose contributions $\theta^{-i} \left(N \right)$ in nondemocracy and $\theta^{-i} \left(D \right)$ in democracy. Similarly, $V^i \left(D \mid \theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right)$ is the corresponding value in democracy for agent i. The intuition for this equation is very similar to that for (16) in the symmetric case.

Agent $i \in \mathcal{E}$ chooses θ^i to maximize his net expected present discounted utility. Let the policy function (correspondence) of agent i that solves the maximization in (27) be given by $\Gamma_i^N \left[\theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right]$, so that any $\theta^i \in \Gamma_i^N \left[\theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right]$ is an optimal policy for the value function in (27). Similarly, we have

$$V^i \left(D \mid \theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right) \tag{28}$$

$$= \max_{\theta^i \geq 0} \left\{ -\theta^i + p \left(\theta^i, \theta^{-i} \left(D \right) \mid D \right) \left(\frac{R^r L}{M} + \beta V^i \left(N \mid \theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right) \right) \right.$$

$$\left. + \left(1 - p \left(\theta^i, \theta^{-i} \left(D \right) \mid D \right) \right) \left(\frac{R^c L}{M} + \beta V^i \left(D \mid \theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right) \right) \right\},$$

and let the set of maximizers of this problem be $\Gamma_i^D \left[\theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right]$. Then we have the more general definition of MPE as

Definition 2 An MPE consists of a pair of contribution distributions for elite agents $\left\{ \theta^i \left(N \right) \right\}_{i \in \mathcal{E}}$ and $\left\{ \theta^i \left(D \right) \right\}_{i \in \mathcal{E}}$, such that for all $i \in \mathcal{E}$, $\theta^i \left(N \right) \in \Gamma_i^N \left[\theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right]$ and $\theta^i \left(D \right) \in \Gamma_i^D \left[\theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right]$. In addition, economic and political decisions $\tau \left(\pi \right)$ and $s' \left(\pi \right)$ are such that $\tau \left(\pi = 0 \right) = 0$, $s' \left(\pi = 0 \right) = N$, $\tau \left(\pi = 1 \right) = 1$ and $s' \left(\pi = 1 \right) = D$, and factor prices are given by (8)-(11) as a function of $\tau \in \{0, 1\}$.

Proposition 2 *(Non-Symmetric MPE and Hysteresis)* Suppose Assumptions 1-3 hold. Then in the baseline model, any MPE involves $p \left(D \right) = p \left(N \right) \in \left(0, 1 \right)$.

Proof. Let us first define

$$\Delta V^i \left(\theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right) \equiv V^i \left(N \mid \theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right) - V^i \left(D \mid \theta^{-i} \left(N \right), \theta^{-i} \left(D \right) \right).$$

From the recursive formulations in (27) and (28), for all $i \in \mathcal{E}$ we have the first-order necessary conditions:

$$\phi f \left(\phi \left(\sum_{j \in \mathcal{E}, j \neq i} \theta^j (N) + \theta^i \right) \right) \left(\frac{\Delta RL}{M} + \beta \left(\Delta V^i \left(\theta^{-i} (N), \theta^{-i} (D) \right) \right) \right) \leq 1 \text{ and } \theta^i \geq 0, \quad (29)$$

$$\phi f \left(\phi \left(\sum_{j \in \mathcal{E}, j \neq i} \theta^j (D) + \theta^i - \eta \right) \right) \left(\frac{\Delta RL}{M} + \beta \Delta V^i \left(\theta^{-i} (N), \theta^{-i} (D) \right) \right) \leq 1 \text{ and } \theta^i \geq 0, \quad (30)$$

both holding with complementary slackness. Assumption 3 implies that $\theta^i (N) = \theta^i (D) = 0$ for all $i \in \mathcal{E}$ cannot be an equilibrium. Therefore there must exist some $i \in \mathcal{E}$ such that either $\theta^i (N) > 0$ or $\theta^i (D) > 0$. Suppose, without loss of any generality, $\theta^i (N) > 0$. But this implies that the first-order condition in (29) must hold as an equality, which in turn implies that the first-order condition in (30) must also hold. This is only possible if

$$\phi \sum_{i \in \mathcal{E}} \theta^i (N) = \phi \sum_{i \in \mathcal{E}} \theta^i (D) - \eta,$$

which implies $p(D) = p(N) > 0$. The fact that $p(D) = p(N) < 1$ again follows from Assumption 2, completing the proof. ∎

Consequently, the only difference between symmetric and non-symmetric MPE is that in symmetric MPE we also know that the total contributions made by the elite will be equally divided among each elite agent. In non-symmetric MPE, this may not be the case, and depending on expectations, some elite agents may be expected to, and consequently do, contribute more than others. This implies that in non-symmetric MPE, different levels of $p(D) = p(N)$ can arise in equilibrium.

Nevertheless, the important conclusion that the probability of the elite dominating political power and imposing their favorite economic institutions is independent of the underlying form of political institutions remains. Given this result, in the rest of the paper we focus on symmetric MPE.

3.3 Subgame Perfect Equilibria

The analysis so far has focused on MPE. Since the landed elite form a small cohesive group, they may also be able to achieve a better equilibrium than the MPE by using threats of punishments against each other. In this subsection, we briefly discuss SPE (subgame perfect equilibria) of the above game. The main result is that for sufficiently large discount factors, the "best" SPE also take the same form as the MPE characterized in Propositions 1 and 2, with the equilibrium probability distribution over economic institutions independent of political regime.

In characterizing the SPE, we will allow elite agents to use any kind of punishment strategies and coordination, except that in competitive labor markets, they cannot (by law) restrict their labor demand in order to affect factor prices. To define an SPE, let $\theta(s_t, t) \equiv \{\theta^j(s_t, t)\}_{j \in \mathcal{E}}$ be the vector of contributions by elite agents at time t, when the state is s_t. Let also $h^t = (\theta(s_1, 1), \tau_1, s_2, ..., \theta(s_t, t), \tau_t, s_{t+1})$ be the history of contributions and actions up to time t, with H^t denoting the set of possible histories at time t.

Definition 3 An SPE consists of contribution functions for each elite agent $i \in \mathcal{E}$, θ^i : $\mathbb{R} \times \{N, D\} \times H^{t-1} \to \mathbb{R}$ specifying their contribution as a function of time t, state s_t and the history H^{t-1} up to that point, such that θ^i is a best response to θ^{-i} for all $i \in \mathcal{E}$ for all histories $h^{t-1} \in H^{t-1}$ and for all t. In addition, economic and political decisions $\tau(\pi)$ and $s'(\pi)$ satisfy $\tau(\pi = 1) = 1$ and $s'(\pi = 1) = D$, and factor prices are given by (8)-(11) as a function of $\tau \in \{0, 1\}$.

As in most repeated and dynamic games, there exist many subgame perfect equilibria in this model. Our focus is on SPE that maximize the (ex ante, i.e., time $t = 0$) utility of the elite (since we are motivated to look at SPE to see how the ability of the elite to coordinate their actions changes the results). For this reason, we look at "Pareto optimal SPEs", defined as SPEs in which, at time $t = 0$, no elite agent can be made better off without some other elite agent being made worse off.[22] In addition, we refer to an SPE as "symmetric Pareto optimal", if it is Pareto optimal and all elite agents use the same equilibrium strategy. The main result is the following:

Proposition 3 *(Subgame Perfect Equilibrium and Hysteresis)* Suppose Assumptions 1-3 hold. Then there exists $\bar{\beta} \in [0, 1)$ such that that for all $\beta \geq \bar{\beta} \in [0, 1)$, the symmetric Pareto optimal SPE induces equilibrium probabilities of labor repressive institutions $p(D) = p(N) \in (0, 1)$. Moreover, as $\beta \to 1$, any Pareto optimal SPE involves $p(D) = p(N) \in (0, 1)$.

Proof. We will prove this proposition by showing that for any distribution of contributions among elite agents, there exists a $\tilde{\beta} \in [0, 1)$, such that there is a Pareto optimal SPE with this distribution, and this equilibrium involves equilibrium probabilities $p(D) = p(N)$. The special case of equal contributions will establish the first part of the proposition, and the fact that this is true for any distribution establishes the second part as $\beta \to 1$.

---

[22] Clearly, here Pareto optimality is only among the elite and does not consider the utility of the citizens.

To prove this claim, first suppose that a single individual controls all contributions by elite agents to de facto power. With the same arguments as above, the problem of this individual can be written recursively as:

$$
\begin{aligned}
\tilde{V}(N) & = \max_{\theta \geq 0} \Big\{ -\theta + F(\phi\theta)\left(R^r L + \beta\tilde{V}(N)\right) \\
& \quad + 1 - F(\phi\theta)\left(R^c L + \beta\tilde{V}(D)\right) \Big\},
\end{aligned}
$$

and

$$
\begin{aligned}
\tilde{V}(D) & = \max_{\theta \geq 0} \Big\{ -\theta + F(\phi\theta - \eta)\left(R^r L + \beta\tilde{V}(N)\right) \\
& \quad + 1 - F(\phi\theta)\left(R^c L + \beta\tilde{V}(D)\right) \Big\},
\end{aligned}
$$

where now $\theta = \sum_{i \in \mathcal{E}} \theta^i$ is the total contribution by elite agents, and these expressions only differ from (16) and (19) because the entire cost of contributions and the entire benefit in terms of land rents are taken into account. Denoting optimal choices by $\theta^*(N)$ and $\theta^*(D)$, the first-order conditions are

$$
\phi f(\phi\theta^*(N))\left(\Delta RL + \beta\left(\tilde{V}(N) - \tilde{V}(D)\right)\right) \leq 1 \text{ and } \theta^*(N) \geq 0
$$

$$
\phi f(\phi\theta^*(D) - \eta)\beta\left(\tilde{V}(N) - \tilde{V}(D)\right) \leq 1 \text{ and } \theta^*(D) \geq 0,
$$

with complementary slackness. Assumption 3 ensures that $\theta^*(N)$ and $\theta^*(D)$ have to be positive, which then immediately implies that the solution to this problem involves

$$
\phi\theta^*(N) = \phi\theta^*(D) - \eta
$$

and thus $p(D) = p(N) > 0$. That $p(D) = p(N) < 1$ again follows from Assumption 2. Moreover, it is clear that an allocation satisfying the above conditions is Pareto optimal from the $t = 0$ viewpoint of elite agents (for some distribution of the total contributions $\theta^*(N)$ and $\theta^*(D)$ across the elite agents), since no elite agent can be made better off without some other elite agent being made worse off. Moreover, any other total contribution levels $\theta(N)$ and $\theta(D)$ can be improved upon (again from the viewpoint of the elite agents).

Next we show that for $\beta \geq \bar{\beta} \in [0, 1)$, the above is the Pareto optimal SPE. To do this, we need to consider a deviation by an individual agent. The best deviation for any agent i is clearly to contribute nothing. As is standard in repeated and dynamic games, any SPE can be supported by the most severe—minmax—punishments (e.g., Abreu, 1988). Given Assumption 3, the most severe punishments cannot involve zero contributions. Moreover, in

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any subgame perfect equilibrium we must have $\tau(\pi = 0) = 1$ and $s'(\pi = 0) = N$. Let the minmax punishments correspond to $\{\theta^{ip}(N)\}_{i \in \mathcal{E}}$, $\{\theta^{ip}(D)\}_{i \in \mathcal{E}}$, and the SPE contributions to $\{\theta^{i*}(N)\}_{i \in \mathcal{E}}$ and $\{\theta^{i*}(D)\}_{i \in \mathcal{E}}$. Let $h^t = \hat{h}^t$ denote the history in which in all past periods, all agents have played $\{\theta^{i*}(N)\}_{i \in \mathcal{E}}$, $\{\theta^{i*}(D)\}_{i \in \mathcal{E}}$, $\tau(\pi = 0) = 1$ and $s'(\pi = 0) = N$, and $h^t \neq \hat{h}^t$ corresponds to a deviation at some date $\tau < t$ from this play. The most severe punishments then correspond to all agents playing $\{\theta^{i*}(N)\}_{i \in \mathcal{E}}$, $\{\theta^{i*}(D)\}_{i \in \mathcal{E}}$, $\tau(\pi = 0) = 1$ and $s'(\pi = 0) = N$ at time t if $h^{t-1} = \hat{h}^{t-1}$, and $\theta^i(t, s_t) = \theta^{ip}(s_t)$ for all $i \in \mathcal{E}$ and all $s_t \in \{N, D\}$, $\tau(\pi = 0) = 1$ and $s'(\pi = 0) = N$ otherwise. In other words, if $h^{t-1} \neq \hat{h}^{t-1}$, the equilibrium switches to a punishment phase in which there are no contributions and labor market institutions are always chosen to be competitive.

Thus, following a deviation, say starting in nondemocracy, elite agent i will obtain:

$$V_i^d(N) = F\left(\phi \sum_{j \in \mathcal{E}, j \neq i} \theta^{i*}(N)\right)\left(\frac{R^r L}{M} + \beta \hat{V}_i(N)\right) + \left(1 - F\left(\phi \sum_{j \in \mathcal{E}, j \neq i} \theta^{i*}(N)\right)\right)\left(\frac{R^c L}{M} + \beta \hat{V}_i(D)\right),$$

where $\hat{V}_i(N)$ and $\hat{V}_i(D)$ are the minmax values, and with this deviation, total contributions are equal to $\phi \sum_{j \in \mathcal{E}, j \neq i} \theta^{i*}(N)$. These minmax values are given by:

$$\hat{V}_i(N) = -\theta^{ip}(N) + F(\phi \theta^p(N))\left(\frac{R^r L}{M} + \beta \hat{V}_i(N)\right) + (1 - F(\phi \theta^p(N)))\left(\frac{R^c L}{M} + \beta \hat{V}_i(D)\right),$$

where $\theta^p(N) = \sum_{i \in \mathcal{E}} \theta^{ip}(N)$ and similarly for $\hat{V}_i(D)$. Crucially, $\sum_{i \in \mathcal{E}} \hat{V}_i(N) < \tilde{V}(N)$ and $\sum_{i \in \mathcal{E}} \hat{V}_i(D) < \tilde{V}(D)$, and moreover $F(\phi \theta^*(N)) > F(\phi \theta^p(N))$ and $F(\phi \theta^*(D)) > F(\phi \theta^p(D))$.

If on the other hand, this agent follows the strategy of "cooperating", i.e., contributing $\theta^{i*}(N)$ when $s = N$ and $\theta^{i*}(D)$ when $s = D$, he will obtain

$$V_i^c(N) = -\theta^{i*}(N) + F(\phi \theta^*(N))\left(\frac{R^r L}{M} + \beta V_i^c(N)\right) + (1 - F(\phi \theta^*(N)))\left(\frac{R^c L}{M} + \beta V_i^c(D)\right).$$

Similarly we can write $V_i^c(D)$ and $V_i^d(D)$ for values of cooperation and defection starting in democracy. Each agent will be happy to pursue the strategy of contributing $\theta^{i*}(N) > \theta^{ip}(N)$ when $s = N$ and $\theta^{i*}(D) > \theta^{ip}(D)$ when $s = D$ as long as

$$V_i^c(D) \geq V_i^d(D) \text{ and } V_i^c(N) \geq V_i^d(N). \tag{31}$$

[We do not need to check incentive compatibility for agents with $\theta^{i*}(N) \leq \theta^{ip}(N)$ etc.]. By virtue of the fact that $F(\phi \theta^*(N)) > F(\phi \theta^p(N))$ and $F(\phi \theta^*(D)) > F(\phi \theta^p(D))$, $V_i^c(D)$ and $V_i^c(N)$ increase faster in β than $V_i^d(D)$ and $V_i^d(N)$, and moreover at $\beta = 1$ for any

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$\left\{ \theta^{i*}\left(N\right), \theta^{i*}\left(D\right)\right\}$, we have that $V_i^c\left(D\right) > V_i^d\left(D\right)$ and $V_i^c\left(N\right) > V_i^d\left(N\right)$. Therefore, for any distribution $\left\{\theta^{i*}\left(N\right), \theta^{i*}\left(D\right)\right\}_{i\in\mathcal{E}}$, there exist some $\tilde{\beta} \in [0,1)$ such that for all $\beta \geq \tilde{\beta} \in [0,1)$, (31) is satisfied for all $i \in \mathcal{E}$. This establishes that there exists $\bar{\beta} < 1$ such that for $\beta \geq \bar{\beta}$, the symmetric Pareto optimal SPE involves $p\left(D\right) = p\left(N\right) \in (0,1)$, proving the first part of the proposition. Moreover, as $\beta \to 1$, any combination of $\left\{\theta^{i*}\left(N\right), \theta^{i*}\left(D\right)\right\}_{i\in\mathcal{E}}$ will satisfy (31) and $p\left(D\right) = p\left(N\right) \in (0,1)$, proving the second part. $\blacksquare$

This proposition therefore shows that as long as the discount factor is large enough, the "best" SPE also gives the same hysteresis result. Intuitively, with a high enough discount factor, the elite act totally cohesively, as a single agent, in which case, the same calculus as in the MPE applies, and equates the marginal cost of greater contributions to the fact the power to marginal benefits leading to the conclusion that $p\left(D\right) = p\left(N\right)$. When the discount factor is sufficiently small, however, this result may no longer be true, because a different pattern of contributions may be necessary to ensure "incentive compatibility" on the side of the elite agents (i.e., to ensure that certain elite agents are willing to make the contributions they are supposed to make along the equilibrium path).

3.4 Comparative Statics

We now return to the MPE and further characterize the equilibrium distribution over π (the indicator for whether the elite have political power) and economic institutions. To simplify the exposition, we do this focusing on Proposition 1 (though exactly the same results also apply with the non-symmetric MPE in Proposition 2).

Comparative statics are straightforward in this case, since equations (16), (19) and (23), immediately imply that

$$V\left(N\right) - V\left(D\right) = \frac{\eta}{\phi M} > 0, \tag{32}$$

where we have dropped the conditioning of the value functions on the equilibrium $\theta\left(D\right)$ and $\theta\left(N\right)$ to simplify the notation. Equation (32) is intuitive. In the equilibrium of Proposition 1, the only difference between democracy and nondemocracy for the elite is that in democracy they have to spend more in contributions in order to retain the same de facto political power. In particular, the per elite additional spending is equal to $\eta/\phi M$, which is increasing in the de jure political power advantage that democracy creates for the citizens (since, an equilibrium, the elite totally offset this advantage).

Using (21) and (32) and denoting the equilibrium level of $\theta(N)$ by $\theta^*(N)$, we have:

$$\phi f\left(\phi M\theta^*(N)\right)\left(\frac{\Delta RL}{M}+\frac{\beta\eta}{\phi M}\right)=1. \tag{33}$$

Similarly, denoting the equilibrium level of $\theta(D)$ by $\theta^*(D)$, we also have

$$\phi f\left(\phi M\theta^*(D)-\eta\right)\left(\frac{\Delta RL}{M}+\frac{\beta\eta}{\phi M}\right)=1. \tag{34}$$

Finally, let us denote the probability that the elite will have political power by $p^*=p(D)=p(N)$, and recall that this probability corresponds both to the probability that the elite will control political power, and also the probability that the society will be nondemocratic and economic institutions will be labor repressive rather than competitive. Thus this probability summarizes most of the economic implications of the model.

Proposition 4 *(Comparative Statics)* Suppose that Assumptions 1-3 hold. Then in the baseline model, we have the following comparative static results:

1. An increase in the economic rents that the elite can obtain by controlling political power will increase their contributions and the probability that they control political power, i.e.,

$$\frac{\partial\theta^*(N)}{\partial\Delta R}>0,\ \frac{\partial\theta^*(D)}{\partial\Delta R}>0\text{ and }\frac{\partial p^*}{\partial\Delta R}>0.$$

2. An increase in the discount factor will increase the elite's contributions and the probability that they control political power, i.e.,

$$\frac{\partial\theta^*(N)}{\partial\beta}>0,\ \frac{\partial\theta^*(D)}{\partial\beta}>0\text{ and }\frac{\partial p^*}{\partial\beta}>0.$$

3. An increase in the number of the elites will intensify the collective action problem among them, and will reduce their contributions and the probability that they control political power i.e.,

$$\frac{\partial\theta^*(N)}{\partial M}<0,\ \frac{\partial\theta^*(D)}{\partial M}<0,\text{ and }\frac{\partial p^*}{\partial M}<0.$$

4. An increase in the advantage of the citizens in democracy will increase the elite's contributions and the probability that they control political power, i.e.,

$$\frac{\partial\theta^*(N)}{\partial\eta}>0,\ \frac{\partial\theta^*(D)}{\partial\eta}>0,\text{ and }\frac{\partial p^*}{\partial\eta}>0.$$

5. An increase in the effectiveness of the de facto political power technology of the elite has ambiguous effects on their contributions, but increases the probability that they control political power, i.e.,

$$\partial p^* / \partial \phi > 0.$$

Proof. All of these comparative static results follow from (33) and (34) using the Implicit Function Theorem (e.g., Rudin, 1964, Theorem 9.18 or Simon and Blume, 1994, Theorem 15.2). We can use the Implicit Function Theorem, since f is differentiable everywhere and moreover, Assumptions 2 and 3 ensure that the equilibrium is always at an interior point. We briefly sketch the argument for some of these results. For example, for $\partial \theta^* (N) / \partial \Delta R$, use the Implicit Function Theorem on (33) to obtain

$$\frac{\partial \theta^* (N)}{\partial \Delta R} = -\frac{f (\phi M \theta^* (N)) L}{f' (\phi M \theta^* (N)) M (\phi \Delta R L + \beta \eta)} > 0$$

since $f' < 0$ from the second order condition. Using the Implicit Function Theorem on (34) establishes $\partial \theta^* (D) / \partial \Delta R > 0$. To obtain $\partial p^* / \partial \Delta R > 0$, note that $p^* = F (\phi M \theta^* (N))$ and F is everywhere strictly increasing.

The comparative statics in (2) with respect to β are identical.

Using the Implicit Function Theorem with respect to M also immediately establishes $\partial \theta^* (N) / \partial M < 0$ and $\partial \theta^* (D) / \partial M < 0$ as claimed in (3). Since $p^* = F (\phi M \theta^* (N))$, the effect on p^* at first appears ambiguous. However, note from (33) that as M increases, the second term on the left-hand side declines, so $f (\phi M \theta^* (N))$ has to increase. Since $f' < 0$, this is only possible if $\phi M \theta^* (N)$ declines, so $p^* = F (\phi M \theta^* (N))$ also declines (given the monotonicity of F).

Next, the Implicit Function Theorem also gives the results in (4), in particular, for example,

$$\frac{\partial \theta^* (N)}{\partial \eta} = -\frac{\beta f (\phi M \theta^* (N))}{f' (\phi M \theta^* (N)) M (\phi \Delta R L + \beta \eta)} > 0,$$

and similarly, $\partial \theta^* (D) / \partial \eta > 0$. The argument for $\partial p^* / \partial \eta > 0$ is again similar. The second term on the left-hand side of (33) increases as η increases, so $f (\phi M \theta^* (N))$ has to decline. Since $f' < 0$, this implies that $\phi M \theta^* (N)$ increases, so $p^* = F (\phi M \theta^* (N))$ also increases, establishing $\partial p^* / \partial \eta > 0$.

Finally, it is straightforward to verify that the effect of ϕ on $\theta^* (N)$ and $\theta^* (D)$ is ambiguous. However, writing (33) as

$$f (\phi M \theta^* (N)) \left(\frac{\phi \Delta R L}{M} + \frac{\beta \eta}{M} \right) = 1,$$

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we see that an increase in ϕ increases the second term on the left-hand side, so $f(\phi M \theta^* (N))$ has to decline. Since $f' < 0$, this implies that $\phi M \theta^* (N)$ increases, and $p^* = F(\phi M \theta^* (N))$ must also increase, establishing $\partial p^* / \partial \phi > 0$. ∎

Many of the comparative statics in Proposition 4 are intuitive, and yet quite useful in terms of economic implications. For example, the fact that an increase in ΔR induces both greater contributions by elite agents and also increases the probability that they control political power is very intuitive, since ΔR is a measure of how much they have to gain by controlling political power. The greater is this gain, the more willing is each elite agent to contribute to their collective political power.[23] This result also has important economic implications. Since ΔR will be high when A is low, Proposition 4 also implies $\partial p^* / \partial A < 0$. In other words, in a society where alternative (e.g., proto-industrial) economic activities are less developed and where by repressing labor the elites can obtain large rents, political and economic institutions are more likely to be controlled by the elite, and consequently economic institutions are more likely to be tilted towards labor repressive land relations rather than competitive labor markets.

The fact that a higher β also increases contributions by the elite and the likelihood of labor repressive institutions is also interesting. In many models, a higher discount factor leads to better allocations. Here, in contrast, a higher discount factor leads to more wasteful activities by the elite and labor repressive economic institutions. The reason is that the main pivotal agents in this model are the elite, which, by virtue of their smaller numbers, take the effect of their contributions on equilibrium allocations into account. Contributing to de facto political power is a form of investment, and some of the returns accrue to the elite in the future (when they secure nondemocracy instead of democracy). Therefore a higher level of β encourages them to invest more in their political power and makes nondemocracy and labor repressive economic institutions more likely.

The third set of comparative statics show that when M increases, so that there are more elite agents, the collective action problem among them becomes worse. This highlights the latent free-rider problem in the model. Even though each elite agent contributes to the group's political power, their level of contribution is still suboptimal from the viewpoint of the group, since each elite agent realizes that by contributing more he creates a positive externality on other elites. A greater M increases the extent of this positive externality and intensifies the free-rider problem (the collective action problem). This comparative static therefore suggests

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[23] This finding is also in line with the empirical literature on collective action which finds that it is more likely when the benefits are higher (e.g., Wade, 1988).

that nondemocracy and labor repressive economic institutions are more likely to emerge when there is a relatively small and cohesive group of elite land owners, a pattern consistent with the historical case studies discussed below.

The most surprising comparative static results are those with respect to η. Recall that a higher η corresponds to democracy giving more de jure power to the citizens. Everything else equal, we may have expected a greater η to lead to better outcomes for the citizens. In contrast, we find that higher η makes nondemocracy and labor repressive economic institutions more likely. The reason for this is that a higher η makes democracy more costly for the elite, so it is in the interest of each elite agent to invest more in the group's political power. At the end, this effect is strong enough to increase the probability that they will maintain political power.

Note also that both the results that higher M reduces the political power of the elite and that higher η increases their political power depend on the functional form assumptions.[24] It is possible to write (somewhat more complicated) models in which these results would be reversed. Nevertheless, we believe that the baseline model we have is both the simplest and the most natural one, and highlights important first-order effects.

Finally, when ϕ increases, the technology of garnering de facto political power for the elite improves. This may reduce their financial contributions to the group's de facto power, but it will always increase the equilibrium probability of a nondemocratic regime and labor repressive institutions.

4 Generalizations: Markov-Switching Models of Persistence

The model in the previous section yielded very stark results. This was driven by both functional form assumptions (in particular, the fact that democracy shifts the power of the citizens in a specific way, as noted in footnote 24), and also because the elite had the same technology to generate de facto political power in both regimes, and were also able to change economic institutions immediately after they took control. Relaxing these assumptions leads to a richer form of persistence, in the form of a Markov-switching model. These issues are discussed in the next two subsections, and also pave the way of our analysis of how to effectively reform

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[24]In particular, instead of democracy shifting the power of the citizens additively, we could consider a more general model in which ω is drawn from some distribution F_N in nondemocracy and some other first-order stochastically dominating distribution F_D in democracy. In this case, these last two comparative statics become ambiguous. The fact that the effect of M on p^* is ambiguous is also related to the point made by Esteban and Ray (2001), which emphasizes that the effect of an increase in the number of agents to the total contribution to a lobby will be ambiguous because, while each agent contributes less, there are more of them.

equilibrium institutions in Section 6.

Another special feature of the model in the previous section was that it implicitly assumed that changing economic institutions and changing the political system were equally easy (or difficult). An extension in which changing political institutions may require greater political power than influencing economic policies or institutions is discussed in Section 5.

Throughout the rest of the paper, to simplify the discussion, we focus on symmetric MPE.

4.1 Limits on The De Facto Power of the Elite

Our first generalization of the above framework assumes that in democracy, because of limits on the activities of the elite, their technology for gathering de facto political power changes to

$$P_t^E(D) = \phi_D Z_t, \tag{35}$$

where $\phi_D \in (0, \phi)$ and $Z_t = \sum_{i \in \mathcal{E}} \theta_t^i$.[25] In other words, each unit of the final good spent by the elite for increasing their de facto power is less effective in democracy than in nondemocracy. This is a reasonable assumption, since democratic institutions may prevent the elite from using repression or paramilitaries or from buying politicians as effectively as in a nondemocratic regime. Therefore, in this model democracy has two simultaneous functions; it shifts the distribution of de jure political powers towards the citizens and it limits the exercise of de facto power by the elite.

The analysis of this generalized model is simplified by the fact that this modification only changes the form of the value functions. In particular, we now have the probability of the elite controlling the political agenda in democracy as

$$p\left(\theta^i, \theta(D) \mid D\right) = F\left(\phi_D\left((M-1)\theta(D) + \theta^i\right) - \eta\right), \tag{36}$$

and the value function in democracy is unchanged and is still given by (19). It is clear that Definition 1 still applies to this modified model, and specifies symmetric MPEs.

Assuming interior solutions, then the symmetric MPE is characterized by (21) and

$$\phi_D f\left(\phi_D M\theta(D) - \eta\right)\left(\frac{\Delta RL}{M} + \beta V\left(N \mid \theta(N), \theta(D)\right) - \beta V\left(D \mid \theta(N), \theta(D)\right)\right) = 1. \tag{37}$$

We can impose a variant of Assumption 3 to ensure that the equilibrium is interior:

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[25] We now write this as $P_t^E(D)$ as opposed to P_t^E as in (13), since the technology of generating de facto political power differs between the two political regimes.

Assumption 3'

$$\min\left\{\phi_D f\left(-\eta\right)\frac{\Delta RL}{M}, \phi f\left(0\right)\frac{\Delta RL}{M}\right\} > 1.$$

Now recalling that $p\left(N\right) \equiv p\left(\theta\left(N\right), \theta\left(N\right) \mid N\right)$ and $p\left(D\right) \equiv p\left(\theta\left(N\right), \theta\left(N\right) \mid D\right)$, comparison of (21) and (37) immediately implies that

$$p\left(N\right) > p\left(D\right). \tag{38}$$

To see this more explicitly, note that $\phi > \phi_D$ implies $f\left(\phi_D M\theta\left(D\right) - \eta\right) > f\left(\phi M\theta\left(N\right)\right)$. Since in the neighborhood of equilibrium, $f\left(\cdot\right)$ is decreasing and $F\left(\cdot\right)$ is strictly increasing everywhere, we must have $\phi_D M\theta\left(D\right) - \eta < \phi M\theta\left(N\right)$ and $p\left(D\right) = F\left(\phi_D M\theta\left(D\right) - \eta\right) < p\left(N\right) = F\left(\phi M\theta\left(N\right)\right)$. Note that $p\left(N\right)$ is the probability of nondemocracy persisting, while $1 - p\left(D\right)$ is the probability of democracy persisting. This implies that labor repressive institutions are less likely to arise in democracy than in nondemocracy. Moreover, once the society is democratic, it has a higher probability of remaining democratic than the probability of switching to democracy from nondemocracy. Consequently, in this model there is persistence of both political and economic institutions.

Assumption 3' also implies $p\left(D\right) > 0$, so even in democracy, the elite have the potential power to impose their favorite economic institutions, and change the political system back to nondemocracy, and moreover from Assumption 2, we have $p\left(N\right) < 1$, so the Markov process is ergodic (irreducible and aperiodic). Next, dividing (21) by (37) yields:

$$\phi_D f\left(\phi_D M\theta\left(D\right) - \eta\right) = \phi f\left(\phi M\theta\left(N\right)\right), \tag{39}$$

which shows that the gap between ϕ and ϕ_D will determine the gap between $p\left(D\right)$ and $p\left(N\right)$, thus the extent of persistence of economic and political institutions (e.g., as $\phi_D \to \phi$, $p\left(D\right) \to p\left(N\right)$).

This leads to the following result:

Proposition 5 *(Limits on De Facto Power)* Consider the modified model with limits on the elite's de facto power in democracy. Suppose that Assumptions 1, 2 and 3' hold. Then any symmetric MPE leads to a Markov regime switching structure where the society fluctuates between democracy with associated competitive economic institutions ($\tau = 1$) and nondemocracy with associated labor repressive economic institutions ($\tau = 0$), with switching probabilities $p\left(N\right) \in \left(0, 1\right)$ and $1 - p\left(D\right) \in \left(0, 1\right)$ where $p\left(D\right) < p\left(N\right)$.

The proof of this proposition is similar to that of Proposition 1, and follows straightforwardly from the expressions in the text, in particular, equations, (21) and (37), and Assumptions of 1, 2 and 3'.

The most important implication of this modified model is that there is now a different type of institutional persistence. Recall that in Proposition 1, there was an extreme form of "hysteresis" in economic institutions in the sense that they followed the same equilibrium process irrespective of political institutions. But there was no persistence in political institutions; the fact that $p(D) = p(N)$ implied that democracy was as likely to follow a democratic regime as it was to follow a non-democratic regime. The results in Proposition 5 are different, and correspond to a limited but more general form of persistence in both political and economic institutions. Once in nondemocracy, the society tends to stay nondemocratic, and once in democracy, it tends to stay democratic. This is the essence of the Markov-switching structure.

Also interesting is the fact that the elite still have the ability to solve their collective action problem and gather sufficient de facto power to dominate politics, i.e., $p(D) > 0$, though here this simply corresponds to their ability to also change the political system from democracy to nondemocracy.

It is also possible to obtain additional comparative static results for this case. To do this, we need to solve for $V(N) \equiv V(N \mid \theta(N), \theta(D))$ and $V(D) \equiv V(D \mid \theta(N), \theta(D))$. This is straightforward by imposing that equilibrium probabilities of the elite having more power than the citizens are $p(D)$ and $p(N)$, and combining (16) and (19), which gives

$$V(N) - V(D) = \frac{\theta(D) - \theta(N) + (p(N) - p(D)) \Delta RL/M}{1 - \beta(p(N) - p(D))}. \tag{40}$$

Combining this equation with (21) and (37), we obtain (again for an interior equilibrium since Assumption 3' is imposed):

$$H^N \equiv \phi f(\phi M \theta(N)) \left(\frac{\Delta RL}{M} + \beta \frac{\theta(D) - \theta(N) + (p(N) - p(D)) \Delta RL/M}{1 - \beta(p(N) - p(D))} \right) - 1 = 0, \tag{41}$$

and

$$H^D \equiv \phi_D f(\phi_D M \theta(D) - \eta) \left(\frac{\Delta RL}{M} + \beta \frac{\theta(D) - \theta(N) + (p(N) - p(D)) \Delta RL/M}{1 - \beta(p(N) - p(D))} \right) - 1 = 0, \tag{42}$$

where, clearly, $p(D) = F(\phi_D M \theta(D) - \eta)$ and $p(N) = F(\phi M \theta(N))$. These equations also define H^N and H^D for future reference.

As in Proposition 4, we can do comparative statics now using these two conditions. The difficulty, however, is that the equilibrium is no longer guaranteed to be unique, since multiple

values of $\theta(N)$ and $\theta(D)$ might satisfy these two conditions. Moreover, an equilibrium may correspond to a situation in which there is "myopic instability" in the sense that a small increase in one of the equilibrium variables, say $\theta(N)$, will lead to a further increase in that variable. In these types of situations, comparative static results are difficult to obtain. To make more progress, we appeal to Samuelson's (1947) *correspondence principle*, which essentially restricts attention to equilibria that satisfy a type of "myopic stability". Under this assumption, it is possible to obtain some comparative static results.

More specifically, myopic stability would necessitate that the Jacobian matrix of $\left(H^N, H^D\right)$ with respect to $(\theta(N), \theta(D))$,

$$
\mathcal{H} = \left(\begin{array}{cc} \frac{\partial H^N}{\partial \theta(N)} & \frac{\partial H^N}{\partial \theta(D)} \\ \frac{\partial H^D}{\partial \theta(N)} & \frac{\partial H^D}{\partial \theta(D)} \end{array}\right),
$$

is negative definite, i.e., an increase in $\theta(N)$ reduces H^N, an increase in $\theta(D)$ reduces H^D, and the cross-partial terms are not large enough to dominate the product $\partial H^N / \partial \theta(N) \times \partial H^D / \partial \theta(D)$. In fact, the proof of Proposition 6 will show that $\partial H^N / \partial \theta(D) < 0$ and $\partial H^D / \partial \theta(N) > 0$, and exactly the same arguments as in that proof also establish that $\partial H^D / \partial \theta(D) < 0$, so myopic stability and the correspondence principle (i.e., the negative definiteness of $\mathcal{H}$) only require the condition $\partial H^N / \partial \theta(N) < 0$.[26]

Notice that if $\theta(N)$ and $\theta(D)$ were solutions to an optimization problem, this condition would be automatically satisfied. The reason why $\mathcal{H}$ may not be negative definite is that the system of equations (41) and (42) arise from the equilibrium interaction of elite agents individually contributing to increasing the de facto political power of their group.

By applying the correspondence principle, we can establish most of the comparative static results of interest. These are stated and proved in the next proposition (again using *'s to denote equilibrium values).

Proposition 6 *(Comparative Statics for the Model with Limits on De Facto Power)* Consider the modified model with limits on the elite's de facto power in democracy. Suppose that Assumptions 1, 2 and 3' hold and following the correspondence principle, assume that the matrix $\mathcal{H}$ is negative definite. Then, we have the following comparative static results:

1. An increase in the economic rents that the elite can obtain by controlling political power will increase their contributions and the probability that they control political power in

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[26]The condition $\partial H^N / \partial \theta(N) < 0$ can always be ensured by making $f(\phi M \theta(N))$ sufficiently decreasing.

both nondemocracy and democracy, i.e.,

$$\frac{\partial \theta^*(N)}{\partial \Delta R} > 0, \ \frac{\partial \theta^*(D)}{\partial \Delta R} > 0, \ \frac{\partial p^*(N)}{\partial \Delta R} > 0 \text{ and } \frac{\partial p^*(D)}{\partial \Delta R} > 0.$$

2. An increase in the discount factor will increase the elite's contributions and the probability that they control political power in both nondemocracy and democracy, i.e.,

$$\frac{\partial \theta^*(N)}{\partial \beta} > 0, \ \frac{\partial \theta^*(D)}{\partial \beta} > 0 \ \frac{\partial p^*(N)}{\partial \beta} > 0 \text{ and } \frac{\partial p^*(D)}{\partial \beta} > 0.$$

3. An increase in the number of the elites will intensify the collective action problem among them, and will reduce their contributions and the probability that they control political power in both nondemocracy and democracy, i.e.,

$$\frac{\partial \theta^*(N)}{\partial M} < 0, \ \frac{\partial \theta^*(D)}{\partial M} < 0, \ \frac{\partial p^*(N)}{\partial M} > 0 \text{ and } \frac{\partial p^*(D)}{\partial M} > 0.$$

Proof. We provide the proof for the first result. The other two are proved analogously. Let us first use write

$$\begin{pmatrix} \frac{\partial H^N}{\partial \theta(N)} & \frac{\partial H^N}{\partial \theta(D)} \\ \frac{\partial H^D}{\partial \theta(N)} & \frac{\partial H^D}{\partial \theta(D)} \end{pmatrix} \begin{pmatrix} \partial \theta(N) \\ \partial \theta(D) \end{pmatrix} = - \begin{pmatrix} \frac{\partial H^N}{\partial \Delta R} \\ \frac{\partial H^D}{\partial \Delta R} \end{pmatrix} \partial \Delta R.$$

The fact that $\mathcal{H}$ is negative definite implies $\partial H^N / \partial \theta(N) < 0$ and $\partial H^D / \partial \theta(D) < 0$. In addition, it can be verified that $\partial H^N / \partial \theta(D) < 0$ and $\partial H^D / \partial \theta(N) > 0$. To see this, first consider $\partial H^N / \partial \theta(D)$. Differentiating (41) with respect to $\theta(D)$ and using (40), we have

$$\frac{\partial H^N}{\partial \theta(D)} = \frac{\beta \phi f(\phi M \theta(N))}{1 - \beta(p(N) - p(D))} \left[1 - \frac{\partial p(D)}{\partial \theta(D)} \left\{ \frac{\Delta RL}{M} + \beta V(N) - V(D) \right\} \right]$$

and moreover, from (36) we have

$$\frac{\partial p(D)}{\partial \theta(D)} = M \phi_D f(\phi_D M \theta(D) - \eta).$$

$M > 1$ combined that the last two equations and (37) implies $\partial H^N / \partial \theta(D) < 0$.

Now with the same reasoning,

$$\frac{\partial H^D}{\partial \theta(N)} = \frac{\beta \phi_D f(\phi_D M \theta(D) - \eta)}{1 - \beta(p(N) - p(D))} \left[-1 + \frac{\partial p(N)}{\partial \theta(N)} \left\{ \frac{\Delta RL}{M} + \beta V(N) - V(D) \right\} \right]$$

and (15) implies:

$$\frac{\partial p(N)}{\partial \theta(N)} = M \phi f(\phi M \theta(N)).$$

Combining this with the appropriate first-order condition, (17), gives $\partial H^D / \partial \theta(N) > 0$.

Therefore, we have the following sign pattern for $\mathcal{H}$:

$$\mathcal{H} = \begin{pmatrix} - & - \\ + & - \end{pmatrix}.$$

Moreover, it is straightforward to verify that an increase in ΔR strictly increases both the right hand sides of (21) or (37), i.e., $\partial H^N / \partial \Delta R > 0$ and $\partial H^D / \partial \Delta R > 0$. Then by Cramer's rule (e.g., Simon and Bloom, 1994, Theorem 9.4), we have

$$\frac{\partial \theta (D)}{\partial \Delta R} = \frac{\det \begin{pmatrix} - & - \\ + & - \end{pmatrix}}{\det \mathcal{H}} > 0.$$

Totally differentiating (39) implies that

$$Sgn \left(\frac{\partial \theta (D)}{\partial \Delta R} \right) = Sgn \left(\frac{\partial \theta (N)}{\partial \Delta R} \right),$$

(since $f' (\phi_D M \theta (D) - \eta) < 0$ and $f' (\phi M \theta (N)) < 0$), which establishes that $\partial \theta (D) / \partial \Delta R > 0$ and $\partial \theta (N) / \partial \Delta R > 0$. Finally, $\partial p^* (D) / \partial \Delta R > 0$ immediately follow from the monotonicity of $F (\cdot)$.

The same reasoning establishes the comparative statics with respect to β and M, completing the proof. ∎

This proposition therefore shows that most of the qualitative results from the baseline model generalize to the Markov-switching model with partial institutional persistence. In particular, the main comparative static results from Proposition 4 generalize to this environment with the Markov-switching structure; nondemocracy and labor repressive economic institutions are more likely when the landed elite have greater rents from repressing labor (i.e., when ΔR is high, for example because A is low), when they are more forward-looking (i.e., when β is high), and when they form a more cohesive (smaller) group (i.e., when M is low). However, some other results from Proposition 4, for example, those concerning the effect of ϕ and η, are now ambiguous.

4.2   Sluggish Economic Institutions

Next we modify the above framework in a different direction, and assume that starting in democracy, the elite cannot impose their favorite economic institutions immediately, for example, democratic politics has already taken some actions that cannot be reversed within the same period. This implies that starting in democracy, economic institutions are "slow-changing" or sluggish. This structure is also formally equivalent to one in which the elite incur a temporary cost when they change economic institutions from competitive to labor repressive.

More specifically, we now allow three different types of economic institutions: $\tau_t = 1$, corresponding to competitive markets, $\tau_t = 0$, corresponding to full labor repression and $\tau_t = 1/2$ corresponding to partial labor repression, in which case, wages are reduced to some level $A \leq \bar{w} < w\left(\tau_t = 1\right) \equiv f\left(L\right) - Lf'\left(L\right)$, and thus returns to land owners with partial labor repression are equal to

$$R^p \equiv R\left(\tau = 1/2\right) \equiv f\left(L\right) - \bar{w}. \tag{43}$$

Let us define λ such that

$$\lambda \equiv \frac{R^p - R^c}{\Delta R},$$

with ΔR as defined in (12). The fact that $A \leq \bar{w} < w\left(\tau = 1\right)$ ensures $\lambda \in (0, 1]$.

The only difference from the analysis in Section 2 is that starting in $s = D$, even if the elite gain political power, they cannot impose $\tau = 0$, and the best they can do is to set $\tau = 1/2$. This may be because the democratic regime has already taken some actions to increase the wages of laborers, which can only be partly reversed within the same period (though economic institutions can be completely changed the following period). Given this assumption, the rest of the analysis is very similar to before, with the only difference taking place in the value function in democracy, which now takes the form:

$$
\begin{aligned}
V\left(D \mid \theta\left(N\right), \theta\left(D\right)\right) &= \max_{\theta^i \geq 0} \left\{ -\theta^i + p\left(\theta^i, \theta\left(D\right) \mid D\right)\left(\frac{R^p L}{M} + \beta V\left(N \mid \theta\left(N\right), \theta\left(D\right)\right)\right) \right. \\
&\left. + \left(1 - p\left(\theta^i, \theta\left(D\right) \mid D\right)\right)\left(\frac{R^c L}{M} + \beta V\left(D \mid \theta\left(N\right), \theta\left(D\right)\right)\right) \right\}. \tag{44}
\end{aligned}
$$

Once again, focusing on interior solutions, this maximization problem implies the first-order condition

$$\phi f\left(\phi\left(\left(M - 1\right)\theta\left(N\right) + \theta^i\right) - \eta\right)\left(\frac{\lambda \Delta RL}{M} + \beta\left(V\left(N \mid \theta\left(N\right), \theta\left(D\right)\right) - V\left(D \mid \theta\left(N\right), \theta\left(D\right)\right)\right)\right) = 1, \tag{45}$$

which only differs from (20), because the gain of capturing power is now $\lambda \Delta R$ rather than ΔR. The corresponding second-order condition is $f'\left(\phi\left(\left(M - 1\right)\theta\left(N\right) + \theta^i\right) - \eta\right) < 0$. Once again, let the policy correspondence be denoted by $\Gamma^D\left(\theta\left(N\right), \theta\left(D\right)\right)$.

The value function in nondemocracy is unchanged and is given by (16), and the first-order condition for contributions is given by (17), with the policy correspondence given by $\Gamma^N\left(\theta\left(N\right), \theta\left(D\right)\right)$.

To define an equilibrium formally, let us also recall that $\pi = 1$ stands for the citizens having political power. Now let $\pi = 0$ stand for the elite having full power, so that they can

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set $\tau = 0$ if they want to, and let $\pi = 1/2$ denote the elite capturing political power starting in democracy. Thus we have:

Definition 4 A symmetric MPE of the model with sluggish economic institutions consists of a pair of contribution levels for elite agents $\theta(N)$ and $\theta(D)$, such that $\theta(N) \in \Gamma^N[\theta(N), \theta(D)]$ and $\theta(D) \in \Gamma^D[\theta(N), \theta(D)]$. In addition, economic and political decisions $\tau(\pi)$ and $s'(\pi)$ are such that $\tau(\pi = 0) = 0$, $s'(\pi = 0) = N$, $\tau(\pi = 1/2) = 1/2$, $s'(\pi = 1/2) = N$, $\tau(\pi = 1) = 1$ and $s'(\pi = 1) = D$, and factor prices are given by (8)-(11) and $\bar{w}$ and (43) when $\tau = 1/2$.

Given this definition of a symmetric MPE, the equilibrium condition for $\theta(N)$ is again the same as before, i.e., equation (22), while with the same steps as in the previous section, the equilibrium condition for $\theta(D)$ is given by:

$$\phi f(\phi M \theta(D) - \eta)\left(\frac{\lambda \Delta RL}{M} + \beta(V(N \mid \theta(N), \theta(D)) - V(D \mid \theta(N), \theta(D)))\right) = 1. \quad (46)$$

Comparison of this condition to (22) immediately establishes that as long as $\lambda < 1$, i.e., as long as democracy *does put* restrictions on economic institutions that the elite can impose, we again have $p(D) < p(N)$.

As before, we need an assumption to ensure an interior equilibrium, and this now takes the form:

Assumption 3"

$$\min\left\{\phi f(-\eta)\frac{\lambda \Delta RL}{M}, \phi f(0)\frac{\Delta RL}{M}\right\} > 1.$$

This immediately implies the following proposition, which is very similar to Proposition 5:

Proposition 7 *(Sluggish Economic Institutions)* Consider the modified model with sluggish economic institutions. Suppose that Assumptions 1, 2 and 3" hold. Then any symmetric MPE leads to a Markov regime switching structure where the society fluctuates between democracy with associated competitive economic institutions ($\tau = 1$) and nondemocracy with associated labor repressive economic institutions ($\tau = 0$), with switching probabilities $p(N) \in (0,1)$ and $1 - p(D) \in (0,1)$ where $p(D) < p(N)$.

Proof. This result follows immediately from the comparison of (22) with (46), which establishes $p(D) < p(N)$. ∎

To obtain a full solution to this model, we again need to solve (16) together with (44). Using $V(N)$ and $V(D)$ to simplify notation, this implies

$$V(N) - V(D) = \frac{\theta(D) - \theta(N) + p(N)\,\Delta RL/M - p(D)\,\lambda\Delta RL/M}{1 - \beta(p(N) - p(D))}. \tag{47}$$

Now combining this with the equilibrium conditions, (22) with (46), we have conditions characterizing the equilibrium similar to those in the previous subsection:

$$H^N \equiv \phi f(\phi M\theta(N))\left(\frac{\Delta R}{M} + \frac{\beta(\theta(D) - \theta(N) + p(N)\,\Delta RL/M - p(D)\,\lambda\Delta RL/M)}{1 - \beta(p(N) - p(D))}\right) - 1 = 0, \tag{48}$$

and

$$H^D \equiv \phi f(\phi M\theta(D) - \eta)\left(\frac{\lambda\Delta R}{M} + \frac{\beta(\theta(D) - \theta(N) + p(N)\,\Delta R/M - p(D)\,\lambda\Delta R/M)}{1 - \beta(p(N) - p(D))}\right) - 1 = 0. \tag{49}$$

To make more progress, we once again impose the correspondence principle, and define the matrix $\mathcal{H}$ as before and assume that it is negative definite.

Proposition 8 *(Comparative Statics for the Model with Sluggish Economic Institutions)* Consider the modified model with sluggish economic institutions. Suppose that Assumptions 1, 2 and 3" hold and following the correspondence principle, assume that the matrix $\mathcal{H}$ is negative definite. Then, we have the following comparative static results:

1. An increase in the economic rents that the elite can obtain by controlling political power will increase their contributions and the probability that they control political power in both nondemocracy and democracy, i.e.,

$$\frac{\partial\theta^*(N)}{\partial\Delta R} > 0,\ \frac{\partial\theta^*(D)}{\partial\Delta R} > 0,\ \frac{\partial p^*(N)}{\partial\Delta R} > 0 \text{ and } \frac{\partial p^*(D)}{\partial\Delta R} > 0.$$

2. An increase in the discount factor will increase the elite's contributions and the probability that they control political power in both nondemocracy and democracy, i.e.,

$$\frac{\partial\theta^*(N)}{\partial\beta} > 0,\ \frac{\partial\theta^*(D)}{\partial\beta} > 0\ \frac{\partial p^*(N)}{\partial\beta} > 0 \text{ and } \frac{\partial p^*(D)}{\partial\beta} > 0.$$

3. An increase in the number of the elites will intensify the collective action problem among them, and will reduce their contributions and the probability that they control political power in both nondemocracy and democracy, i.e.,

$$\frac{\partial\theta^*(N)}{\partial M} < 0,\ \frac{\partial\theta^*(D)}{\partial M} < 0,\ \frac{\partial p^*(N)}{\partial M} > 0 \text{ and } \frac{\partial p^*(D)}{\partial M} > 0.$$

4. An increase in the sluggishness of economic institutions in democracy increases the elite's contributions in nondemocracy, with corresponding effects on their political power, i.e.,

$$\frac{\partial \theta^* (N)}{\partial \lambda} < 0 \text{ and } \frac{\partial p^* (D)}{\partial \lambda} < 0.$$

Proof. The proofs of the first three results are identical to those in Proposition 5 and are omitted. To obtain the last one, we can totally differentiate equations (48) and (49) to write

$$\left(\begin{array}{cc} \frac{\partial H^N}{\partial \theta(N)} & \frac{\partial H^N}{\partial \theta(D)} \\ \frac{\partial H^D}{\partial \theta(N)} & \frac{\partial H^D}{\partial \theta(D)} \end{array} \right) \left(\begin{array}{c} \partial \theta (N) \\ \partial \theta (D) \end{array} \right) = - \left(\begin{array}{c} \frac{\partial H^N}{\partial \lambda} \\ \frac{\partial H^D}{\partial \lambda} \end{array} \right) \partial \lambda.$$

An argument similar to that in the proof of Proposition 6 establishes that $\partial H^N / \partial \theta (D) < 0$ and $\partial H^D / \partial \theta (N) > 0$. Next it is also straightforward to see that $\partial H^D / \partial \lambda > 0$ and $\partial H^N / \partial \lambda < 0$. Then applying Cramer's rule and using the fact that $\det \mathcal{H} > 0$ yields

$$\frac{\partial \theta^* (N)}{\partial \lambda} = \frac{\det \left(\begin{array}{cc} + & - \\ - & - \end{array} \right)}{\det \mathcal{H}} < 0$$

while the same steps imply that $\partial \theta^* (D) / \partial \lambda$ has ambiguous sign. Finally, $\partial p^* (N) / \partial \lambda < 0$ follows immediately from the monotonicity of $F (\cdot)$. ∎

This proposition shows that in the environment with sluggish economic institutions the main comparative static results from Proposition 4 regarding the effect of economic rents, the discount factor and the cohesion of the landed elite continue to apply. Also interestingly, a decrease in λ, meaning more sluggish economic institutions in democracy, increase $p^* (N)$. This is intuitive; a lower λ means that democracy is more costly for the elite, because it will take time for them to impose their favorite economic institutions even when they take control in democracy. Consequently, the value of nondemocracy relative to democracy, $V (N) - V (D)$, is higher, so in nondemocracy, the elite invest more in order to preserve this set of political institutions (and the associated labor repressive economic institutions). The implications of a decrease in λ on the elite's de facto power in democracy is ambiguous, since it reduces the immediate benefits of taking control in democracy, but also, by increasing $V (N) - V (D)$, it increases the long-run benefits.

5 Durable Political Institutions and Captured Democracy

The assumption so far has been that when the elite have more political power than the citizens, they can change both economic institutions and the political system (though in the previous

subsection, they could only change the economic institutions slowly). The historical examples below will illustrate a different salient pattern: democracy may emerge and endure, but in a *captured* form, whereby the elite are able to impose their favorite economic institutions (or at the very least, have a disproportionate effect on the choice of economic institutions) in democracy. It is therefore important to enrich the model to understand under what circumstances such an equilibrium can arise.

As discussed in detail in Acemoglu and Robinson (2006a), in many situations, political institutions are more difficult to change, and may have additional "durability". We now modify the baseline model to incorporate this feature and assume that overthrowing a democratic regime is more difficult than influencing economic institutions. More specifically, the elite require greater political power to force a switch from democracy to nondemocracy than simply influencing economic institutions in democracy. To simplify the discussion, we assume that when they influence economic institutions in democracy, they can choose their favorite economic institutions, labor repression, though this is not important for the results (i.e., we can allow intermediate economic institutions as in the previous subsection).

Finally, for reasons that will become apparent below, we now assume that the preferences of citizens, i.e., those for all $i \in \mathcal{C}$, are given by

$$\sum_{j=0}^{\infty} \beta^j \left(c_{t+j}^i + \nu \left(S_{t+j} \right) \right), \tag{50}$$

with $\nu \left(S = N \right) = 0$ and $\nu \left(S = D \right) > 0$. Therefore, these preferences allow a direct utility for the citizens from democracy (which may in turn be because of ideological reasons or a reduced-form for other benefits provided to the citizens by democracy). Moreover, we will assume that $\nu \left(S = D \right)$ is a large enough that citizens always prefer and vote for democracy even when this may have economic costs for them.

We model regime change as follows. We assume that when $P_t^C + \xi > P_t^E \geq P_t^C$, where $\xi > 0$, the elite can choose economic institutions but cannot change the political system. If, on the other hand, $P_t^E \geq P_t^C + \xi$, the elite can choose both economic institutions and the future political system. Symmetrically when $P_t^E + \xi > P_t^C \geq P_t^E$, the citizens have political power, and they can choose economic institutions, but cannot change the political system. This formulation builds in the assumption that changing political institutions is more difficult than influencing economic institutions in the most straightforward way.

Throughout this section, we again focus on symmetric MPE. Also, to keep the issues separate in this subsection, we assume that when the elite have more political power in democracy,

they can impose their most preferred economic institutions, $\tau = 0$, as in the baseline model. Finally, to further simplify the discussion we strengthen Assumption 2:

Assumption 2' F is defined over $(\underline{\omega}, \infty)$ for some $\underline{\omega} < 0$, is everywhere strictly increasing and twice continuously differentiable (so that its density f and the derivative of the density, f', exist everywhere), and moreover we have $f'(\omega) < 0$ for all ω and $\lim_{\omega \to \infty} f(\omega) = 0$.

Given these assumptions, the structure of the model is similar to before. The value functions are more complicated, but have similar intuition to those in Section 3. In particular, in addition to (18), let

$$\hat{p}\left(\theta^i, \theta\left(D\right) \mid D\right) = F\left(\phi\left(\left(M - 1\right)\theta\left(D\right) + \theta^i\right) - \eta - \xi\right), \tag{51}$$

so that we have:[27]

$$
\begin{aligned}
V\left(D \mid \theta\left(N\right), \theta\left(D\right)\right) = \max_{\theta^i \geq 0} & \left\{ -\theta^i + p\left(\theta^i, \theta\left(D\right) \mid D\right) \frac{R^r L}{M} + \right. \\
& \left(1 - p\left(\theta^i, \theta\left(D\right) \mid D\right)\right) \frac{R^c L}{M} + \hat{p}\left(\theta^i, \theta\left(D\right) \mid D\right) \beta V\left(N \mid \theta\left(N\right), \theta\left(D\right)\right) \\
& \left. + \left(1 - \hat{p}\left(\theta^i, \theta\left(D\right) \mid D\right)\right) \beta V\left(D \mid \theta\left(N\right), \theta\left(D\right)\right) \right\},
\end{aligned}
\tag{52}
$$

where we have imposed that when the citizens have sufficient power they will choose democracy.

With similar arguments to before, the maximization in (52) implies the following first-order condition

$$
\begin{aligned}
& \phi f\left(\phi\left(M - 1\right)\theta\left(D\right) + \theta^i - \eta\right) \frac{\Delta R L}{M} \\
& + \beta \phi f\left(\phi\left(M - 1\right)\theta\left(D\right) + \theta^i - \eta - \xi\right)\left(V\left(N \mid \theta\left(N\right), \theta\left(D\right)\right) - V\left(D \mid \theta\left(N\right), \theta\left(D\right)\right)\right) = 1,
\end{aligned}
\tag{53}
$$

which is now sufficient since Assumption 2' ensures that the second-order condition is satisfied.

The main difference of this first-order condition from the one before is that the probability with which the elite gain the economic rent $\Delta R L / M$ is different from the probability with which they secure a change in the political system. For this reason, two different densities appear in (53). As before, denote the resulting policy correspondence as $\Gamma^D\left(\theta\left(N\right), \theta\left(D\right)\right)$.

Similarly for nondemocracy, we define

$$\hat{p}\left(\theta^i, \theta\left(N\right) \mid N\right) = F\left(\phi\left(\left(M - 1\right)\theta\left(N\right) + \theta^i\right) + \xi\right), \tag{54}$$

---

[27] An alternative way of writing (52) would be as follows: define $\tilde{p}\left(\theta^i, \theta\left(D\right) \mid D\right)$ to be the probability that the elite are able to impose their preferred economic institutions but not change political institutions, and let $\check{p}\left(\theta^i, \theta\left(D\right) \mid D\right)$ be the probability that they are able to change the political institutions as well. Then with probability $\tilde{p}\left(\theta^i, \theta\left(D\right) \mid D\right)$, they only receive $\Delta R L / M$, where as with probability $\check{p}\left(\theta^i, \theta\left(D\right) \mid D\right)$, they receive $\Delta R L / M + \beta\left(V\left(N\right) - V\left(D\right)\right)$. This way of writing the recursive formulation is equivalent to (52) with $\check{p}\left(\theta^i, \theta\left(D\right) \mid D\right) = \hat{p}\left(\theta^i, \theta\left(D\right) \mid D\right)$ and $\tilde{p}\left(\theta^i, \theta\left(D\right) \mid D\right) = p\left(\theta^i, \theta\left(D\right) \mid D\right) - \hat{p}\left(\theta^i, \theta\left(D\right) \mid D\right)$.

which leads to a modification of the value function for nondemocracy as

$$
\begin{aligned}
V\left(N \mid \theta\left(N\right), \theta\left(D\right)\right) = \max_{\theta^i \geq 0} \Big\{ &-\theta^i + p\left(\theta^i, \theta\left(N\right) \mid N\right) \frac{R^r L}{M} + \\
&\left(1 - p\left(\theta^i, \theta\left(N\right) \mid N\right)\right) \frac{R^c L}{M} + \hat{p}\left(\theta^i, \theta\left(N\right) \mid N\right) \beta V\left(N \mid \theta\left(N\right), \theta\left(D\right)\right) \\
&+ \left(1 - \hat{p}\left(\theta^i, \theta\left(N\right) \mid N\right)\right) \beta V\left(D \mid \theta\left(N\right), \theta\left(D\right)\right) \Big\},
\end{aligned}
\tag{55}
$$

which also has a similar structure to the value function in democracy in this case, (55). Consequently, the first-order (necessary and sufficient given Assumption 2') condition for optimal contribution by an elite agent is also similar:

$$
\begin{aligned}
&\phi f\left(\phi\left(M - 1\right) \theta\left(N\right) + \theta^i\right) \frac{\Delta R L}{M} \\
&+ \beta \phi f\left(\phi\left(M - 1\right) \theta\left(N\right) + \theta^i + \xi\right)\left(V\left(N \mid \theta\left(N\right), \theta\left(D\right)\right) - V\left(D \mid \theta\left(N\right), \theta\left(D\right)\right)\right) = 1
\end{aligned}
\tag{56}
$$

which again defines the policy correspondence $\Gamma^N\left(\theta\left(N\right), \theta\left(D\right)\right)$.

To define an equilibrium, now introduce the additional notation such that $\pi = 0$ denotes the elite keeping total power in nondemocracy (i.e., $P_t^E \geq P_t^C$), $\pi = -1/2$ corresponding to the elite in nondemocracy keeping control of de jure power but losing control of economic institutions (i.e., $P_t^E + \xi \geq P_t^C > P_t^E$), and $\pi = -1$ means the elite loses power (i.e., $P_t^C > P_t^E + \xi$). In addition, $\pi = 1$ corresponds to the citizens keeping full power in democracy (i.e., $P_t^C > P_t^E$), while $\pi = 1/2$ denotes that the citizens only lose control of economic institutions (i.e., $P_t^C + \xi > P_t^E \geq P_t^C$), while $\pi = 2$, corresponds to power switches in democracy (i.e., $P_t^E \geq P_t^C + \xi$). Therefore, imposing that citizens always prefer democracy to nondemocracy (again from preferences in (50)), we have:

Definition 5 A symmetric MPE of the model with durable political institutions consists of a pair of contribution levels for elite agents $\theta\left(N\right)$ and $\theta\left(D\right)$, such that $\theta\left(N\right) \in \Gamma^N\left[\theta\left(N\right), \theta\left(D\right)\right]$ and $\theta\left(D\right) \in \Gamma^D\left[\theta\left(N\right), \theta\left(D\right)\right]$. In addition, economic and political decisions $\tau\left(\pi\right)$ and $s'\left(\pi\right)$ are such that $\tau\left(\pi = 0\right) = \tau\left(\pi = 1/2\right) = \tau\left(\pi = 2\right) = 0$, $s'\left(\pi = 0\right) = s'\left(\pi = -1/2\right) = s'\left(\pi = 2\right) = N$, $\tau\left(\pi = -1/2\right) = \tau\left(\pi = -1\right) = \tau\left(\pi = 1\right) = 1$, $s'\left(\pi = -1\right) = s'\left(\pi = 1\right) = s'\left(\pi = 1/2\right) = D$, and factor prices are given by (8)-(11) as a function of $\tau \in \{0, 1\}$.

Given this definition, a symmetric MPE with $\theta\left(N\right) > 0$ and $\theta\left(D\right) > 0$ is a solution to the following two equations

$$
\phi f\left(\phi M \theta\left(D\right) - \eta\right) \frac{\Delta R L}{M} + \beta \phi f\left(\phi M \theta\left(D\right) - \eta - \xi\right)\left(V\left(N \mid \theta\left(N\right), \theta\left(D\right)\right) - V\left(D \mid \theta\left(N\right), \theta\left(D\right)\right)\right) = 1.
\tag{57}
$$

$$\phi f\left(\phi M\theta\left(N\right)\right)\frac{\Delta RL}{M}+\beta\phi f\left(\phi M\theta\left(N\right)+\xi\right)\left(V\left(N\mid\theta\left(N\right),\theta\left(D\right)\right)-V\left(D\mid\theta\left(N\right),\theta\left(D\right)\right)\right)=1.$$

$$(58)$$

Once again, we would like to impose the necessary assumption so that zero contributions by the elite are not an equilibrium. It can be verified that Assumption 3 above is sufficient to ensure that zero contributions cannot be equilibria.

The interesting result in this case is that once the society becomes democratic, it will remain so potentially for a long time (i.e., $\hat{p}\left(D\right)$ can be small), but the elite will still be able to control the economic institutions (i.e., $p\left(D\right)$ could be quite large).

Proposition 9 *(Captured Democracy)* Consider the modified model with durable political institutions. Suppose that Assumptions 1, 2' and 3 hold. Then we have a Markov-switching process for political change, with $1>\hat{p}\left(N\right)>\hat{p}\left(D\right)>0$. Moreover, democracy is captured in the sense that $0<p\left(N\right)<p\left(D\right)<1$, i.e., democracy will survive but choose economic institutions in line with the elite's interests with even a higher probability than does nondemocracy.

Proof. The probability of labor repressive economic institutions under democracy is

$$p\left(D\right)=p\left(\theta\left(D\right),\theta\left(D\right)\mid D\right)=F\left(\phi M\theta\left(D\right)-\eta\right),$$

while it is

$$p\left(N\right)=p\left(\theta\left(N\right),\theta\left(N\right)\mid N\right)=F\left(\phi M\theta\left(N\right)\right)$$

in nondemocracy. Suppose to obtain a contradiction that $p\left(D\right)\leq p\left(N\right)$. This is equivalent to

$$\phi M\theta\left(D\right)-\eta\leq\phi M\theta\left(N\right). \tag{59}$$

Since from Assumption 2' f is decreasing everywhere, this implies

$$f\left(\phi M\theta\left(D\right)-\eta\right)\geq f\left(\phi M\theta\left(N\right)\right).$$

This equation combined with (57) and (58) implies that

$$f\left(\phi M\theta\left(D\right)-\eta-\xi\right)\leq f\left(\phi M\theta\left(N\right)+\xi\right).$$

Since from Assumption 2' f is decreasing, this is equivalent to

$$\phi M\theta\left(D\right)-\eta-\xi\geq\phi M\theta\left(N\right)+\xi,$$

which, given $\xi > 0$, contradicts (59), establishing that $p(D) > p(N)$, i.e., that democracy is captured.

But, by the same reasoning, $p(D) > p(N)$ implies $f(\phi M\theta(D) - \eta - \xi) > f(\phi M\theta(N) + \xi)$, thus $\phi M\theta(D) - \eta - \xi < \phi M\theta(N) + \xi$. Since F is strictly monotonic, this implies $\hat{p}(N) > \hat{p}(D)$, establishing the Markov-switching structure. ∎

The equilibrium pattern emerging from this proposition is the richest and perhaps the most surprising one we have encountered so far. The equilibrium still takes a Markov-switching structure with fluctuations between democracy and nondemocracy, but in democracy, there is no guarantee that economic institutions will be those favored by the citizens. While in all the previous models we studied, the elite were able to impose both their political and economic wishes at the same time, here we have an equilibrium pattern whereby democracy persists, but the elite are able to impose their favorite economic institutions. In fact, the proposition shows that under Assumption 2', the elite will be able to impose labor repressive economic institutions with a *higher* probability under democracy than in nondemocracy.

The intuition for this (somewhat) paradoxical result is that in democracy there is an additional benefit for the elite to invest in de facto political power, which is to induce a switch from democracy to nondemocracy. Consequently, the elite invest in their de facto power sufficiently more in democracy that they are able to obtain their favorite economic institutions with greater probability. Nevertheless, the elite are happier in nondemocracy, because the cost of investing in their de facto political power in democracy is significantly higher. In fact, it is because they prefer nondemocracy to democracy that they are willing to invest more in their de facto political power in democracy and obtain the labor repressive economic institutions with a high probability. What about citizens? If there was no additional benefit of democracy, $\nu(S = D)$, then citizens would actually be worse in democracy than in nondemocracy, because they only care about economic institutions and economic institutions are more likely to be labor repressive in democracy than in nondemocracy. Thus when $\nu(S = D) = 0$, citizens themselves would never choose democracy, and would be happy to remain in nondemocracy (given the limited ability that they have to solve the collective action problem). Therefore, the ideological or other benefits of democracy encapsulated in $\nu(S = D) > 0$ create the possibility of the captured democracy equilibrium, whereby the citizens are willing to vote and defend democracy, but democracy at the end caters to the wishes of the elite.[28]

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[28] Also, if we relax Assumption 2', it is possible to obtain an equilibrium with a semi-captured democracy where political institutions still follow a Markov-switching structure, but the probability of labor repressive economic institutions in democracy is positive but no higher than in nondemocracy, i.e., $p(N) \geq p(D) > 0$.

Therefore, this model features both persistence in political and economic institutions, and also coexistence of change in political institutions with persistence in economic institutions (i.e., the presence of labor repression in democracy). In fact, it is straightforward to see that the larger is ξ, the more likely is the configuration with stable democracy choosing economic institutions in line with the interests of the elite. Consequently, this model with durable political institutions and captured democracy provides both the richest set of predictions regarding the persistence of economic and political institutions, and a potential explanation for the patterns discussed in Section 7, which illustrate how many societies become and remain democratic, but continue to pursue policies that favor the traditional landed elite.

6 Effective Reform

In this section, we briefly discuss how institutional persistence and hysteresis outlined in the previous three sections can be terminated by effective reforms. Recall that the framework introduced so far incorporates two important features: first, the possibility of coexistence between change and persistence in institutions; second, a type of hysteresis, whereby labor repressive (and generally dysfunctional or distortionary) economic institutions remain in place despite shocks that change the political organization of society. This picture is loosely in line with the common use of the term "hysteresis" in the sense that small shocks (or reforms) will have relatively little impact on the equilibrium outcomes (recall footnote 3).

This begs the question of whether there are any major reforms (that were not so far considered explicitly), which could break this pattern of hysteresis. The comparative static results above suggest potential answers to this question. In particular, the results so far show that a change in political institutions from nondemocracy to democracy is likely to be much more effective (in terms of leading to equilibrium competitive labor markets and persistent democracy) when one or more of the following reforms are also undertaken *simultaneously*:

1. A reduction in ϕ_D in terms of the model of subsection 4.1, so that the traditional elites are less able to control politics in a democratic society. For example, preventing local threats of violence or the capture of political parties by bribery, lobbying or other means by the traditional elites would achieve such an outcome.

2. A reduction in λ in terms of the model of subsection 4.2, meaning the implementation

Nevertheless, relaxing Assumption 2' does not guarantee that such an equilibrium will exist; it only makes it possible.

of slow-to-reverse reforms in economic institutions that make the immediate returns to the elite from dominating politics less. An example might be investments in the human capital of the workers, which are redistributive, but also harder to reverse once undertaken, and contrast with fiscal redistribution, which is much easier to reverse.

3. Similarly, a reduction in ΔR, for example, by means of an increase in A. In all the models, an increase in the alternative economic opportunities available to the citizens will reduce the potential rents that the landed elites can obtain, and will discourage them from investing in de facto political power.

This discussion therefore illustrates that, consistent with the notion of "hysteresis", while politics as business-as-usual may favor the elite even in democracy, undertaking simultaneous and significant reforms may change the character of the political equilibrium, making democracy and competitive labor markets more likely. An attractive example of simultaneous reform leading to a significant change in the distribution of political power in society is the 1688 Glorious Revolution in England, which not only changed de jure power by dethroning the Stuart monarchy, but also by substantially increasing the role of the Parliament and the allocation of economic resources in society, irreversibly altered the distribution of de facto political power (see, for example, North and Thomas, 1973, Acemoglu, Johnson and Robinson, 2005a, Ashley, 1966, or Richardson, 1998).

7 Historical Perspective

We now examine some case studies of the persistence of power, elites and institutions from the U.S.. South, Latin America and Africa (Liberia). Our objective is neither to provide a comprehensive historical account nor to test our model. Instead, we wish to illustrate salient cases of coexistence of change in political institutions with persistence in the underlying economic system, which has been the motivating empirical pattern for our theoretical analysis. In all cases, we will interpret the historical events through the lenses of the models presented above, though we will also attempt to highlight potential disagreements or alternative interpretations among historians when they exist.

7.1 Persistence of the Elites in U.S. South

"De landlord is landlord, de politician is landlord, de judge is landlord, de shurf is landlord, ever'body is landlord, en we ain' got nothin."[29]

An important example which illustrates our thesis in the continuation of the economic system based on labor repression, plantation and cheap labor in the U.S. South before and after the significant changes in political institutions brought about by the Civil War.

Before the Civil War, the South was significantly poorer than the U.S. average income at about 70% of GDP per-capita (e.g., Barro and Sala-i-Martin, 1991, Easterlin, 1960).[30] The South lacked industry (Bateman and Weiss, 1981, Wright, 1986, Table 2.4, p. 27) and in 1860 the total manufacturing output of the South was less than that of either Pennsylvania, New York or Massachusetts (Cobb, 1984, p. 6). The South had very low rates of urbanization (around 9% as opposed to 35% in the Northeast) and relatively little investment in infrastructure. For example, Table 1 shows railroad mileage in the Southern states, which were far behind Northern states when normalized by population. The situation with respect to canal mileage is similar (Wright, Table 2.1, p. 21).

Perhaps more importantly, especially in the context of the potential for future economic growth industrialization, the South was not even innovative in goods in which it specialized. Table 2 shows data from Schmookler (1972) which demonstrates how few patents were generated by the cotton economy.

Although there is no consensus about why the South was backward, all scholars relate this in various ways to the planation economy and slavery. Wright (1986) argues that because slaves were a mobile asset, there was no incentive for planter interests to support investment in public goods such as infrastructure, and so manufacturing could not develop. Bateman and Weiss (1981) show that Southern planters did not invest in industry, even though the rate of return was superior to that in agriculture. A plausible explanation for the lack of innovation is that slavery limited the possibilities for productive investment. Slaves were forbidden to own property or become educated in most Southern states, presumably because this made

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[29]Testimony of a Mississippi sharecropper to an official of the Agricultural Adjustment Administration in 1936, quoted in Schulman (1994, p. 16).

[30]The relative poverty of the South has been hotly debated by scholars. Although Fogel and Engerman (1974) pointed out that if the South had been an independent country in 1860 it would have been amongst the 10 richest in the World, the consensus view is that the South was relatively backward with poor institutions in 1860 (a view which in its modern form goes back at least to Genovese, 1965). To the extent that it was relatively prosperous compared to other parts of the world at the time, this was because it had recently benefited from a huge boom in cotton prices (Wright, 1978) and also because it was embedded in a society whose institutions has been formed in the 17th century, before the development of the plantation economy.

them easier to control. But this pattern of labor repression also condemned plantations to low-skilled labor forces and possibly removed the incentives of planters to innovate. It is also possible that the lack or urbanization and industry was a consequence of concerns about the control of slaves and collective action, though Goldin (1976) disputes this.

In the aftermath of the Civil War, the income per-capita of the South fell to about 50% of the U.S. average. If the organization of the slave economy had been the reason why the South had been relatively backward in 1865, one might have imagined that the abolition of slavery in 1865 would have removed this blockage to Southern prosperity. The evidence and historical interpretations show that the abolition of slavery had a surprisingly small effect on the Southern economy.[31] Though planters initially tried and failed to reintroduce the gang labor system with the freed slaves, out of the ashes of the Civil War emerged a low wage labor intensive economy based on labor repression. Cut off from the rest of the United States, income per-capita remained at about half the average until the 1940s when it finally began slowly to converge.[32] Just as before the Civil War, there was systematic underinvestment in education (Margo, 1990).[33] The main incentive for this seems to have been to impede migration (see Wright, 1986, p. 79). In 1900 all but two of the non-Southern states had enacted compulsory schooling laws, while none had such laws in the South except Kentucky (Woodward, 1951, p. 399). Though industrial development did begin more systematically after 1865, Cobb (1984, p. 17) notes:

> "The industries that grew most rapidly in the post-Reconstruction decades were typical of an underdeveloped economy in that they utilized both cheap labor and abundant raw materials ... such industries hardly promised to elevate the region to economic parity with the rest of the nation".

So why did the economic system of the South change so little following the Civil War, especially given the significant changes in political institutions? At first, this persistence of economic institutions appears at odds with the significant changes in the distribution of *de jure* power that took place after the Civil War, for example, with the enfranchisement of the freed slaves, and the repeal of the Missouri compromise, which had previously cemented the

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[31] Despite this consensus, there is a debate on the related matter of why Southern incomes fell after the Civil War. The interpretation by Fogel and Engerman (1974) is based on the idea that the slavery system was relatively efficient, though this has been challenged, see, for example, Ransom and Sutch (2001).

[32] Wright (1986, p. 70) notes "the isolation of the southern unskilled labor market was a basic background condition for virtually the whole epoch between the Civil War and World War II."

[33] Kousser (1974, p. 17) records a post-bellum adage "To educate a 'nigger' is to spoil a good field hand."

political power of the South in the federal government.[34]

We believe the answer is related to the forces emphasized in our model, in particular, to the effective exercise of de facto political power by the Southern landed elites to compensate for the loss of their de jure political power in the ante-bellum period. Consistent with our approach, Wright and other historians emphasize that there was considerable persistence in the identity and power of the political elites. For example, Wiener (1978) studied the persistence of the planter elite in 5 counties of the black belt of western Alabama. Tracking families from the U.S. census and considering those with at least $10,000 of real estate, he found that (p. 9) "of the 236 members of the planter elite in 1870, 101 remained in the elite in 1870." Interestingly, this rate of persistence was very similar to that experienced in the ante-bellum period; "of the 236 wealthiest planters families of 1850, only 110 remained in the elite a decade later" (p. 9). Nevertheless, "of the 25 planters with the largest landholdings in 1870, 18 (72%) had been in the elite families in 1860; 16 had been in the 1850 elite group."[35] Table 3 reproduces these data from Weiner (1978, p. 12) and show the high degree of persistence in the identity of Southern landed elites.

After the end of the Civil War, more or less the same group of plantation elites controlled the land and used various instruments to re-exert their control over the labor force. Though the specific economic institution of slavery did not persist, the evidence shows a clear line of persistence in the economic system of the South based on plantation-type agriculture with cheap labor after the Civil War. This economic system was maintained through a variety of channels, including both control of local politics and exercise of potentially violent de facto power.

The planter elite successfully staffed or co-opted the members of the Freedmen's Bureau, whose remit was to supervise the freed slaves. In 1865 the state legislature of Alabama passed the Black Code, as an important landmark towards repression of black labor. Wiener (1978, p.

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[34]Another possibility would be that the continuation of large plantation agriculture was because of its relative economic efficiency. Yet this seems inconsistent with the available evidence. For example, Wright (1986, p. 84) argues "The plantations survived the Civil War, and their survival had little to do with their efficiency as producing units ... cotton and tobacco could be grown just as efficiently on family-sized farms. No, the key to the survival of the plantation was the ability of the former slave owners to hold on to their land in the midst of intense legal and political struggles after 1865. In national politics, the planters successfully blocked proposals for land confiscation and redistribution to the freedmen."

[35]Death during the Civil War appears to have had little impact on the persistence of the plantation elites because the law exempted one slaveholder from military service for every 20 slaves held (Wiener, 1978, p. 18). Other studies find similar persistence, for instance the research of Ransom and Sutch (2001, pp. 78-80) on landonwership in Dallas country Alabama, the study by Huffman (1974) of Clarke County, Georgia, or the research of Billings (1979) on North Carolina. This research to some extent contradicted earlier studies which had seen far more change in the identity of Southern elites after the Civil War (e.g., Woodward, 1951)

58) describes this as: "The Black Code of Alabama included two key laws intended to assure the planters a reliable supply of labor—a vagrancy law, and a law against the 'enticement' of laborers". These laws were designed to impede labor mobility and reduce competition in the labor market.

In addition to moulding the legal system in their favor "Planters used Klan terror to keep blacks from leaving the plantation regions, to get them to work, and keep them at work, in the cotton field" (Wiener, 1978, p. 62).[36] In his seminal study of the politics of the South after World War II, Key (1949, p. 9) sums up the pattern of persistence of the institutions of the South both before and after the Civil War as the "extraordinary achievement of a relatively small minority—the whites of the areas of heavy Negro population."

A key to the persistence of the ante-bellum system after the Civil War was the continued control over land. For example, in the debate over the redistribution of 40 acres of land to the freedmen (vetoed by President Andrew Johnson in 1865), Congressman George Washington Julian argued:

> "Of what avail would be an act of congress totally abolishing slavery ... if the
> old agricultural basis of aristocratic power shall remain?" (quoted in Wiener, 1978,
> p. 6).

A third strategy, again consistent with the emphasis on the de facto political power of the elite in our theoretical analysis, was control of the local political system. Following the Civil War, the period called 'Reconstruction' lasted until 1877 (see Stampp, 1965, and Foner, 1989). In this period Republican politicians contested power in the South and with the help of the presence of the Union Army helped to engineer some social changes. Nevertheless, this induced a systematic backlash in the guise of support for the Democratic Party and the so-called 'Redeemers.' In 1877, in the context of a log-roll between President Rutherford Hayes and Southern national politicians, Union soldiers were withdrawn from the South and the region left to its own devices. The period after 1877 then marked the real recrudescence of the ante-bellum elite. The 'redemption' of the South involved the systematic disenfranchisement of the black (and poor white) population through the use of poll taxes and literacy tests (Key, 1949, Kousser, 1974) and the creation of the one-party Democratic regime.[37]

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[36] Relatedly, Alston and Ferrie (1989) show how planters controlled their labor force by offering them "security" from violence and lynching.

[37] Key (1949, pp. 8-9), for example, notes: "Two-party competition would have been fatal to the status of black-belt whites. It would have meant in the 'nineties an appeal to the Negro vote and it would have meant

Key (1949, pp. 309-10) in his analysis of the primary elections of the Democratic party noted the hegemony of southern society's "upper brackets" and the political marginalization of its "lower brackets." Key discusses in detail the control of North Carolina's economic oligarchy over politics noting "The effectiveness of the oligarchy's control has been achieved through the elevation to office of persons fundamentally in harmony with its viewpoint" (p. 211).

This picture is also confirmed by the analysis of Wright (1986, p. 78), who writes "Even in the 1930s, southern representatives in Washington did not use their powerful positions to push for new federal projects, hospitals, public works and so on. They didn't, that is, as long as the foundations of the low-wage regional economy persisted."

In addition to disenfranchisement a whole gamut of segregationist legislation—the so-called Jim Crow laws—was enacted (Woodward, 1955, for the classic analysis). These laws turned the post-bellum South into an effective "aparthied" society where blacks and whites lived different lives. As in South Africa, these laws were aimed at controlling the black population.

Consequently, the South entered the 20th century as a primarily rural society. "It remained an agrarian society with a backward technology that still employed hand labor and mule power virtually unassisted by mechanical implements" Ransom and Sutch (2001 pp. 175-176).[38] In 1900 the South's urbanization rate was 13.5%, as compared to 60% in the Northeast (Cobb, 1984, p. 25).

Ransom and Sutch's (2001, p. 186) assessment of the implications of this economic and political system in the South on economic progress is representative of the consensus view: "Southerners erected an economic system that failed to reward individual initiative on the part of blacks and was therefore ill-suited to their economic advancement. As a result, the inequities originally inherited from slavery persisted. But there was a by-product of this effort at racial repression: the system tended to cripple all economic growth." In similar vein they state:

> "When whites used threats of violence to keep blacks from gaining an education, practicing a trade, or purchasing land, they systematically prevented blacks from following the three routes most commonly travelled by other Americans in their quest for self-advancement. With over half the population held in ignorance and

... Negro rule in some black-belt counties. From another standpoint, two-party competition would have meant the destruction of southern solidarity in national politics ... Unity on the national scene was essential in order that the largest possible bloc could be mobilized to resist any national move towards interference with southern authority to deal with the race question as was locally desired."

[38] See Whatley (1985) for a hypothesis explaining the lack of innovation in the post-bellum South in terms of the poor incentives created by sharecropping contracts.

forced to work as agricultural laborers, it is no wonder that the South was poor, underdeveloped, and without signs of economic progress." Ransom and Sutch (2001, p. 177)

All in all, the Southern Equilibrium, based on the exercise of de facto power by the landed elite, plantation agriculture and cheap labor persisted well into the 20th century, and only started to crumble after World War II. Interestingly, it is only after they demise of this Southern Equilibrium that the south of the United States started its process of rapid convergence of the North.

What caused the collapse of the Southern equilibrium? Consistent with the emphasis in Section 6, it seems that this collapse was brought about by the juxtaposition of a variety of factors. Initially, the depth of the great depression weakened the resolve of Southern politicians to block federal policies that might integrate the Southern economy into the rest of the nation (Schulman, 1994). Other important factors include the great outmigration and the impact of the simultaneous mechanization of cotton picking on the labor requirements of agriculture. As blacks became harder to trap in the South, they also became less necessary to generate rents.[39]

Table 4 shows data from Wright (1999) on net migration from the South. The large increase in black outmigration starting in the 1940s is visible. Table 5, from Heinicke (1994), shows the concurrent rapid spread of mechanized cotton picking. First introduced in 1949, by the end of the 1950s mechanical cotton picking was the rule rather than the exception in the South; half of the crop in the key cotton states was being picked mechanically.

In addition to these changes, the Southern equilibrium was disrupted by the collective action of the Civil Rights movement and a sequence of Supreme Court and government decisions, such as Brown versus Board of Education in 1954, the Civil Rights Act of 1964 and the Voting Rights Act of 1965. The significant events, in terms of our model, correspond to a decline in the ability of the landed elite to exercise de facto political power in democracy. Figure 1 shows data from McAdam (1983) on the number of civil rights collective actions, for example bus boycotts and sit-ins (see also Chang, 1991), while Figure 2 shows the dramatic increase in the registration of black voters in Southern states which took place over this period. These figures together show that it was becoming increasingly more difficult for the Southern landed elites to control the political process. This episode is analyzed and discussed in greater detail in Besley, Persson and Sturm (2005), who also test formally for the impact of the Voting Rights Act,

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[39]An interesting question, which is not central to our interpretation, is whether mechanization of cotton reduced the cost of black migration to the Southern landed elite, who then tolerated such outmigration, or whether the changes in the supply of cheap labor caused by black outmigration encouraged mechanization.

the abolition of literacy tests and poll taxes on economic growth in the South. They find that these institutional changes had a large impact on economic growth and played a significant role in explaining how the South caught up with the rest of the United States.

7.2 Persistence of Elites and Economic Institutions in Latin America

Despite the significant changes in political institutions that have taken place since the colonial era in Latin America, the capture of political and economic institutions by elites is an enduring theme of much of the historical literature on the sub-continent. There are numerous studies documenting both the capture of democratic politics by traditional elites and the resulting continuation of labor repressive policies in agriculture in many Central and Latin American countries. Some notable examples include Zeitlin (1984) and Zeitlin and Ratcliff (1988) on Chile or Paige (1997) on Central America. A central question for understanding the economic development (or lack thereof) in Central and Latin America and the Caribbean is therefore how and why the economic system based on labored repression and cheap labor in agriculture failed to change following the political reforms that have gradually brought more democratic means of collective decision-making in these societies.

As in the U. S. South, the answer is related to the exercise of de facto political power by traditional elites, effectively capturing the process of democratic politics. Such capture took many different forms, depending on the conditions of the specific country and the options open to the traditional elites, with the most common forms being the actual domination of politics by the elites, electoral fraud, blocking of entry of new parties, and use of violence via paramilitaries.

The most obvious form of political capture is the actual running of political parties and offices by members of the landed elite. This has been particularly the case in much of Central America and has been carefully documented by Samuel Stone (1975, 1990). His genealogical research shows the extraordinary extent to which elites have persisted in Costa Rica and other Central American countries from the colonial times.

Figures 3 and 4 (from Stone, 1990) summarize the main findings and show the striking number of Presidents since independence in various Central American countries that are related to two conquistadors, Cristóbal de Alfaro and Juan Vázquez de Coronado, who both arrived in Central America in the 16th century. Figure 3 shows that no less that 48 Presidents have been direct descendents of Alfaro, 25 of them in Costa Rica. Alfaro's descendents also include the Somoza dynasty who ruled Nicaragua for most of the 20th century before being swept away by

the Sandinista Revolution in 1979. Figure 4 shows the 29 Presidents descended from Vázquez. This also includes the Somoza clan, and many of the same Presidents of Costa Rica descended from Alfaro. The implications of domination of politics by these elites is even made more striking by the fact that even Costa Rican politics, generally viewed as the most democratic in the subcontinent, has been dominated by the traditional elites to such an extent.

Another important example of the persistence of the traditional elites is Colombia, and illustrates a different mechanism of exercise of de facto power. Here, elites managed to sustain their grip on power even after the opening of the political system thanks to their control (capture) of the party system. Colombia became independent from Spain in 1819 and the Liberal and Conservative parties first competed in a relatively broad election in 1850.[40]

These two parties have maintained their hold on political power ever since. In the 19th century, the parties contested elections, but they also fought for power. Although the fighting sometimes took the form of civil wars, the parties also frequently reached collusive agreements to make sure that other political parties, especially those representing peasants and workers, were unable to enter the political system. For example, after the civil war from 1899 to 1902, the two parties introduced a power-sharing agreement which divided all the seats in the legislature between the two parties by means of the 'incomplete vote' (Mazzuca and Robinson, 2004). This electoral system allocated 2/3 of the seats in a multi-member district to the party which got the most votes and 1/3 to the party that came second. This system lasted until 1929. After a civil war in the 1950s (a period know as *La Violencia*), the parties resurrected this collusive agreement in 1958 splitting the legislature 50-50 and also agreeing to take turns at the Presidency for 16 years. In practice this power sharing agreement endured until the middle of the 1980s.

The Liberals and Conservatives managed to successfully block entry of other parties to the political system through a variety of strategies. Even after the introduction of universal suffrage in 1936, this involved fraud, violence, and engineering the electoral rules to create barriers to entry.[41] Electoral fraud is, in fact, a recurrent theme in Colombian politics and took many forms. When Liberal Alfonso López Pumarejo was elected president in 1934, the vote total

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[40]The best studies of the origins of the parties are Colmenares (1968), Safford (1972) and Delpar (1981). Some trace the alignments to factions that formed in the late 1820s over whether or not Simón Bolívar should be made Emperor, though there have also typically been significant policy differences between these two parties.

[41]This is related to the absence of a socialist party in Colombia. Some scholars have suggested that the relatively egalitarian frontier expansion that took place in the second half of the 19th century has contributed to the creation of a middle class of property owners, which checked radicalism in Colombian politics. This thesis does not appear to be very convincing in view of the fact that Colombia has one of the most unequal distributions of land ownership and income in the world (on this Antioqueño expansion see Christie, 1978).

he received (938,808) was larger than the entire number of votes cast for the Liberal and two Conservative candidates in the highly competitive 1930 elections (823,877) (see Bushnell, 1993, p. 291).[42] Fraud was also used by the traditional parties to directly derail populist challenges, such as during the attempt by Rojas Pinilla to win the 1970 presidential election.

Violence has also been endemic in Colombian politics. The potential "Perón" of Colombia, Jorge Eliécer Gaitán, who was likely to pursue populist and redistributive policies, was murdered in 1948 just when it seemed likely he would become the leader of the Liberal party. Moreover, the assassination of key political leaders did not of course end in 1948, notable events being the murder or Luis Carlos Galán in 1990 and the practical obliteration of the political party the Unión Patriótica in the 1980s (see, for example, Kilne, 1999).

Another factor that appears to have contributed to the continuation of the two-party system is the way the electoral system created incentives for dissidents to stay within the traditional parties. Various features of the electoral system may have been important in this respect. For example, the electoral system ensured that candidates could be elected with far fewer votes than the electoral quotient, thus potentially guaranteeing that elite factions would get representation. At the same time, the traditional parties allowed "dissident lists" to run, providing a platform to potential dissidents. In line with these ideas, Dix (1967, p. 250) noted "proportional representation may have helped to a degree to reinforce the two-party system by allowing dissident factions to gain representation according to their strength in the electorate while still not forcing them from the party. Retaining the party label, or some version of it, they have usually been reabsorbed into the officialist ranks after one or two elections." It may also be the case that the entry of third parties may also be tied to cooperative behavior by traditional parties. In Colombia these parties showed a striking ability to collude on numerous occasions.

Consequently, time and time again in the 20th century, political entrepreneurs, like Gaitán and subsequently Alfonso López Michelsen and Galán, considered forming a third party, but then always returned to the fold because the electoral system made success by third parties

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[42]Chaves, Fergusson and Robinson (2005) show that in the 1922 presidential election where Conservative Pedro Nel Ospina defeated Liberal Benjamín Herrera, in 415 of the 816 municipalities, the total number of ballots cast was greater than the total number of literate adult males in the municipality according to the 1918 population census (adjusted for population growth). In 1922 one could vote in Colombia if one was a literate adult male, had property worth more than 1,000 pesos, or an annual income of more than 300 pesos. Consequently, the number of literate adult males is an upper bound on the number of people who could have been eligible to vote, and using this number enables one to estimate the lower bound on the number of ballots that were stuffed. Adding up the number of such ballots (a clear underestimate since it assumes 100% voter turnout), Chaves, Fergusson and Robinson (2005) found that the number of stuffed ballots was 196,257, which was greater than the margin by which Herrera was defeated.

difficult. Indeed, it is quite likely that the assassination of Gaitán was precisely because he had finally emerged as the leader of the Liberal party, not because political rivals anticipated the creation of a third party.

Finally, as in Central America, the political parties have also featured strong family ties and kinship networks over time. The Conservative Ospina family has provided three Presidents, Mariano Ospina Rodríguez (1857-1861), Pedro Nel Ospina (1922-1926) and Mariano Ospina Pérez (1946-1950). The Liberal López family provided not just Alfonso between 1934 and 1938, and again between 1942 and 1945, but also Alfonso López Michelsen between 1974 and 1978. The Liberal Lleras family provided presidents in 1945-1946 and 1958-1962 (Alberto Lleras Camargo) and again in 1966-1970 (Carlos Lleras Restrepo). The Conservative Pastrana family provided Misael Pastrana between 1970 and 1974 and Andrés Pastrana between 1998 and 2002. The son of Conservative President Laureano Gómez (1950-1953), Álvaro was the Conservative challenger in the late 1980s and early 1990s and the father of Liberal President Julio Turbay (1978-1982) had previously been the most powerful figure in the Liberal party.

Overall, through a variety of means, including elite domination of politics, electoral fraud, blocking of the creation of new parties and violence, traditional elites seem to have been able to have a disproportionate effect in the democratic politics of Central America and Colombia. We conjecture that this pattern of elite dominance has been an important element in the continuation of the economic system based on cheap labor and quasi-labor repression in the countryside of many of these countries.

7.3 Persistence of Elites and Economic Institutions in Africa

The issues we study here are of importance outside of the Americas. Here we illustrate them with one example, Liberia. Modern Liberia was started in 1820 by the American Colonization Society (ACS) as a home for freed and repatriated African slaves.[43] The ACS bought land from local chiefs around the site of the modern capital of Monrovia (named after the then President of the United States James Monroe) and in 1847 Liberia became independent of the ACS. The year 1877 saw the emergence of the True Whig Party (TWP), which would dominate politics until the coup of Samuel Doe in 1980. The TWP comprised of the descendents of the repatriated slaves, the Americo-Liberians, who dominated the party and the country for over a century. This group set themselves up as an elite over the 'tribal peoples' and ran the country as if it were a colony. By the 1960s Americo-Liberians were about 3-5% of the population.

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[43]The best general history of Liberia is Sawyer (1992).

Despite the early emergence of the Americo-Liberian elite in Liberia, the political system has relied on elections since the 19th century, and became fully democratic starting in 1944. Nevertheless, like their Central American or Southern U.S. counterparts, the Americo-Liberian elite have been able to dominate democratic politics through a variety of means, including extreme electoral fraud and violence, and their domination of politics has been a major cause of the continued economic backwardness of Liberia.

The first study of the economic backwardness of Liberia was undertaken by a team of U.S. based economists from Northwestern University hired by USAID in the early 1960s. Their findings (Clower et al., 1966) were summed up in Dalton (1965). They found that Liberia was ruled by the elite of the TWP and Americo-Liberians and that

> "the economic backwardness of Liberia is not attributable to the lack of resources or to domination by foreign financial or political interests. The underlying difficulty is rather that the traditional Americo-Liberian rulers, who fear losing political control to the tribal people, have not allowed those changes to take place which are necessary to develop the national society and economy." Dalton (1964, p. 581)

Dalton continues "Like the Portuguese in Angola or the Afrikaners in South Africa, the rulers of Liberia are the descendents of an alien minority of colonial settlers. Americo-Liberian families." The TWP used indirect rule adapted from the British to control the hinterland and manipulated chiefship. As Clower et al. record, Liberia became a two class society and different laws, access to education and the legal system governed Americo-Liberians and tribal peoples. Dalton points out that "Ironically, it is the ethic of Mississippi that most nearly characterizes their outlook: to retain power in traditional fashion and keep the natives in their place."

Before 1944, the hinterland had no political representation at all, and even after it did so, the TWP were able to cling to power through their complete control of the economy, and more significantly, through intimidation, corruption and coercion. Indeed Liberia has the sad reputation as having had the most corrupt election ever held. President Charles B. King won the 1927 presidential elections with a landslide victory that earned him a place in history. The Guiness Book of Records (1982) qualified the elections as the most fraudulent ever reported in world history. Suffrage was constitutionally limited to some 15,000 citizens, all Americo-Liberians, but according to the official election results some 240,000 votes were cast in favor of Charles B. King.

The resulting economic institutions in Liberia certainly approximated the labor repressive institutions in the model discussed above. In the 1960s tribal peoples were still subject to forced labor on public works and rubber plantations (1/4 of the labor force in early 1960s) and the economy was either completely controlled by the TWP or by foreigners. The state apparatus became a huge patronage machine dedicated to promoting the interests of the TWP and the Americo-Liberians.

A key feature of Liberian politics which facilitated the exercise of power by the TWP was the kinship networks of the Americo-Liberians.[44] Dalton argues that "to understand Liberian politics, knowledge of kinship connections is more useful than knowledge of the Liberian constitution." Figure 5, refers to 1960 and the Presidency of William V.S. Tubman who ruled from 1944 to 1971. It shows how higher political offices were monopolized by President Tubman's kinship network, one of the grand families of the Americo-Liberians.

After his defeat in the 1927 presidential elections, Thomas Faulkner accused the President-elect, Charles D.B. King, of allowing slavery to exist in the Republic and that certain highly placed government officials were engaged in the forced shipping of laborers to the Spanish island of Fernando Po. Following Faulkner's accusations a wave of international reactions followed and a Committee of the League of Nations was established to examine the allegations. The Committee, composed of Dr Cuthbert Christy, an Englishman (representing the League of Nations), Charles S.A. Johnson, an Afro-American (representing the USA), and former Liberian president Arthur Barclay (representing Liberia), indeed concluded that shipment of laborers to Fernando Po and Gabon was associated with slavery because the method of recruiting carried compulsion with it. Moreover, persons holding official positions were shown to have illegally misused their office in recruiting labor with the aid of the Liberian Frontier Force (the national military controlled by the TWP). Not only Americo-Liberian government officials had benefited from the fruits of forced labour, but so had the most major foreign company in Liberia, Firestone.[45] In essence the TWP had offered Harvey Firestone a guaranteed labor supply through coercion.

There can be few better historical examples of an elite than the Americo-Liberians and the TWP. Initially, they were able to restrict de jure power only to themselves, completely

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[44] Fraenkel (1964) is the best ethnography of Liberian society during the rule of the TWP.

[45] Vast rubber plantations were started by Firestone in 1926. They obtained a one million acre concession for a 99-year period, was granted the exclusive rights upon the lands selected, and became—with only few, small, exceptions—exempted of all present and future taxes. Firestone acquired virtually unlimited rights over an area equal to 4 per cent of the country's territory and nearly 10 per cent of what was considered the arable land in the country.

disenfranchising the indigenous Africans. They were also able to dominate in their use of de facto power because they had the support of the United States and superior weapons. They used this power to create an inefficient set of economic institutions. Using labor repression and forced labor in planation agriculture and even blocking positive economic changes because of the fear of the destabilization of the political status quo.[46] Nevertheless, over time the political system opened. After 1944 the TWP had to deal with the political inclusion of peoples in the hinterland. However, they were able to use their de facto power to maintain the economic institutions they favored, as Clower et al. (1966) discovered when they visited the country. This set of institutions favored by the Americo-Liberian elite endured until swept away by a military coup in 1980.

Therefore, the domination of first nondemocratic and then democratic politics by the Americo-Liberian elite and their choices of highly inefficient economic institutions redistributing resources to themselves give another example of the successful exercise of de facto power by the elite in order to achieve their favorite economic institutions even under the umbrella of democratic politics.

8 Conclusions

Almost all theoretical and empirical research in political economy starts with the presumption that institutions, once in place, persist and shape the political-economic interactions of different groups and agents. Nevertheless, many societies have experienced frequent changes in their political institutions, such as the end of the colonial era and the creation of the republics throughout the 19th and 20th centuries, or multiple switches between dictatorship and democracy during the 20th century. Certain economic institutions also change, with slavery, forced labor, and the encomienda coming to an end in Latin America and Caribbean, waves of nationalization and privatization of industry in many less developed countries. In the face of this picture of frequently changing (political and economic) institutions, do institutions really persist?

This paper has argued that the answer is yes, in the sense that the broad economic institutions, which are essential for economic outcomes, persist even when specific political institutions or even specific economic institutions change. In line with this perspective, it has proposed a simple model of the coexistence of change and persistence institutions.

The basic idea is that broad economic institutions, which matter both for the distribution

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[46]See Acemoglu and Robinson (2000, 2006c) for formalizations of this idea.

of resources and the growth potential of a society, are decided by groups or individuals that possess more political power. Political power, in turn, consists of de jure power regulated by formal political institutions and de facto political power, which comes from the ability of various different social groups to solve their collective action problems, lobby or bribe politicians, capture and control political parties, or use paramilitaries or other means of local repression. Changes in specific political institutions, for example a change from nondemocracy to democracy, affects the distribution of de jure political power. This, however, may induce cohesive (and small) groups, such as (landed) elites to increase their investments in de facto political power to offset their loss of de jure political power.

To illustrate this mechanism in its starkest form, our baseline model assumed that the technology of generating de facto political power for landed elite is the same in democracy and nondemocracy, and showed that the equilibrium distribution of economic institutions is independent of whether the society is democratic or not—despite the fact that democracy creates a real shift in the distribution of de jure power towards the citizens. The reason for this stark result is that the landed elite invest exactly enough to fully offset their loss of de jure power when society switches from nondemocracy to democracy. We refer to this invariance of the equilibrium distribution of economic institutions to changes in underlying political institutions as "hysteresis," since it is reminiscent to the stochastic equilibrium process of a model being invariant to (small) shocks, as in the notion of hysteresis used in other areas of economics. Consistent with this notion of hysteresis, we also showed how significant reforms, which typically involve simultaneous changes in economic and political institutions as well as limits on the ability of the elite to exercise de facto power, can break this pattern of hysteresis, and significantly affect the equilibrium distribution of economic institutions.

The result that investment in the de facto power by the elite entirely offsets changes in de jure power is special, and the analysis showed how the equilibrium, more generally, takes the form of a Markov-switching structure with limited persistence in political and economic institutions. This Markov-switching structure emerges when some of the assumptions of the baseline model are relaxed, for example, when democracy is allowed to place limits on the exercise of de facto power by the elite (e.g., on their capture of political parties or use of paramilitaries), or when there are costs of changing economic institutions in the short run.

The richest model is presented in Section 5, and allows for the feature that political institutions are more difficult to change than are economic institutions. Under this assumption, an interesting pattern of "captured democracy" arises, whereby democracy endures, but the elite

are able to have disproportionate effect on equilibrium economic institutions. In fact, in this model, paradoxically, the probability of labor repressive economic institutions in agriculture may be higher in democracy than in nondemocracy. This model is important for us in interpreting the historical patterns discussed in Section 7. These patterns show the coexistence of change and persistence in institutions in the U.S. South, Latin America and Africa, and how traditional elites may be able to control democratic politics and maintain their favorite economic institutions. In all the cases we discussed, changes in some important dimensions of political institutions, which may have been potentially quite costly for the elites, were neutralized by the exercise of their de facto power, for example, control of the party system or key offices, or local violence. These examples suggest that the mechanisms highlighted by our model may be important in understanding how frequent changes in specific political institutions go hand-in-hand with the persistence of economic systems, with their broad distributional and efficiency characteristics unchanged.

The mechanism proposed and analyzed in this paper, where the identity of the elites as well as the economic systems persist, is only one facet of institutional persistence. To make further progress in the research on political economy of development, we need a deeper understanding of the coexistence of institutional change and persistence. Another pattern, which appears salient in practice, for example, in cases such as Bolivia, Zimbabwe, Kenya and Ghana, is one in which the identity of the elites changes, but new elites adopt policies in line with the worst practices of their predecessors. This is reminiscent to Michels' (1911) *Iron Law of Oligarchy*, as well as to the emphasis by sociologists such as Mills, Mosca and Pareto on the persistence and creation of the elites. This pattern seems like a challenging but important area of study. Most ambitiously, future research may strive towards a unified model that can explain when existing elites persist, when elites change in institutions persists, and when institutions truly change. Alternatively, a model isolating the iron law of oligarchy may be useful in understanding why dysfunctional incentives persist in the political arena, a direction we are currently pursuing in Acemoglu and Robinson (2006b).

9 References

Abreu, Dilip (1988) "On the Theory of Repeated Games with Discounting" *Econometrica*, 56, 383-396.

Acemoglu, Daron, Simon Johnson and James A. Robinson (2001) "The Colonial Origins of Comparative Development: An Empirical Investigation," *American Economic Review*, December, 91, 5, 1369-1401.

Acemoglu, Daron, Simon Johnson and James A. Robinson (2002) "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution," *Quarterly Journal of Economics*, 118, 1231-1294.

Acemoglu, Daron, Simon Johnson and James A. Robinson (2005a) "The Rise of Europe: Atlantic Trade, Institutional Change and Growth, *American Economic Review,* 95, 546-579.

Acemoglu, Daron, Simon Johnson and James A. Robinson (2005b) "Institutions as a Fundamental Cause of Development," forthcoming in *Handbook of Economic Growth,* edited by Philippe Aghion and Steven Durlauf, Amsterdam; North-Holland.

Acemoglu, Daron and James A. Robinson (2000) "Political Losers as a Barrier to Economic Development," *American Economic Review*, 90, 126-130.

Acemoglu, Daron and James A. Robinson (2001) "A Theory of Political Transitions," *American Economic Review*, 91, 938-963.

Acemoglu, Daron and James A. Robinson (2006a) *Economic Origins of Dictatorship and Democracy*, New York; Cambridge University Press.

Acemoglu, Daron and James A. Robinson (2006b) "A Model of the Iron Law of Oligarchy," in preparation.

Acemoglu, Daron and James A. Robinson (2006c) "Economic Backwardness in Political Perspective," *American Political Science Review*, 100, 1-17.

Alston, Lee J. and Joseph P. Ferrie (1999) *Southern paternalism and the rise of the American welfare state: economics, politics, and institutions in the south, 1865-1965*, New York; Cambridge University Press.

Arthur, W. Brian (1989) "Competing Technologies, Increasing Returns and Lock-In by Historical Events," *Economic Journal*, 99, 106-131.

Ashley, Maurice (1966) *The Glorious Revolution of 1688*, London, Hodder & Stoughton.

Barro, Robert J. and Xavier Sala-i-Martin (1991) "Convergence," Journal of Political Economy

Bateman, Fred and Thomas Weiss (1981) *A deplorable scarcity: the failure of industrialization in the slave economy*, Chapel Hill; University of North Carolina Press.

Bates, Robert H. (1981) *Markets and States in Tropical Africa*, Berkeley; University of Califoria Press.

Besley, Timothy, Torsten Persson and Daniel Sturm (2005) "Political Competition and Economic Performance: Theory and Evidence from the United States," Unpublished, London School of Economics, http://econ.lse.ac.uk/staff/tbesley/papers/bps.pdf.

Benabou, Roland (2000) "Unequal Societies: Income Distribution and the Social Contract," *American Economic Review*, 90, 96-129.

Benabou, Roland (2005) "Inequality, Technology and the Social Contract" forthcoming in the *Handbook of Economic Growth,* edited by Philippe Aghion and Steven Durlauf, Amsterdam; North-Holland.

Billings, Dwight B. (1979) *Planters and the making of a "new South": class, politics, and development in North Carolina, 1865-1900*, Chapel Hill; University of North Carolina Press.

Blanchard, Olivier J. and Lawrence Summers (1987) "Hysteresis in Unemployment" *European Economic Review*, 31, 288-295.

Bushnell, David (1993) *The Making of Modern Colombia: A Nation in Spite of Itself*, Berkeley; University of California Press.

Centeno, Miguel A. (2002) *Blood and debt: war and the nation-state in Latin America*, University Park; Pennsylvania State University Press.

Chaves, Isaías, Leopoldo Fergusson and James A. Robinson (2005) "Ballot Stuffing: Theory and Evidence from the 1922 Colombian Presidential Election," Unpublished, Department of Government, Harvard University.

Chilcote, Ronald H. (1990) *Power and the Ruling Classes in Northeast Brazil*, New York; Cambridge University Press.

Chong, Dennis (1991) *Collective action and the civil rights movement*, Chicago; University of Chicago Press.

Christie, Keith H. (1978) "Antioqeño Colonization in Western Colombia: A Reappraisal," *Hispanic American Historical Review*, 58, 260-283.

Clower, Robert W., George H. Dalton, Mitchell Harwitz and A.A. Walters (1966) *Growth without development; an economic survey of Liberia*, Evanston; Northwestern University Press.

Coate, Stephen and Stephen E. Morris (1999) "Policy Persistence," *American Economic Review*, 89, 1327-1336.

Coatsworth, John H. (1974) "Railroads, Landholding and Agrarian Protest in the Early Porfiriato," *Hispanic American Historical Review*, 54, 48-71.

Cobb, James C. (1984) *Industrialization and southern society, 1877-1984*, Lexington; University Press of Kentucky.

Colmenares, Germán (1968) *Partidos políticos y clases sociales*, Bogotá; Ediciones Universidad de los Andes.

Dalton, George H. (1965) "History, Politics and Economic Development in Liberia," *Journal of Economic History*, 25, 569-591.

David, Paul (1985) "Clio and the Economics of QWERTY" *American Economic Association Papers and Proceedings*, volume 75, 332-337.

Deas, Malcolm (2004) "Forces of Order," Unpublished, Center Latin American Studies, St. Anthony's College, Oxford.

Delpar, Helen (1981) *Red against blue: the Liberal Party in Colombian politics, 1863-1899*, Baton Rouge; University of Alabama Press.

Dix, Robert H. (1967) *Colombia: the political dimensions of change*, New Haven; Yale University Press.

Dixit, Avinash (1989a) "Entry and Exit Decisions under Uncertainty" *Journal of Political Economy*, 97, 620-638.

Dixit, Avinash (1989a) "Hysteresis, Import Penetration and Exchange-Rate Pass-Through" *Quarterly Journal of Economics*, 104, 205-228.

Easterlin, Richard A. (1960) "Interregional Differences in Per Capita Income, Population, and Total Income, 1840-1950," in Conference on Research in Income and Wealth, *Trends in the American Economy in the Nineteenth Century, Studies in Income and Wealth*, vol.24, Princeton; Princeton University Press, 73-140.

Esteban, Joan M. and Debraj Ray (2001) "Collective Action and the Group Size Paradox," *American Political Science Review* 95, 663–672.

Engerman, Stanley L. and Kenneth L. Sokoloff (1997) "Factor Endowments, Institutions, and Differential Growth Paths among New World Economies," in Stephen Haber ed. *How Latin America Fell Behind*, Stanford University Press, Stanford CA.

Fogel, Robert W. and Stanley L. Engerman (1974) *Time on the cross; the economics of American Negro slavery*, Boston; Little, Brown.

Foner, Eric (1989) *Reconstruction: America's unfinished revolution, 1863-1877*, New York; Perennial Library.

Fraenkel, Merran (1964) *Tribe and Class in Monrovia*, London; Oxford University Press.

Genovese, Eugene D. (1965) *The political economy of slavery: studies in the economy & society of the slave South*, New York; Pantheon Books.

Goldin, Claudia D. (1976) *Urban slavery in the American South, 1820-1860: a quantitative history*, Chicago; University of Chicago Press.

Hagopian, Frances (1996) *Traditional Politics and Regime Change in Brazil*, New York; Cambridge University Press.

Hartlyn, Jonathan (1988) *The politics of coalition rule in Colombia*, New York; Cambridge University Press.

Hassler John, Sevi Mora, Kjandetil Storlesseten and Fabrizio Zilibotti (2003) "Survival of the Welfare State" *American Economic Review*, 93, 87-112.

Heinicke, Craig (1994) "African-American Migration and Mechanized Cotton Harvesting, 1950-1960," *Explorations in Economic History*, 31, 501-520.

Huffman, Frank J. (1974) *Old South, New South: continuity and change in a Georgia county, 1850-1880*, Unpublished Ph.D. Thesis, Yale Univerity.

Jack, William and Roger Lagunoff (2006) "Dynamic Enfranchisement," Department of Economics, Georgetown University, http://www.georgetown.edu/faculty/lagunoff/franch10.pdf

Key, V.O. Jr. (1949) *Southern Politics: In State and Nation*, New York; Vintage Books.

Klein, Herbert S. (1992) *Bolivia: The Evolution of a Multi-Ethnic Society*, New York; Oxford University Press.

Kline, Harvey F. (1999) *State building and conflict resolution in Colombia, 1986-1994*, Tuscaloosa; University of Alabama Press.

Kousser, J. Morgan (1974) *The shaping of Southern politics: suffrage restriction and the establishment of the one-party South, 1880-1910*, New Haven; Yale University Press.

Krugman, Paul (1991) "History versus Expectations," *Quarterly Journal of Economics*, 106, 651-667.

Lagunoff, Roger (2006) "Markov Equilibrium in Models of Dynamic Endogenous Political Institutions" http://www.georgetown.edu/faculty/lagunoff/

Margo, Robert A. (1990) *Race and schooling in the South,1880-1950: an economic history*, Chicago; University of Chicago Press.

Matsuyama, Kiminori (1991) "Increasing Returns, Industrialization, and Indetermi-

nacy of Equilibrium," *Quarterly Journal of Economics*, 106, 617-650.

Mazzuca, Sebastián and James A. Robinson (2004) "Political Conflict and Power-sharing in the Origins of Modern Colombia," Unpublished.

McAdam, Douglas (1983) "Tactical Innovation and the Pace of Insurgency," *American Sociological Review*, 48, 735-754.

McCreery, David J. (1986) "An Odious Feudalism: Mandamiento Labor and Commercial Agriculture in Guatemala, 1858-1920," *Latin American Perspectives*, 13, 99-117.

Michels, Robert. *Political Parties.* New York NY; The Free Press.

McCreery, David J. (1994) *Rural Guatemala, 1760-1940*, Stanford; Stanford University Press.

McGreevey, William P. (1971) *An economic history of Colombia 1845-1930*, New York; Cambridge University Press.

Mills, C. Wright. (1956) *The power elite*, New York; Oxford University Press.

Moore, Barrington (1966) *The Social Origins of Dictatorship and Democracy: Lord and Peasant in the Making of the Modern World*, Beacon Press, Boston MA.

Mosca, Gaetano (1967) *The ruling class*, New York; McGraw-Hill.

North, Douglass C. (1990) *Institutions, institutional change and economic performance*, New York; Cambridge University Press.

Northrup, David (1995) *Indentured labor in the age of imperialism, 1834-1922*, New York; Cambridge University Press.

Olson, Mancur C. (1965) *The Logic of Collective Action; public goods and the theory of groups*, Cambridge; Harvard University Press.

Paige, Jeffery M. (1997) *Coffee and power: revolution and the rise of democracy in Central America*, Cambridge; Harvard University Press.

Pareto, Vilfredo (1968) *The rise and fall of the elites*, New York; Arno Press.

Pierson, Paul (2004) *Politics in Time: History, Institutions and Social Analysis*, Princeton; Princeton University Press.

Ranson, Roger L and Richard Sutch (2001) *One Kind of Freedom: the economic consequences of emancipation*, 2nd Edition, New York; Cambridge University Press.

Richardson, R.C. (1998) *The Debate on the English Revolution, 3rd Edition.* Manchester: University of Manchester Press.

Rudin, Walter (1964) *Principles of Mathematical Analysis*, New York; McGraw-Hill.

Safford, Frank P. (1972) "Social Aspects of Politics in Nineteenth-Century Spanish

America: New Granada, 1825-1850," *Journal of Social History*, 5.

Samuelson, Paul (1947) *The Foundations of Economic Analysis,* Cambridge, MA; Harvard University Press.

Sawyer, Amos (1992) *The emergence of autocracy in Liberia: tragedy and challenge*, San Francisco; ICS Press.

Schmookler, Jacob (1972) "Time Series of Patents Classified by Industry, United States 1837-1957," in Zvi Griliches and Leonid Hurwicz eds. *Patents, Inventions and Economic Change: Data and Selected Essays*, Cambridge; Harvard University Press.

Schulman, Bruce J. (1994) *From Cotton Belt to Sunbelt: Federal Policy, Economic Development and the Transformation of the South, 1938-1980*, Durham; Duke University Press.

Simon, Carl and Lawrence Blume (1994) *Mathematics for Economists*, WW Norton Co., New York.

Solberg, Carl E. (1969) "A Discriminatory Frontier Land Policy: Chile, 1870-1914," *The Americas*, 26, 115-133.

Stampp, Kenneth M. (1965) *The era of reconstruction, 1865-1877*, New York; Vintage Books.

Steinmo, Sven, Kathleen A. Thelen, and Frank Longstreth eds. (1992) *Structuring politics: historical institutionalism in comparative analysis*, New York; Cambridge University Press.

Stone, Samuel Z. (1975) *La dinastía de los conquistadores: la crisis del poder en la Costa Rica contemporánea*, Ciudad Universitaria Rodrigo Facio, Costa Rica; Editorial Universitaria Centroamericana.

Stone, Samuel Z. (1990) *The heritage of the conquistadors: ruling classes in Central America from the Conquest to the Sandinistas*, Lincoln; University of Nebraska Press.

Tawney, R.H. (1941) "The Rise of the Gentry, 1558-1640," *Economic History Review*, 11, 1-38.

Thelen, Kathleen A. (2004) *How institutions evolve: the political economy of skills in Germany, Britain, the United States, and Japan,* New York; Cambridge University Press.

Ticchi, Davide and Andrea Vindigni (2005) "On Wars and Political Development. The Role of International Conflicts in the Democratization of the West," Unpublished, Department of Politics, Princeton University.

Tinker, Hugh (1974) *A new system of slavery; the export of Indian labour overseas, 1830-1920*, New York; Oxford University Press.

Wade, Robert (1988) *Village republics: economic conditions for collective action in South India*, New York; Cambridge University Press.

Whatley, Warren C. (1985) "A History of Mechanization in the Cotton South: The Institutional Hypothesis," *Quarterly Journal of Economics*, 100, 1191-1215.

Wilde, Alexanbder (1978) "Colombia: Conversations amongst Gentlemen," in *The Breakdown of democratic regimes. Latin America*, edited by Juan J. Linz and Alfred Stepan, Baltimore; Johns Hopkins University Press.

Woodward, C. Vann (1951) *Origins of the new South, 1877-1913*, Baton Rouge; Louisiana State University Press.

Woodward, C. Vann (1955) *The Strange Career of Jim Crow*, New York; Oxford University Press.

Wright, Gavin (1978) *The political economy of the cotton South: households, markets, and wealth in the nineteenth century*, New York; W.W. Norton & Co..

Wright, Gavin (1986) *Old South, New South*, New York; Basic Books.

Wright, Gavin (1999) "The Civil Rights Revolution as Economic History," *Journal of Economic History*, 59, 267-289.

Young, H. Peyton (1998) *Individual Strategy and Social Structure: an Evolutionary Theory of Institutions*, Princeton; Princeton University Press.

Zeitlin, Maurice (1984) *The civil wars in Chile, or, The bourgeois revolutions that never were*, Princeton; Princeton University Press.

Zeitlin, Maurice and Richard E. Ratcliff (1988) *Landlords & capitalists: the dominant class of Chile*, Princeton; Princeton University Press.

Table 1: Railroad Mileage in the US

	1860	1860 Mileage per 1,000 sq. miles
North (7 states)	15,012	62
MA	1,264	157
NY	2,682	56
PA	2,598	58
NJ	560	75
South (7 states)	7,001	22
VA	1,731	35
NC	937	19
GA	1,420	24
LA	62	7

Table 2: Average Annual number of patents granted for wheat, corn and cotton production

Years	Wheat	Corn	Cotton
1837-1859	10.3	12.4	1.2
1860-1879	35.4	34.2	11.1
1880-1899	57.2	48.7	25.9
1900-1919	47.1	63.0	46.1

Source: Schmookler (1972)

Table 3:

Table 2. THE 25 WEALTHIEST PLANTERS IN 1870

Name	County	Real estate holdings [a]		
		1870	1860	1850
Minge, G.	Marengo	$85,000	———	30,000
Lyon, F.	Marengo	75,000	115,000	35,000
Paulling, William	Marengo	72,000	150,000	29,000
Hatch, Alfred	Hale	70,000	120,000	40,000
Alexander, J.	Marengo	69,000	38,000	10,000[b]
Whitfield, B.	Marengo	65,000	200,000[b]	100,000
Terrill, J.	Marengo	62,000	93,000	———
Taylor, E.	Marengo	61,000	———	———
Robertson, R.	Marengo	60,000	———	———
Dew, Duncan	Greene	52,000	200,000[b]	41,000
Walton, John	Marengo	50,000	250,000	25,000
Collins, Charles	Hale	50,000	201,000[b]	30,000
Hays, Charles	Greene	50,000	113,000	———
Brown, John	Sumter	50,000	69,000	13,000
Pickering, Richard	Marengo	50,000	42,000	15,000
Withers, Mary	Hale	50,000	40,000	75,000[b]
Jones, Madison	Hale	50,000	36,000[b]	27,000
Nelson, A.	Hale	48,000	———	10,000[b]
Taylor, J.	Hale	48,000	———	———
Pickens, Wm.	Hale	45,000	210,000[b]	51,000
Reese, Henry	Marengo	45,000	52,000	24,000
Walker, R.	Hale	42,000	55,000	———
Smaw, W.	Greene	42,000	32,000	———
Blanks, E.	Marengo	41,000	———	———
Walker, Morns	Marengo	41,000	———	———
Number of planters		25	18	16
Percent present in 1870			72%	64%

[a] Rounded off to nearest thousand; as reported in U.S. Census of Population, manuscript
schedules. To convert to constant gold prices, see p. 14, note 13.
[b] Wealth of father or husband.

Table 4

NET MIGRATION FROM THE SOUTH, 1870 - 1880 TO 1990 - 1995

(in thousands)

Decade	White	Black
1870 - 1880	91	-68
1880 - 1890	-271	88
1890 - 1900	-30	-185
1900 - 1910	-69	-194
1910 - 1920	-663	-555
1920 - 1930	-704	-903
1930 - 1940	-558	-408
1940 - 1950	-866	-1581
1950 - 1960	-234	-1202
1960 - 1970	1807	-1380
1970 - 1980	3556	206
1980 - 1985	1810	87
1985 - 1990	971	325
1990 - 1995	754	276

Table 5

Percentage of Cotton Harvested Mechanically, by State									
Year	Delta states[a]			Non-Delta states						
	AR	LA	MI	AL	GA	NC	SC	TN	TX	VA
1949	1	b	4	b	b	b	1	b	11	b
1950	1	3	3	b	b	b	b	b	12	b
1951	2	11	7	b	2	1	3	b	19	b
1952	2	13	7	1	3	1	1	1	22	b
1953	9	34	13	3	6	3	7	1	24	b
1954	16	28	11	2	3	3	4	1	21	b
1955	25	28	23	2	3	2	2	2	24	b
1956	27	31	25	3	2	3	4	4	25	b
1957	16	35	17	2	2	b	1	1	37	b
1958	22	43	19	1	2	1	1	4	35	b
1959	36	50	38	6	4	5	1	8	44	b
1960	42	49	40	8	14	12	6	19	58	1

[a] The term "Delta" status, used in some USDA publications, is given for convenience. This designation is flawed, however, since part of each of Arkansas, Louisiana, and Mississippi lies outside the Mississippi Delta subregion.

[b] Less than 0.5%

Figure 1: Incidence of Different Types of Collective Action, 1955-62

Legend:
- - - - - - - - bus boycott
• • • • • • • • • sit-ins
. . . . freedom rides
— - — - — - — community campaigns
————— movement actions

60
55
50
45
40
35
30
25
20
15
10
5

Sept.   Jan   Jan   Jan   Jan   Jan   Jan   Jan
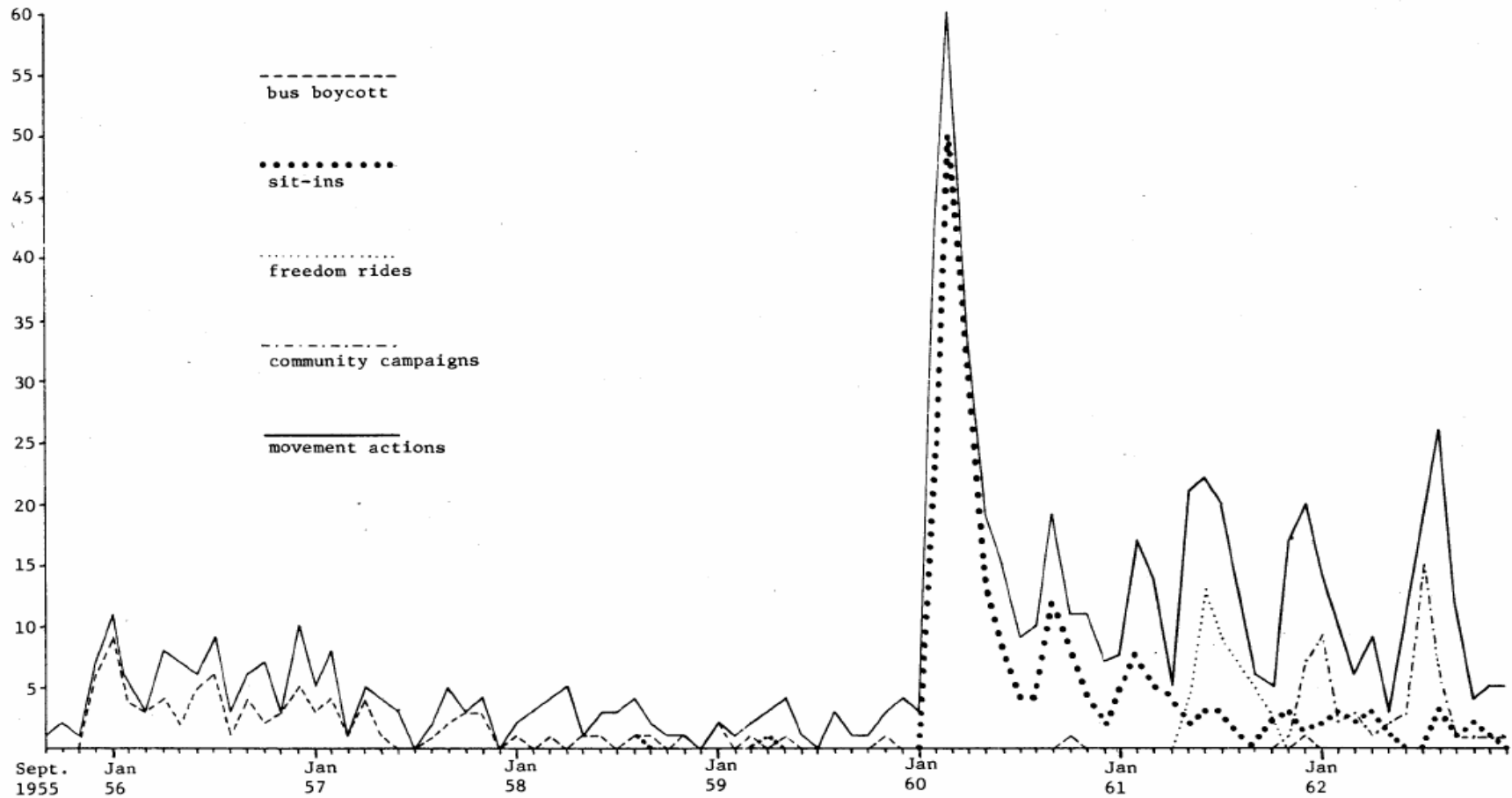1955   56   57   58   59   60   61   62

Figure 2. Movement-Initiated Actions, September 1955 through December 1962

Source: *Annual Index* of the *New York Times*, 1955–1962.

Source: McAdam (1983)

Figure 2: Percentage of Voting-Age blacks registered, Southern States

Source: Wright (1999)

Figure 3: Presidents in Central America in the AlfaroFamily Tree

APPENDIX 1.   PRESIDENTS IN ALFARO FAMILY TREE
(See following pages for details).

Guatemala
1 Laugerud García, Kjell Eugenio
Salvador
3 Barrios Espinoza, Gerardo
2 Guzmán Ugalde, Joaquín
Honduras
4 Bonilla Vázquez, Policarpo
Panamá
5 Porras, Belisario
Nicaragua
6 Carazo Aranda, Evaristo
7 Sacasa Sacasa, Juan Bautista
8 Sacasa Sarria, Roberto
12 Solórzano Gutiérrez, Carlos
11 Somoza Debayle, Anastasio
9 Somoza Debayle, Luis
10 Somoza García, Anastasio
Costa Rica
21 Acosta García, Julio
23 Alfaro Zamora, José María
28 Aguilar Barquero, Francisco
37 Aguilar Chacón, Manuel
50 Arias Sánchez, Oscar
39 Calderón Guardia, Rafael Angel
30 Carazo Odio, Rodrigo
41 Carranza Ramírez, Bruno
42 Carrillo Colina, Braulio
44 Castro Madriz, José María
36 Cortés Castro, León
49 Echandi Jiménez, Mario
27 Esquivel Ibarra, Ascensión
31 Esquivel Sáenz, Aniceto
43 Fernández Chacón, Manuel
47 Fernández Oreamuno, Próspero
26 Gallegos Alvarado, José Rafael
19 González Flores, Alfredo
20 González Víquez, Cleto
17 Guardia Gutiérrez, Tomás
32 Herrera Zeledón, Vicente
15 Jiménez Oreamuno, Ricardo
14 Jiménez Zamora, Jesús
33 Monge Alvarez, Luis Alberto
48 Montealegre Fernández, José M.
38 Mora Fernández, Juan
18 Mora Porras, Juan Rafael
25 Oduber Quirós, Daniel
13 Oreamuno Bonilla, Francisco
16 Orlich Bolmarcich, Francisco J.
35 Picado Michalski, Teodoro
40 Rodríguez Zeledón, José
24 Soto Alfaro, Bernardo
29 Tinoco Granados, Federico
34 Trejos Fernández, José J.
22 Ulate Blanco, Otilio
45 Yglesias Llorente, Demetrio
46 Yglesias Castro, Rafael

Figure 4: Presidents in Central America in the Vazquez Family Tree

APPENDIX 2

PRESIDENTS IN VAZQUEZ FAMILY TREE
(See following pages for details.)

Nicaragua
5 Carazo Aranda, Evaristo
3 de la Cerda Lacayo, Cayetano
4 de la Cerda Taborga, Manuel A.
2 Lacayo Sacasa, Benjamín
1 Martínez Lacayo, Roberto
8 Sacasa Sacasa, Juan Bautista
7 Sacasa Sarria, Roberto
6 Solórzano Gutiérrez, Carlos
11 Somoza Debayle, Anastasio
10 Somoza Debayle, Luis
9 Somoza García, Anastasio

Costa Rica
35 Acosta García, Julio
14 Arias Sánchez, Oscar
18 Carazo Odio, Rodrigo
27 Castro Madriz, José María
34 Echandi Jiménez, Mario
12 Esquivel Saénz, Aniceto
26 Fernández Chacón, Manuel
30 Fernández Oreamuno, Próspero
13 Gallegos Alvarado, Rafael
25 González Víquez, Cleto
15 Jiménez Zamora, Jesús
16 Jiménez Oreamuno, Ricardo
21 Lizano Gutiérrez, Joaquín
19 Montealegre Fernández, José M.
20 Mora Porras, Juan Rafael
22 Oduber Quirós, Daniel
32 Oreamuno Bonilla, Frsco. M.
23 Orlich Bolmareich, Frsco. J.
24 Quirós Segura, Juan Bautista
31 Soto Alfaro, Bernardo
17 Tinoco Granados, Federico
33 Trejos Fernández, José Joaquín
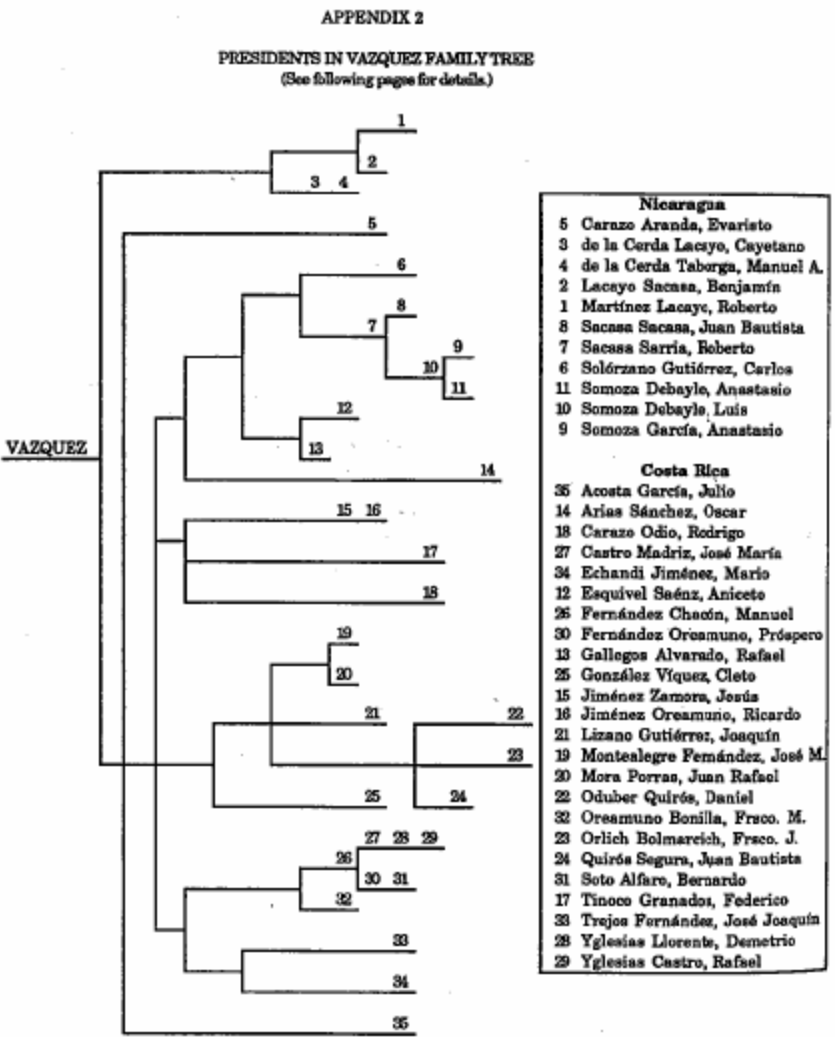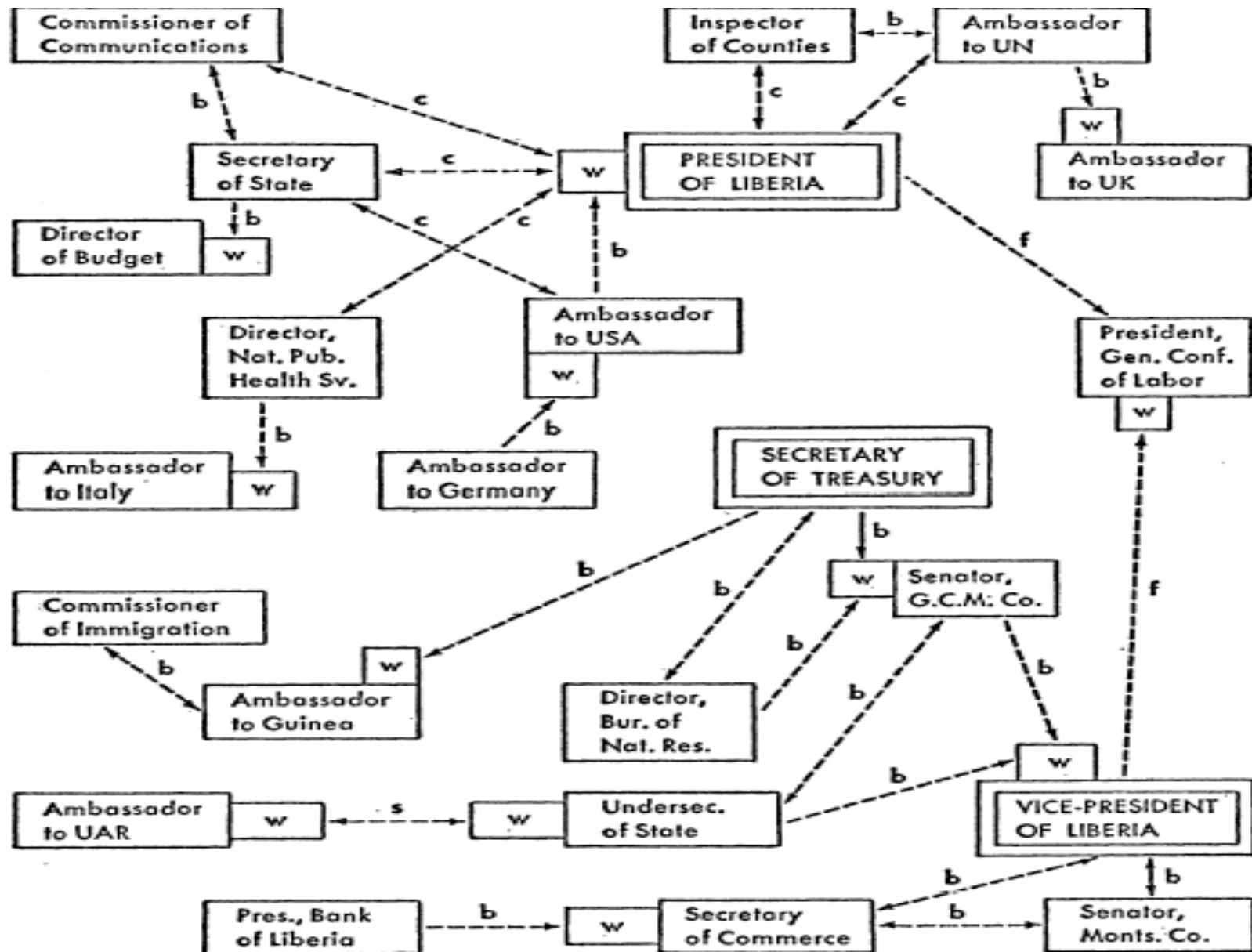28 Yglesias Llorente, Demetrio
29 Yglesias Castro, Rafael

Figure 5: Social Relations and Political Appointees of President Tubman in 1960 Liberia

Key: b = brother; f = father; c = cousin; s = sister; w = wife.