Partisan Competition, Growth and the Franchise

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Abstract

The nineteenth century was a time of substantial changes in the patterns of economic growth. This was also a period of significant fluctuations in the structure of and allocation of political rights. Through successive franchise extensions, democracy expanded dramatically, giving birth to the first wave of democratization. The concurrence of these changes in the patterns of economic growth and political voice are not coincidental. In this paper we develop a model of political competition in which ideological parties representing elites use the allocation of voting rights to influence implemented policies. In turn, these policies influence the character of economic growth. We find in the social structure of society an explanation for the connection between enfranchisement and growth: When (1) there exist an economic conflict among the elite, (2) the landed classes are not politically strong, and (3) there exists a critical mass of urban (industrial) workers, we observe both growth and democratization. The lack of conditions (1) or (2) resolves in stagnant autocracies while the absence of condition (3) drives growth-deterring democratic expansions. Hence, too much and too little democracy can be bad for growth. Furthermore, economic growth may, ceteris paribus, naturally lead to diffusion of voting rights.

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[W]e learn [from nineteenth century developments] that the state’s influence on the economy depended critically on who controlled the state. (Adelman, 1999)

1 Introduction

The nineteenth century was a time of rapid economic growth and development. Over this period, the seeds sown by the industrial revolution were realized by expansions in technology and markets. As important as these changes in the structure of industry and markets, the nineteenth century was also a period of significant fluctuations in the structure of and allocation of political rights. For example, Britain and France saw significant changes in the allocation of voting rights and the distribution of political voice over the nineteenth century, changes which led not only to increases in the electorate, but also to massive decreases. Similarly, the United States and Canada experienced large changes in the distribution of voting rights during the nineteenth century. Most of these changes were implemented through legislation attaching or divorcing landholding, literacy, or residency requirements from the right to political participation. Other changes in the electorate were implemented through more subtle means such as the timing of elections, location of polling places, or poll taxes; changes altering individuals’ costs of voting and essentially disenfranchising otherwise eligible voters.1

The concurrence of significant changes in economic growth and changes in political institutions is no coincidence.2 When one considers a pre-industrial or early industrialized society comprised of different social groups (e.g. landed interests, small capitalists, skilled workers and unskilled peasants), one can imagine preferences over economic growth to differ across (and potentially within) each group. If incumbent political parties representing elites have control over policies influencing the realization of potential growth opportunities, changes in the electorate will influence the implementation of these policies, thereby directly

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1For instance, in 1841 Lord Sydenham used the timing of an election (winter) and the location of polling places (locating them in largely British enclaves) to significantly reduce the turnout of opposition French Canadians (Abella, 1966).

2The argument that the industrial revolution triggered the process of democratization can be traced back as early as the end of the nineteenth century in the work of Toynbee (1884).
affecting an economy’s development. Indeed, in a simple model of political competition, changes in the franchise are a direct means of changing the median voter and, thus, implemented policies. One can therefore think of political parties actively using the allocation of voting rights to manipulate the equilibrium policies parties put forth and implement.

In this paper we develop a model of political competition in which ideological parties put forth policies that influence economic growth. Specifically, tax proceeds are used to fund a public good which raises productivity in an industrial sector (e.g. education, health care, urban infrastructure; more generically, the public good can be construed as any government policy promoting industrialization, like the slashing of agricultural tariffs or the creation/promotion of national markets). Political parties represent the interests of elites from the agricultural sector (i.e landlords) and the industrial sector (i.e. capitalists).\textsuperscript{3} We further assume that these elites hold (inalienable) voting rights. On the other hand, workers (both skilled and unskilled) initially lack a political voice and are disenfranchised from the political system. In terms of nineteenth century practices, a natural interpretation of this disenfranchisement is as the presence of income requirements for voting, requirements that elites satisfy and workers do not.

Given our assumption that investment in the public good benefits only the industrial sector, landed (agricultural) interests oppose taxation while capitalists (industrialists) support strictly positive levels of taxation. In a simple model of political competition in which only elites are enfranchised, the implemented tax rate will depend simply on which of these classes (landlords or capitalists) comprise a majority among the electorate. For the party representing the minority, the potential to manipulate the franchise is tantamount to the potential to implement a more preferred policy. If an incumbent party can alter the franchise (i.e. extend or rescind voting rights through changes in income or landholding requirements), political competition becomes much richer as parties can influence the

\textsuperscript{3}In Switzerland, Liberals and Conservative represented these opposing interests. While Liberals favored the promotion of commerce and a federal state, the Conservatives defended a decentralized confederation that maintained their cantonal ‘monopolies’. In France, the contending parties in the 1840s were represented by the Orleanist and the Legitimist. The dividing issue in Denmark was the traditional urban/rural cleavage, while in Canada it concentrated on the agreements and terms of trade with the U.S. We provide further details in section 7.
implemented policy through extensions and restrictions of voting rights.

Given the relationship between implemented policies and realized growth (via benefits from the public good) it is unsurprising that changes in political institutions should accompany changes in economic development. If capitalists represent a minority among the elite, extending the franchise to industrial workers is the only means of implementing a strictly positive level of investment in the public good (and fuel economic growth). This emphasizes the importance of electoral and political institutions in achieving economic growth, supporting much of the empirical literature on long-run growth.\footnote{See Morris and Adelman (1988). This connection between political institutions and growth also sheds light on the arguments made by Engerman and Sokoloff (2001) regarding the differential patterns in the development of the New World.}

Our model yields several insights into the tandem relation between economic growth and democratization. First, given a majority of landed (agricultural) interests among the electorate, all growth will be exogenous in nature. Thus, one might expect economies controlled by landed interests to experience lower levels of endogenous growth (i.e. growth driven by investment in the public good). Without extension of the franchise beyond the elites, growth through the public good will only arise if capitalists constitute a majority of the electorate. Thus, following the opening quotation by Adelman (1999), our model provides an explanation rooted in self-interested political competition as to why

Governments controlled by feudal landed interests could only achieve narrow-based growth without development. (Adelman, 1999)

Secondly, given a majority of capitalists among the electorate and the presence of an income requirement for the exercise of voting rights, workers will eventually be enfranchised. This occurs through a process of “trickle down” democracy: Given a majority of capitalists, there will be some investment in the public good. This investment raises industrial productivity and hence the wages of workers in the industrial sector. If the income requirement for voting rights remains unchanged, workers will eventually meet this requirement and join the electorate. Our model therefore casts enfranchisement as a natural process of economic
development: Provided a democratic institution exists, growth of technology and wages naturally leads to more individuals exercising voting rights. Thus, following Persson and Tabellini (1994), while democracy may be harmful for economic growth, economic growth is good for democracy.

Given that political parties represent the elites and that the public good benefits only the industrial sector, one may naturally expect (as described above) capitalists to favor extensions of the franchise and landed interest to oppose such changes. Specifically, capitalists benefit directly from investment in the public good via productivity gains while landlords experience no associated benefits. For capitalists in the minority of the elite, one way of implementing investment in the public good is through the extension of voting rights to workers who also support such investment. Thus, our model presents capitalists as the “selfish promoters” of franchise extension. This alternative argument compliments the explanations of franchise extensions based on assuaging threats from the disenfranchised (Acemoglu and Robinson, 2000, 2001; Conley and Temini, 2001).

In addition, we provide a rational explanation for conservative interests to extend the franchise and liberal interests to restrict and even rescind voting rights. That is, our model also explains extensions of the franchise favored by landed interests and restrictions favored by capitalists. First, given that the public good benefits only the industrial sector, unskilled agricultural workers will oppose taxation earmarked for funding the public good. Thus, if landed interests can open the franchise such that the votes of agricultural workers offset support for the public good from capitalists and industrial workers, agricultural (conservative) interests may opt for universal suffrage. This appears to have been the case in many Central and Northern European countries. For example,

when he [Chancellor Otto Furst von Bismark] promoted universal suffrage in the North German Confederation (and later the German Empire)... [he] implicitly expected that peasants, who were largely loyal to the king, would also be obedient to their manor lords and employers when voting (Colomer, 2001).

In our model, it is precisely this type of “alignment” of the tax preferences among landlords
and agricultural workers which leads to the adoption of universal suffrage by conservative interests.\textsuperscript{5} In a similar vein, capitalists may favor reductions in the franchise: If agricultural workers (who prefer no investment in the public good) are enfranchised or if too many skilled workers are enfranchised (and thus the preferred tax rate of the median voter is “too high” for capitalists), liberal interests may pursue a “tightening” of voting requirements. Such restrictions of the franchise appear paradoxical in models of franchise extension based on quelling revolutionary threats.

In the end, three patterns of the franchise-growth relationship arise from our analysis. First, in an agrarian or pre-industrial society, a majority of landed interests among the elite (the aristocracy) will control the government and oppose extensions of the franchise. Further, since these controlling interests oppose investment in the industrial sector (via the public good) all growth will be exogenous in nature; that is, the economy is at a steady state with no public good driven (endogenous) growth.

Secondly, in early stages of industrial development, conservatives may favor universal suffrage while liberals prefer limited extensions of the franchise. The former results in a reduction or elimination of investment in the public good and, hence, growth. Thus the adoption of universal suffrage “too early” in an economy’s development may stall the process of economics growth. The latter nurtures economic growth through investment in the industrial sector.\textsuperscript{6}

Finally, in an “industrialized” economy we see liberals in favor of franchise extension and conservatives against. Such changes are evident in the “great disenfranchisement” of the late 1800’s and early 1900’s in which conservatives pushed for changes that significantly raised the cost of voting among the poorer classes.\textsuperscript{7} While our focus is on the changes in

\textsuperscript{5}In a more general sense, the alignment of landlords’ and peasants’ voting behavior should be understood as deriving not only from mutual interests but also from the control of the former over the peasantry.

\textsuperscript{6}Limited extensions of the franchise were often supported by arguments of myopia among the poorer classes. During early extensions of the franchise, liberal and socialist leaders expressed a fear of extending voting rights to an ignorant peasantry.

\textsuperscript{7}The “great disenfranchisement” in the United States is largely attributed to the requirement of “voluntary registration” dictating that voters register in person for each election. This need to register (at specified locations and times) significantly raised the cost of voting, thereby reducing the number of eligible individuals (particularly poorer individuals) registered to vote (Colomer, 2001).
the franchise implemented during the late nineteenth and early twentieth centuries, these latter implications can be applied to more recent changes in voting laws.  

The remainder of the paper is organized as follows. Section 2 reviews the literature. The economic and political models are described in sections 3 and 4. The next two sections contain the main results of the paper. Section 5 derives the strategies for franchise extension of the various political actors, while section 6 analyzes their connections with growth and the social composition of society. Section 7 presents historical evidence supporting the different patterns of franchise extension predicted by our analysis. Section 8 concludes.

2 Related Literature

Our research builds on the growing literature exploring the process of democratization and provides a complimentary explanation to existing theories. Much of this literature builds on the de Tocquevillian paradox implicit in the work of Persson and Tabellini (1994): If greater democracy (extensions of the franchise) implies a poorer median voter and hence higher implemented levels of redistribution, why would elites choose to extend voting rights?

In response to this paradox, much attention has been paid on the processes of democratization arising from threats “from below.” That is, elites may choose to extend the franchise in order to quell revolutionary threats from the disenfranchised. In the work of Acemoglu and Robinson (2000, 2001), it is not simply enough for elites to appease the disenfranchised through the use of redistribution: In any given period, current redistribution does not imply future redistribution. Thus, in order to make a credible commitment to redistribution and eliminate the threat of revolution, elites opt for universal suffrage. In a similar vein, Conley and Temini (2001) argue that the disenfranchised will be incorporated into the electorate when they make credible threats of revolution. Thus, investments in “threat technologies” (e.g. training revolutionaries or acquiring materials necessary to instigate a coup) increase

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8 For example, the “motor voter” legislation in the U.S. reduced many of the costs of voting, particularly those facing poorer Americans. It is therefore not surprising that this legislation was supported by Democrats (who expected to gain supporters) and derided by Republicans (who expected their share of supporters among the electorate to fall).
the likelihood that a disenfranchised group is allocated voting rights.

While we do not diminish the role of revolutionary threats in the history of suffrage rights, our analysis indicates that the presence of revolutionary threats or social pressures are not necessary conditions for extensions of the franchise. We demonstrate how political competition among a heterogeneous population led to an extension of voting rights and how these changes needed not imply complete (i.e. universal) suffrage. Further, our argument provides a supporting explanation for the rich history of political parties advocating and implementing reductions in the franchise.

Our argument differs from the explanations of “political competition” and “middle class drive” presented in Acemoglu and Robinson (2000). In the former, a political party may extend voting rights to a segment of the population in return for the votes of the newly enfranchised. Our’s is a more traditional view of political competition; a competition taking place between political parties seeking to control the government. It is not a mobilized middle class pushes for greater enfranchisement, but rather classes within the elite who push for extensions (or abridgements) in order to implement a preferred policy towards the public good. That is, in our model all changes in the franchise derive from the self-interested behavior of political parties representing the elite.

In a similar spirit, Lizzeri and Persico (forthcoming) argue that self-interested extension of the franchise may occur in the absence of threats to the government. Namely, elites may wish to extend the franchise in order to steer politicians away from causes serving narrow constituencies and towards policies with more diffuse benefits. Thus, enfranchisement may follow after a majority of elites find the current functioning of the political system unsatisfactory due to the inadequate provisions of public goods or inefficient rent-seeking behavior by politicians. The enfranchisement of individuals beyond the elite forces politicians to garner support through the pursuit of projects yielding more diffuse benefits (as opposed

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9 Besides the cases where enfranchisement occurred in the absence of genuine revolutionary threats, it is interesting to observe that Liberals support for the extension of the franchise to the working class often occurred prior to the organization of a labor party.

10 This is, in some sense, a “gift-giving” or “reciprocity” basis for extension of the franchise. Some have argued that this explanation may have been at work with the enfranchisement of former slaves in the Post-Bellum South.
to projects benefiting narrow segments of the electorate). Recognizing this desire, political parties incorporate extensions of the franchise into their platforms in order to appeal to a larger proportion of the elite. The model’s implications are used to explain the increases in urban infrastructure and health care services witnessed during Britain’s “Age of Reform.” A similar argument is made by Lee (2003) with a focus on the redistributive bias (predation) of elites on the disenfranchised. In this model, democratization reduces the predation by elites by increasing the base over which tax revenues are distributed. The reduction in the redistributive bias towards elites (the “Olson effect”) implies increases in the incentives to invest. This effect is counterbalanced by the “de Tocqueville effect” in which democratization results in a poorer median voter and greater redistribution. The subsequent effect of democratization on growth will depend on which effect dominates.

Unlike Lizzeri and Persico (forthcoming), this paper aligns with the literature emphasizing economic groups, for they are a necessary element to understanding the structure of political interests and political power in society. This approach offers a different view of the split among the elite involving conflicting economic interests. In addition, it favors the incorporation of economic interests (“ideology”) into the political arena.\textsuperscript{11} Given these interests, changes in the franchise are implemented by incumbent parties in pursuit of their self-interest. On a different issue, in Lizzeri and Persico (forthcoming), the impetus for changes in the electorate requires an initial shock to society. During the “Age of Reform” this shock came in the form of greater urbanization in London and other large cities. In our model there is no direct shock preceding changes in the franchise. Rather, franchise extensions are pursued by incumbent parties in order to manipulate the electorate to the party’s benefit. Any technological shocks, (in either the agricultural or industrial sectors) will have associated effects on the preferred franchise policies of the parties representing the elite, but are not required to begin the process of democratization. The fact that it is

\textsuperscript{11}With non-ideological political competition, swing voters should receive large transfers prior to the extension of the franchise. This conclusion is difficult to reconcile with the view that the landed aristocracy benefited from the pre-extension political system (Parente and Zhao, 2002; Galor et al., 2002). To the contrary, by incorporating economic interests in the political arena, we find a historically consistent result in which the landed aristocracy controlled and benefited from the political system prior to the extensions of the suffrage.
parties, and not elites, that pursue reform implies that changes in the franchise are not part of the platforms put forth by politicians, but are implemented by incumbents as seen fit to advance their interests and agenda. Indeed, as evidenced by the Swedish reform of 1848 (implemented by Liberals after their victory in the brief Swedish War), the Danish reform of 1901 (enacted by the Liberals immediately upon their incumbency), or the French reform of 1830 (enacted by Liberals after the collapse of the Restoration), most changes in the franchise were imposed by the governing group and tailored to their benefit.

Bertocchi (2003) emphasizes the role of primogeniture when there exists an exogenously determined franchise rule. Where land is the dominant productive resource, primogeniture and the indivisibility of land imply that only a single offspring receives a bequest. Offspring not receiving bequests migrate into an industrial sector and, as this sector grows, capital bequests (which are divisible) surpass landowners bequests. In the end, this implies that more individuals in the industrial sector satisfy the income requirement for the exercise of voting rights. While the model of Bertocchi (2003) provides results which are congruent with ours, its focus is primarily on economic progress through population growth when primogeniture is customary. In contrast, our model focuses on the political reforms that produce changes in franchise requirements. Thus we are able to consider not only increases and decreases in the extent of voting rights, but also changes in policies that affect economic growth.

In line with our conclusions is the historical evidence and arguments put forth by Engerman and Sokoloff (2001), Sokoloff and Engerman (2000), and Sokoloff (2002). Sokoloff and Engerman (2000) argue that, although South America had greater factor endowments than North America, the relative inequality of political rights limited its potential for growth during the New World era. South American countries were dominated by landed interests who, as in our model, had little incentives to invest in public goods which increased workers' skills (e.g., education). Thus, in line with Acemoglu and Robinson (2000), Benabou (2000) and Sain-Paul and Verdier (1993),

There could well be advantages for growth to having a more equal distribution
of political influence. Many would expect, for example, more substantial support of infrastructure and other public goods and services (that would augment the returns to investment by segments of the population outside the elite), a reduction in levels of corruption, and perhaps more competition throughout the economy (with associated improvements in the allocation of resources and in transactions costs). (Sokoloff, 2002, pg. 76)

Similarly,

An extension of political power beyond an elite to a broad spectrum of the population might, for example, be expected to lead to greater investment in infrastructure and other public goods and services conducive to growth (such as schooling), and a reduction in the levels of corruption, a wider participation of the population in a commercial activity and economic matters generally, and perhaps more competition throughout the economy. (Engerman and Sokoloff, 2001, pg. 2)

However, elites were often reluctant to extend these rights. For example, poll taxes were revived during the nineteenth century to exclude immigrants and the descendants of non-Europeans from exercising their suffrage rights. Similarly, after independence, Spanish colonies revised voting qualifications, shifting from wealth to literacy requirements in order enfranchise criollo supports and disenfranchise non-favorable groups (i.e. Native Americans).

Generally speaking, this research argues that countries with greater equality and homogeneity among the population observed faster and deeper extensions of the franchise, an argument also present in Colomer (2001). This equality and homogeneity result in fewer differences in preferences regarding investment in growth enhancing public goods. We predict similar results. The alignment of workers’ and capitalists’ preferred policies yield greater extensions of suffrage rights to skilled workers. Similarly, the way in which landed interests and agricultural workers view investment in the public good (essentially as a transfer to the
industrial sector) implies a greater likelihood of conservative interests pursuing universal suffrage. Moreover, our model explains how elites may restrict the franchise through income, literacy, or other requirements, something that seems contradictory in models based on threat or relying on an electorate interested in changing politicians’ incentives.

As with Engerman and Sokoloff (2001), Sokoloff (2002), and Sokoloff and Engerman (2000) in which democratization and deeper extensions of the franchise helped speed economic growth, Justman and Gradstein (1999) argue that the extensions of the franchise exhibited in nineteenth century Britain were triggered by the changes of the Industrial Revolution (cf. Toynbee, 1884). These changes in the franchise were both the outcome of and a channel through which income inequality was reduced. As evidence, Justman and Gradstein (1999) cite the increases in public expenditures dedicated to productive investments. These changes occurred after extension of the franchise, consistent with our model’s predictions.\(^{12}\)

3 The Economy

In this section we develop our model of the economy. The economy is populated by three classes of agents: landowners, capitalists and workers, with the latter split between the skilled and unskilled sectors of the labor market. Within each class, agents are differentiated by their initial endowments. While the labor market is assumed to be competitive, there exists a public good asymmetrically affecting agents. In particular, the public good raises the productivity of workers in the skilled sector (via technological advancement) but leaves productivity in the unskilled sector unchanged. Hence, the public good should be understood in a broad sense as any government promotion of industrialization, such as ed-

\(^{12}\)Bourguignon and Verdier (2000) claim that political participation increases as the result of the decision by elites to subsidize the education of the poor under the auspices of spurring economic growth. This timing of events (investment in the public good engendering democratic reform) differs from our timing (democratic reform to engender investment in the public good). More akin to our timing of events is that discussed in Fleck and Hanssen (2002): Without voting rights, individuals do not invest in human capital from fear of expropriation by elites. In line with Acemoglu and Robinson (2000), democratization solves a time inconsistency problem faced by elites (i.e. elites want to provide incentives to invest but also wish to expropriate these investments) and investment follows enfranchisement.
ucation, urban infrastructure, health care, legal and market institutions, or basic research and development.\textsuperscript{13}

3.1 Agents

The economy is populated by a continuum of agents differentiated by endowments $\theta$ (wealth or innate skill) and access to production technologies. To denote differences in access to production technologies, we characterize each agent by their class $j$. We assume individuals are either landowners ($j = l$), capitalists ($j = c$), or workers. Workers are (endogenously) identified by the sector of the economy in which they are employed. That is, workers are either skilled ($j = s$) or unskilled ($j = u$). The set of classes is given by $J = \{l, c, s, u\}$, each with mass $\eta_j \in (0, 1)$ where $\eta_l + \eta_c + \eta_s + \eta_u = 1$. The total mass of workers is given by $\eta_w = \eta_s + \eta_u$.

We assume that landowners and capitalists constitute the elite in that they control the agricultural and the industrial sectors of the economy. As such, these agents are each endowed with a production technology for their respective sectors. Within these classes, agents are differentiated by initial endowments $\theta_j, j \in \{l, c\}$, representing exogenous income. Workers, on the other hand, have neither wealth nor access to a productive technology. Rather, each worker is endowed with a level of skills $\theta_w$. These skills are only valuable when employed in the industrial sector where, given an industrial wage, they determine a worker’s income.

An individuals’ type is described by $i \equiv (\theta, j)$. We assume that each individual has a single offspring at the end of each period who inherits her class and position in the income distribution. There is no bequest motive or altruism towards subsequent generations. The characteristics of each class are described below.

\textsuperscript{13}Morris and Adelman (1988) document the crucial importance of governments in advancing industrialization and the many ways industrialization was promoted.
Landowners

Landowners \( (j = l) \) are endowed with non-wage incomes \( \theta_l \in \Theta_l \equiv [\underline{\theta}_l, \bar{\theta}_l] \) with distribution \( F_l \). Landowners control the agricultural sector and have access to a production technology \( g_l(L_l) = M L_l^{1-\alpha} \) where \( L_l \) is the amount of labor employed in agriculture. We interpret the agricultural sector as the unskilled sector of the economy. The technological parameter \( M \) ("mechanization") is determined exogenously.

Landowners maximize profits given the competitively determined agricultural wage \( w_l \). As landowners have identical technologies, the demand of labor by the agricultural sector is given by

\[
L^D_l(w_l, M) = \left( \frac{(1 - \alpha)M}{w_l} \right)^{1/\alpha} \eta_l. \tag{1}
\]

Letting \( \pi_l \) be the corresponding profit function, an individual of type \( i = (\theta_l, l) \) (i.e. a landlord with nonwage income \( \theta_l \)) has income given by

\[
y_l(\theta_l, w_l, M) = \theta_l + \pi_l(w_l, M). \tag{2}
\]

Capitalists

Capitalists \( (j = c) \) have endowments \( \theta_c \in \Theta_c = [\underline{\theta}_c, \bar{\theta}_c] \) with distribution \( F_c \). They have access to a production technology \( g_c(L_c) = N L_c^{1-\beta} \) where \( N \) ("knowledge") is a technological parameter. We interpret the industrial sector as the skilled sector of the economy. As such, \( L_c \) represents the efficiency units of labor employed by capitalists. That is, unlike landowners, capitalists are able to exploit the skills of workers. Given a competitively determined industrial wage per efficiency unit of labor \( w_c \), capitalists maximize profits by choice of \( L_c \). Given their identical technologies, each capitalist employs the same amount of efficiency units of labor and the demand for skilled labor is given by

\[
L^D_c(w_c, N) = \left( \frac{(1 - \beta)N}{w_c} \right)^{1/\beta} \eta_c. \tag{3}
\]
Letting \( \pi_c \) be the associated profit function, the income of an individual of type \( i = (\theta_c, c) \) is given by
\[
y_c(\theta_c, w_c, N) = \theta_c + \pi_c(w_c, N).
\] (4)

**Workers**

As opposed to landowners and capitalists, workers have no access to technology nor possess nonwage income. Rather, each worker is endowed with a skill level \( \theta_w \in \Theta_w \equiv [\bar{\theta}_w, \bar{\theta}_w] \) with continuous distribution \( F_w \). Workers inelastically supply a single unit of labor in either the skilled or unskilled sector. If an agent chooses to work in agriculture (the unskilled sector), she receives the wage \( w_l \). Hence the income of an unskilled worker \( i = (\theta_w, u) \) is given by \( y_u = w_l \). However, in the industrial sector (the skilled sector), an agent exerts \( \theta_w \) efficiency units of labor. Thus, an individual of type \( i = (\theta_w, s) \) receives income \( y_s(w_c, \theta_w) = \theta_w w_c \).

We assume that workers can costlessly migrate between sectors. Hence, the supply of labor in each sector will depend on relative wages. In particular, given \( w_l \) and \( w_c \), we can identify a worker who is indifferent between working in the industrial and agricultural sectors. This indifferent worker has skill level \( \bar{\theta} \) defined by
\[
\bar{\theta} = \begin{cases} 
\theta_s & \text{if } \frac{w_l}{w_c} \leq \theta_s \\
\frac{w_l}{w_c} & \text{if } \frac{w_l}{w_c} \in \Theta_s \\
\bar{\theta}_s & \text{if } \frac{w_l}{w_c} \geq \bar{\theta}_s.
\end{cases}
\] (5)

Workers with ability \( \theta_w \geq \bar{\theta} \) choose to work in the industrial sector, while those with ability \( \theta_w < \bar{\theta} \) supply labor to the agricultural sector. Thus, \( \eta_s = (1 - F_w(\bar{\theta}))\eta_w \) and \( \eta_u = F_w(\bar{\theta})\eta_w \).

Letting \( \bar{w} \equiv \frac{w_l}{w_c} \), the labor supply in the agricultural and industrial sectors can be written as
\[
L^S_i(\bar{w}) = \eta_w F_w(\bar{w}) \quad \text{and} \quad L^S_c(\bar{w}) = \eta_w \int_{\bar{w}}^{\theta_w} \theta_w dF_w.
\] (6)
3.2 The Labor Market

We assume a competitive labor market in which landowners and capitalists hire workers. The equilibrium agricultural and industrial wages, $w^*_l$ and $w^*_c$, are determined by the market clearing conditions

$$L^D_l(w^*_l) = L^S_l(\tilde{w}^*) \quad \text{and}$$

$$L^D_c(w^*_c) = L^S_c(\tilde{w}^*),$$

where $\tilde{w}^* = \frac{w^*_l}{w^*_c}$. Let $L^*_l$ and $L^*_c$ be the equilibrium levels of labor employed in each sector and $\tilde{\theta}^*$ be the skill level of the worker who, in equilibrium, is indifferent between employment in either sector. Thus, we have the following:

**Proposition 1** There exists a unique pair of wages $w^*_l$ and $w^*_c$ that clears both the agricultural and the industrial labor markets. Furthermore, there exists an indifferent worker of ability $\tilde{\theta}^* = \frac{w^*_l}{w^*_c}$ such that, in equilibrium, $L^*_l = F_w(\tilde{\theta}^*) \eta_w > 0$ and $L^*_c > 0$.

*Proof:* Given the nature of the production functions $g_l(\cdot)$ and $g_c(\cdot)$, it is clear that if $(w^*_l, w^*_c)$ is an equilibrium, then $L^*_l > 0$ and $L^*_c > 0$. Thus, there exists an indifferent worker of ability $\tilde{\theta}^* \in \Theta_w$ such that $\tilde{\theta}^* = \tilde{w}^*$. Hence any pair of equilibrium wages solves

$$\left(\frac{(1 - \beta)N}{w_c}\right)^{1/\beta} \eta_c = \eta_w \int_{\tilde{\theta}_w}^{\tilde{\theta}_w} \theta_w dF_w,$$  \hspace{1cm} (10)$$

$$\left(\frac{(1 - \alpha)M}{w_l}\right)^{1/\alpha} \eta_l = \eta_w F_w(\tilde{w}).$$  \hspace{1cm} (11)

---

14It is widely accepted that, even during the 19th century, “industry and agriculture competed for labor, even though labor was by no means scarce.” (Magnac and Postel-Vinay, 1997)
Let \( \mu(\tilde{\theta}) = \int_{\tilde{\theta}}^{\bar{\theta}_w} \theta_w dF_w \) be the total skill in the industrial sector. Rewriting the above equations we obtain

\[
\frac{(1 - \beta)N}{w_c} \left( \frac{\eta_c}{\eta_w} \right)^\beta = \mu(\tilde{\theta})^\beta \tag{12}
\]

\[
\frac{(1 - \alpha)M}{w_l} \left( \frac{\eta_l}{\eta_w} \right)^\alpha = F_w(\tilde{\theta})^\alpha. \tag{13}
\]

Dividing the first equality by the second, yields

\[
\frac{\eta_c^\beta \eta_w^\alpha}{\eta_c^\alpha \eta_w^\beta} \frac{(1 - \beta)N}{(1 - \alpha)M} = \frac{\mu(\tilde{\theta})^\beta}{F_w(\tilde{\theta})^\alpha}. \tag{14}
\]

Note that if there were a unique worker \( \tilde{\theta}^* \) solving (14), then

\[
w^*_c = \frac{(1 - \beta)N}{\mu(\tilde{\theta}^*)^\beta} \left( \frac{\eta_c}{\eta_w} \right)^\beta \tag{15}
\]

\[
w^*_l = \frac{(1 - \alpha)M}{F_w(\tilde{\theta}^*)^\alpha} \left( \frac{\eta_l}{\eta_w} \right)^\alpha. \tag{16}
\]

Thus, we need only to show there exists a unique solution to (14). The left hand side of equation (14) is strictly positive, continuous and monotone increasing in \( \tilde{\theta} \). The right hand side of equation (14) is continuous and monotone decreasing function in \( \tilde{\theta} \), approaching infinity as \( \tilde{\theta} \to \bar{\theta}_w \) and equal to zero when \( \tilde{\theta} = \tilde{\theta}_w \). Therefore, there exists a unique \( \tilde{w}^* \in \Theta_w \) solving (14).

\[\square\]

### 3.3 The Public Good

We assume that technological growth occurs through investment in a public good which raises productivity in the industrial sector. The public good is financed by taxes levied on individuals’ income. Thus, given a tax rate \( \tau \), each agent has disposable income \((1 - \tau)y_i(\tau)\).

Using the time subscript, the public good is captured through the technological parameter \( N_t = h(\tau_t; N_{t-1}) \) affecting the marginal product of skilled labor in industry. We assume \( h' \equiv \partial h/\partial \tau > 0 \) and \( h'' \equiv \partial^2 h/\partial \tau^2 < 0 \) with \( \lim_{\tau \to 0} h'(\tau) = \infty \). Further, we assume
the public good is the only endogenous source of technological change and there is no
depreciation, hence ∂N_t/∂N_{t-1} > 0. Finally, we assume \( \frac{\partial^2 N_t}{\partial N_{t-1} \partial N_t} < 0 \).

Note that any technological improvement (represented by an increase in N) will have
two effects on the labor market. First, by raising the marginal product of labor, the
improvement will spur migration towards the industrial sector (migration from rural to
urban areas). Secondly, as a result of the migration, labor becomes more scarce in agriculture
and agricultural wages adjust accordingly. Thus, we have the following:

**Proposition 2** Technological advances in the industrial sector (increases in N) provoke:

(i) a migration of workers from the agricultural to the industrial sector, that is, the
indifferent worker \( \tilde{\theta}^* \) is decreasing in N; and

(ii) an increase in both the industrial and the agricultural wages, that is, \( w_l^* \) and \( w_c^* \) are
increasing in N.

**Proof:** (i) Rewriting equation (14),

\[
K_0 N \tilde{\theta}^* - K(\tilde{\theta}^*) = 0,
\]

where

\[
K_0 = \frac{\eta_c \eta_w^\beta}{\eta_l \eta_w^\beta} \frac{1 - \beta}{(1 - \alpha) M} > 0
\]  

(18)

and

\[
K(\tilde{\theta}^*) = \frac{\mu(\tilde{\theta}^*)^\beta}{F_w(\tilde{\theta}^*)^\alpha}, \quad \text{with } K' < 0.
\]  

(19)

Applying the implicit function theorem yields

\[
\frac{\partial \tilde{\theta}^*}{\partial N} = \frac{K_0 \tilde{\theta}^*}{K'(\tilde{\theta}^*) - K_0 N} < 0.
\]  

(20)

(ii) That \( w_l^* \) is monotone increasing in N follows from (i) and equation (16). Finally, since
\( \tilde{\theta}^* \) is decreasing in N and \( w_l^* \) is increasing in N, \( w_c^* \) must also be increasing in N since, in
equilibrium, \( \tilde{\theta}^* w_c^* = w_l^* \). □
For capitalists, the public good raises productivity and profits. While the public good also raises wages, the net benefit is positive.

**Proposition 3**  
*Technological improvements in the industrial sector (increases in* \(N\) *) increase the profits of capitalists.*

**Proof:** Recall that \(\pi_c = NL_c(w^*_c, N)^{1-\beta} - w^*_c L_c(w^*_c(N))\), where \(w^*_c\) is a function of \(N\) (see equation 15). Hence

\[
\frac{\partial \pi_c}{\partial N} = L_c(w^*_c)^{1-\beta} - \frac{\partial w^*_c}{\partial N} L_c(w^*_c),
\]

(21)

where we have made use of the first-order condition of profit maximization. Therefore, \(\frac{\partial \pi_c}{\partial N} > 0\) if and only if \(L(w^*_c)^{-\beta} > \frac{\partial w^*_c}{\partial N}\). Using the equilibrium level of efficiency units of labor (equation 3),

\[
\frac{\partial \pi_c}{\partial N} > 0 \iff \frac{\partial w^*_c}{\partial N} \frac{N}{w^*_c} < \frac{1}{1 - \beta}.
\]

(22)

Because the right hand side is greater than 1, it will be sufficient to show that the left hand side is less than 1. Differentiating equation (15) to obtain \(\frac{\partial w^*_c}{\partial N}\) and simplifying, we obtain

\[
\frac{\partial w^*_c}{\partial N} \frac{N}{w^*_c} = 1 - N \beta \frac{\mu' (\tilde{\theta}^*)}{\mu (\tilde{\theta}^*)} \frac{\partial \tilde{\theta}^*}{\partial N}.
\]

(23)

From proposition 1, \(\frac{\partial w^*_c}{\partial N} > 0\), while \(\frac{\partial \tilde{\theta}^*}{\partial N} < 0\) from equation (20). It follows that \(0 < \frac{\partial w^*_c}{\partial N} \frac{N}{w^*_c} < 1\) and hence capitalists’ profits are increasing in \(N\). \(\square\)

### 4 The Political Arena

Given the effect of investment in the public good, we now explore how political competition in the economy determines the provision of public good.

#### 4.1 Policy preferences

Given differences in endowments and access to technology, agents will have different preferred policies towards the public good. Let \(G_j(\tau)\) be the distribution of preferred tax rates
of agents in class \( j \in \{l, c, s, u\} \).

To begin, notice that landowners will oppose any positive tax. For landowners, the tax has two effects. First, it reduces their income without any offsetting benefit. Secondly, since agricultural wages are an increasing function of \( N_t \), and hence of taxes, the public good raises the cost of labor, thereby reducing landowners’ profits.

**Proposition 4** The preferred tax rate of all landlords is 0: \( G_l(0) = 1 \).

*Proof:* The indirect utility of a landlord with exogenous rents \( \theta_l \) is given by 
\[
v_l(\tau) = (1 - \tau)(\theta_l + \pi_l(w_l(\tau))),
\]
where \( w_l(\tau) = w^*_l(h(\tau; N_{t-1}) \) represents the agricultural wage at equilibrium for each level of the tax \( \tau \), given a technology level \( N_{t-1} \). Since \( \partial \pi_l / \partial w_l < 0 \) and \( \partial w_l / \partial \tau > 0 \), \( v_l \) is strictly decreasing in \( \tau \). \( \square \)

On the other hand, capitalists benefit from the public good (proposition 3.) Hence, using \( N_t = h(\tau, N_{t-1}) \),

\[
\hat{\pi}_c(\tau, N_{t-1}) \equiv \pi_c(h(\tau, N_{t-1})) \equiv 
\]
\[
h(\tau, N_{t-1})L_c(w_c(\tau, N_{t-1}))^{1-\beta} - w_c(\tau, N_{t-1})L_c(w_c(\tau, N_{t-1})) \] (24)

is an increasing function of \( \tau \) and \( N_{t-1} \). The indirect utility function of a capitalist with exogenous rents \( \theta_c \) is given by 
\[
v_c(\tau) = (1 - \tau)(\theta_c + \hat{\pi}_c(\tau, N_{t-1})).
\] (For notation simplicity we will omit the term \( N_{t-1} \) when there is no risk of confusion.) It follows that a capitalist’s preferred tax rate \( \tau \) satisfies

\[
-\theta_c - \hat{\pi}_c(\tau) + (1 - \tau) \frac{\partial \hat{\pi}_c}{\partial \tau} = 0.
\] (25)

Since all capitalists have identical production technologies, they all receive the same benefit from the public good (i.e. the same increase in profits for any \( \tau > 0 \)) and wealthier capitalists prefer lower taxes.
Proposition 5 Capitalists have single-peaked preferences over tax rates. Moreover, letting $\tau^*_c(\theta_c, N_{t-1})$ represent the ideal tax rate of a capitalist with exogenous income $\theta_c$ for a given technology level $N_{t-1}$, $\tau^*_c$ is a decreasing function of both $\theta_c$ and $N_{t-1}$.

Proof: Applying the implicit function theorem to the capitalists’ first order condition (equation 25), we obtain

$$\frac{\partial \tau^*_c}{\partial \theta} = \frac{1}{(1 - \tau) \frac{\partial^2 \hat{\pi}_c}{\partial \tau^2} - 2 \frac{\partial \hat{\pi}_c}{\partial \tau}}$$

and

$$\frac{\partial \tau^*_c}{\partial N_{t-1}} = \frac{(1 - \tau) \frac{\partial^2 \hat{\pi}_c}{\partial \tau \partial N_{t-1}} - \frac{\partial \hat{\pi}_c}{\partial N_{t-1}}}{(1 - \tau) \frac{\partial^2 \hat{\pi}_c}{\partial \tau^2} - 2 \frac{\partial \hat{\pi}_c}{\partial \tau}}.$$

From proposition 3 we know $\frac{\partial \hat{\pi}_c}{\partial \theta} > 0$ and $\frac{\partial \hat{\pi}_c}{\partial N_{t-1}} > 0$, and by assumption $\frac{\partial^2 \hat{\pi}_c}{\partial \tau \partial N_{t-1}} < 0$. Thus, if $\frac{\partial^2 \hat{\pi}_c}{\partial \tau^2} < 0$ then $\frac{\partial \tau^*_c}{\partial \theta} < 0$ and $\frac{\partial \tau^*_c}{\partial N_{t-1}} < 0$ as required. Further, $\frac{\partial^2 \hat{\pi}_c}{\partial \tau^2} < 0$ implies that $\hat{\pi}_c$ is strictly concave in $\tau$ and therefore capitalists’ preferences over tax policies are single-peaked since equation (25) is strictly greater than zero when $\tau = 0$ (recall $\frac{\partial h(\tau)}{\partial \tau} \to \infty$ as $\tau \to 0$) and is strictly less than zero when $\tau = 1$.

To show that $\frac{\partial^2 \hat{\pi}_c}{\partial \tau^2} < 0$, note that we can rewrite capitalists’ profits (using equation 15) as

$$\pi_c(\tau) = K_1 K_2 N(\tau) \mu(\theta^*)^{1-\beta},$$

where

$$K_1 = \eta_c^{1-\beta} \left( 1 - \beta \right)^{\frac{1-\beta}{\beta}} - (1 - \beta) \hat{\pi} \eta_c$$

and

$$K_2 = (1 - \beta) \left( \frac{\eta_c}{\eta_w} \right)^{\beta}.$$
with respect to $N$ yields

$$\frac{\partial^2 \mu(\theta^*)}{\partial N^2} = - \left( \frac{\partial \hat{\theta}}{\partial N} \right)^2 - \hat{\theta} \left( \frac{\partial^2 \hat{\theta}}{\partial N^2} \right)$$

(29)

Using equation (20), the first bracketed expression is negative (recall proposition 2) while the second bracketed expression is positive. Thus, $\frac{\partial^2 \mu(\theta^*)}{\partial N^2} < 0$, implying that $\frac{\partial^2 \hat{\pi}_c}{\partial \tau^2} < 0$ and concluding the proof. \( \square \)

Note that since $\tau_c^*$ is a monotone decreasing function in $\theta_c$ (Proposition 5), its inverse $\theta_c^*$ is well defined and we have the following:

**Corollary 1**  $G_c(\tau) = 1 - F_c(\theta_c^*(\tau))$.

Finally, we describe the disposition of workers towards the public good. In analyzing their preferences over tax rates, we will assume that workers take the distribution of the labor force between the two sectors as given. The objective of this assumption is to avoid two cases of extremely sophisticated behavior: First, agricultural workers supporting higher taxes for the sake of increasing their migration opportunities; and second, industrial workers supporting lower taxes to discourage workers from entering the industrial sector and putting downward pressure on wages. It follows that industrial workers associate public investment with higher wages, while agricultural workers perceive investment in the public good solely in terms of a tax reducing current consumption. The indirect utility functions for industrial (skilled) and agricultural (unskilled) workers are given by

$$v_s(\tau, \theta_w) = (1 - \tau)w_c^*(\tau, N_{t-1})\theta_w,$$

(30)

and

$$v_u(\tau, \theta_w) = (1 - \tau)w_l^*(\tau, N_{t-1}).$$

(31)

As such, agricultural workers will never support a positive tax, while all industrial workers share the same preferred policy $\tau_s^* \in [0, 1]$ given by the first order condition for equation
Workers’ preferences toward policies are summarized in the following proposition.

**Proposition 6** Assume that workers take the distribution of the labor force between industrial and agricultural sectors as given when evaluating tax policies. Then,

(i) all agricultural workers oppose a positive tax, \( G_u(0) = 1 \);

(ii) industrial workers have single-peaked preferences over taxes, and they all share the same preferred tax \( \tau_s^* \in (0, 1) \). That is, \( G_s(\tau_s^*) = 1 \) and \( G_s(\tau) = 0 \) for all \( \tau < \tau_s^* \). Moreover, the ideal tax of industrial workers decreases with the technological level:

\[
\frac{\partial \tau_s^*}{\partial N_{t-1}} < 0.
\]

**Proof:** Given the assumption, it is evident from equation (31) that agricultural workers will never support a positive tax. Now, since industrial workers take \( \bar{\theta}^* \) as given, they can be equivalently represented as maximizing \( \hat{v}_s(\tau) = (1 - \tau)h(\tau) \) (see (15)). But then \( \hat{v}_s \) is the product of two concave functions, and hence log-concave, reaching a unique maximum for \( \tau \) solving \( h(\tau) = (1 - \tau)h'\tau \). A positive preferred tax, \( \tau_s^* > 0 \), follows directly from \( h' \to \infty \) as \( \tau \to 0 \). Lastly, we need to show that \( \frac{\partial \tau_s^*}{\partial N_{t-1}} < 0 \). Let \( \hat{\nu}'_s(\tau, N_{t-1}) = -h(\tau, N_{t-1}) + (1 - \tau) h'(\tau, N_{t-1}) \), then \( \tau_s^* \) is implicitly defined as \( \hat{\nu}'_s(\tau_s^*, N_{t-1}) \equiv 0 \). By the Implicit Function Theorem,

\[
\frac{\partial \tau_s^*}{\partial N_{t-1}} = -\frac{\partial \hat{\nu}'_s/\partial N_{t-1}}{\partial \hat{\nu}'_s/\partial \tau} = -\frac{\partial h/\partial N_{t-1} - (1 - \tau)\partial h'\tau/\partial N_{t-1}}{(1 - \tau)h'' - 2h'} < 0,
\]

since \( \partial h/\partial N_{t-1} > 0 \) and \( \partial h'/\partial N_{t-1} < 0 \). \( \square \)

Summarizing, propositions 4 and 6, and corollary 1 describe individuals’ preferences towards the public good, and hence, taxation. For landowners and agricultural workers, \( G_l(0) = G_u(0) = 1 \). For industrial workers, \( G_s(\tau) = 0 \) for \( \tau < \tau_s^* \), and \( G_s(\tau) = 1 \) for \( \tau \geq \tau_s^* \).
Finally, for capitalists $G_c(\tau)$ is determined by the first order conditions for their optimal policies (equation 25) and the distribution of endowments $F_c(\theta)$.

4.2 Parties

We assume a simple model of two party competition in which parties $A$ and $C$ represent the elite classes. Party $A$, the conservative or agrarian party, represents landowners and maximizes the income of its median constituent.\(^{15}\)

$$U_A(\tau) = (1 - \tau)(\theta_M^t + \pi(\tau)),$$

(33)

where $F_l(\theta_M^t) = \frac{1}{2}$ represents the median landlord. Since all landowners prefer $\tau = 0$, the preferred policy of the agrarian party is $\tau_A^* = 0$.

The liberal party $C$ maximizes the income of the median capitalist:

$$U_C(\tau) = (1 - \tau)(\theta_M^t + \pi(c(\tau)),$$

(34)

where $F_c(\theta_M^t) = \frac{1}{2}$. Let $\tau_C^* \equiv \tau_c^*(\theta_M^t) > 0$ be the preferred policy of the liberal party.

Observe that, unlike party $A$, which always favors a zero tax, the policy preference of party $C$ changes as the economy grows. In particular, the higher the existing level of technology ($N_{t-1}$), the lower the preferred tax due to decreasing productivity of public investment (proposition 5).\(^{16}\) This is also the case for industrial workers (proposition 6). Hence, some capitalists (the “poorest” ones) may prefer a higher tax than industrial workers. For the ease of exposition, we do not deal with situations where the capitalist party seeks a higher tax than industrial workers themselves. Hence, we assume $\tau_C^* < \tau_s^*$ for the rest of the analysis. We show in the appendix that this is equivalent to a sufficiently rich median capitalist.

\(^{15}\)One can think of these preferences resulting from intra-party Downsian competition (Downs, 1957). Alternately, parties’ preferences could be defined as maximizing average or total utility of their constituencies without affecting the results.

\(^{16}\)Since $\frac{\Delta N_t}{\Delta \tau} \to \infty$ as $\tau \to 0$, $\tau_C^* > 0$ for all $N_t$. 

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We assume the simplest form of political competition in which there is no uncertainty regarding the outcome of the election nor the behavior of the parties if elected.\textsuperscript{17} Thus, given an electorate comprised of landlords, capitalists, and workers, parties put forth the preferred policy of the median voter and each party wins the election with probability one half. Given this form of competition there is no direct benefit from policy proposals since the median voter’s preferred policy will be implemented (regardless of who is elected). However, there is a benefit of incumbency in that the party in power has the potential to change the franchise. Changes in the franchise alter the median voter, and hence, ceteris paribus, the welfare of each party in the subsequent election.

4.3 Franchise Rules and Political Equilibrium

Following Meltzer and Richard (1981), we assume a model of limited franchise in which classes have differentiated voting rights. Specifically, we assume that landowners and capitalists constitute the elite in the economy in that, in addition to having access to productive technologies, they possess inalienable voting rights. In many early stages of American and European democracies, land ownership or initial wealth were prerequisites for electoral participation. Thus, we assume all members of the landowner and capitalists classes satisfy these voting requirements. On the other hand, the political participation of workers (who, recall, have no initial wealth) is governed by a “franchise rule” \( \tilde{y} \) representing the minimum level of gross income an individual must have to be eligible to vote. That is, to be eligible to vote a worker must have income \( y_j > \tilde{y} \) where \( j \in \{s, u\} \). We can interpret the franchise rule as the income, rent, or tenancy requirements that an individual must satisfy prior to obtaining voting rights.\textsuperscript{18} The franchise rule refers to pre-electoral income, which is represented by income without (new) public investment. Thus, for any period \( t \) franchise rule

\textsuperscript{17}Llavador and Oxoby (2002) examines extension of the franchise in a model of political competition with uncertainty. See Roemer (2001) for a thorough analysis of uncertainty in political competition.

\textsuperscript{18}An alternate approach would be to consider a franchise rule applying to all classes, not just workers. Thus, all voters must have incomes \( y_j > \tilde{y} \) to be eligible to vote. A rule applying to all citizens does not significantly change the analysis, save for introducing the potential for one class within the elite to disenfranchise the other. For example, if landowners are wealthier than capitalists, one could consider a potential coup d’etat in which all capitalists are disenfranchised and the landowners implement a zero tax rate.
\( \tilde{y}_t \), only workers with incomes \( y_{t-1} > \tilde{y}_t \) have voting rights. We will refer to that segment of the population with voting rights (landowners, capitalists and workers with \( y_{t-1} > \tilde{y}_t \)) as the electorate.

Let \( G(\tau | \tilde{y}) \) be the distribution of preferred policies when the franchise rule is \( \tilde{y} \). As a point of reference, let \( \tilde{y}_0 = w_{c,t-1} \bar{\theta} \) such that only members of the elite can vote. Then,

\[
G(\tau | \tilde{y}_0) = \frac{\eta_l + \eta_c G_c(\tau)}{\eta_l + \eta_c}. \tag{35}
\]

In the absence of any enfranchisement beyond the elite, the implemented tax will be given by

\[
\tau^*(\tilde{y}_0) = \begin{cases} 
0 & \text{if } \eta_l > \eta_c \\
\tau_0^M & \text{if } \eta_l \leq \eta_c 
\end{cases} \tag{36}
\]

where \( \tau_0^M \) is the policy preferred by the median member of the electorate. That is, \( G(\tau_0^M | \tilde{y}_0) = \frac{1}{2} \) or, equivalently, \( G_c(\tau_0^M) = \frac{1}{2} \left( 1 - \frac{\eta_l}{\eta_c} \right) \).

Now consider the enfranchisement of workers under a given franchise rule. Let \( w_{c,t}^* \) and \( w_{l,t}^* \) represent industrial and agricultural wages in period \( t \). Recall that in equilibrium, \( w_{c,t}^* \tilde{\theta}^* = w_{l,t}^* \). Hence, industrial workers have higher incomes than agricultural workers and are the first to be incorporated into the electorate as voting restrictions are eased (i.e. as \( \tilde{y}_t \) falls). Only when all industrial workers are enfranchised will further reductions in \( \tilde{y} \) extend suffrage to agricultural workers. For \( \tilde{y}_t < \tilde{y}_0 \), let \( e_u(\tilde{y}_t) \) and \( e_s(\tilde{y}_t) \) be the fraction of enfranchised unskilled and skilled workers. Since all unskilled workers earn the same agricultural wage,

\[
e_u(\tilde{y}_t) = \begin{cases} 
1 & \text{if } w_{l,t-1} > \tilde{y}_t \\
0 & \text{otherwise.} 
\end{cases} \tag{37}
\]

On the other hand, industrial workers with \( w_{c,t-1}^* \theta_w > \tilde{y}_t \) will qualify to vote. Since all
industrial workers have $\theta_w \geq \left( \frac{w_{c,t-1}}{w_{l,t-1}} \right)$, it follows that

\[
e_s(\tilde{y}_t) = \begin{cases} 
1 & \text{if } \tilde{y}_t < w_{l,t-1}^* \\
1 - F_w \left( \frac{\tilde{y}_t}{w_{c,t-1}} \right) & \text{otherwise.}
\end{cases}
\] (38)

For each franchise rule $\tilde{y}$ we can associate a distribution of policy preferences $G(\cdot | \tilde{y}_t)$.\textsuperscript{19} Let $\tau_t^M \equiv \tau^M(\tilde{y}_t)$ be the preferred policy of the median voter for such a distribution; that is, $G(\tau_t^M | \tilde{y}_t) = \frac{1}{2}$. Hence, $\tau_t^M$ will be the implemented policy in period $t$.

## 5 The Franchise and Political Competition

In this section we explore how political competition in the aforementioned economy will affect the extent of voting rights. Changes in the extent of the franchise (via changes in the franchise rule) are enacted by the incumbent party. Specifically, prior to an election, the party in power can implement a change in $\tilde{y}$ defining the electorate in the forthcoming election.\textsuperscript{20}

The timing of events is illustrated in Figure 1. A period $t$ is fully described by the existing technological level $N_{t-1}$, a distribution of income $y_{t-1} = \{y_{l,t-1}(\theta_l)\}_{\theta_l \in \Theta_l}$, $\{y_{c,t-1}(\theta_c)\}_{\theta_c \in \Theta_c}$, $\{y_{s,t-1}(\theta_s)\}_{\theta_s \in [\theta_{s-1}, \theta_s]}$, $y_{u,t-1}$, and a governing party $J$. The ruling party then chooses $\tilde{y}_t$ for the upcoming election. Once $\tilde{y}_t$ is chosen, competition between parties

\textsuperscript{19}The distribution of preferred policies in period $t$ is given by

\[
G(\tau | \tilde{y}_t) = \frac{\eta_l + \eta_c G_c(\tau) + \eta_s e_s(\tilde{y}_t)G_s(\tau) + \eta_u e_u(\tilde{y}_t)}{\eta_l + \eta_c e_s(\tilde{y}_t) + \eta_u e_u(\tilde{y}_t)}.
\]

where $G_c(\tau)$, $G_s(\tau)$, $e_s$, $e_u$, $\eta_{s,t-1}$, and $\eta_{u,t-1}$, are based on period $t - 1$ wages. In particular,

- for $\tilde{y}_t > w_{c,t-1}^* \tilde{\theta}_w$ \hspace{1cm} $G(\tau, \tilde{y}_t) = \frac{\eta_l + \eta_c G_c(\tau)}{\eta_l + \eta_c e_s(\tilde{y}_t) + \eta_u e_u(\tilde{y}_t)}$ (suffrage restricted to the elite),
- for $w_{c,t-1}^* \leq \tilde{y}_t \leq w_{c,t-1}^* \tilde{\theta}_w$ \hspace{1cm} $G(\tau, \tilde{y}_t) = \frac{\eta_l + \eta_c G_c(\tau) + \eta_s e_s(\tilde{y}_t)G_s(\tau)}{\eta_l + \eta_c e_s(\tilde{y}_t) + \eta_u e_u(\tilde{y}_t)}$, and
- for $\tilde{y}_t < w_{c,t-1}^*$ \hspace{1cm} $G(\tau, \tilde{y}_t) = \frac{\eta_l + \eta_c G_c(\tau) + \eta_{s,t-1} G_s(\tau) + \eta_{u,t-1}}{\eta_l + \eta_c e_s(\tilde{y}_t) + \eta_u e_u(\tilde{y}_t)}$ (universal suffrage).

\textsuperscript{20}We choose to formalize franchise extensions as a discretionary instrument for the party in power. As Lizzeri and Persico (forthcoming) note, historically “the extension of the franchise did not come about through referendum. Rather, franchise reform was implemented by legislatures elected under limited franchise” (pg. 19). In our model, these legislatures are comprised of elected party members representing competing landed and industrial interests.
yields, as described in section 4.3, a tax $\tau_t^M$, the proceeds from which fund the public good. If the implemented policy $\tau_t^M > 0$, there is technological advancement in the industrial sector ($N_t > N_{t-1}$) according to $h(\tau_t; N_{t-1})$, inducing a new distribution of income and, barring an additional change in $\tilde{y}$, a new electorate.

5.1 Fixed Franchise Rule: A Benchmark Case

Consider an initial period when the franchise is restricted to the elite. That is, for the existing level of technology and distribution of income, the franchise rule is $\tilde{y}_0$ (as described in equation 35). As a benchmark case, assume the franchise rule $\tilde{y}_0$ cannot be changed. Then we have the following:

**Proposition 7** Suppose the franchise rule $\tilde{y}_0$ is fixed. Then,

(i) If $\eta_l \geq \eta_c$, the implemented tax rate will be $\tau_A^* = 0$ in every period.

(ii) If $\eta_l < \eta_c$, a positive tax will be implemented. Furthermore, $e_s$ and $e_u$ will (weakly) increase over time.

*Proof:* Note that if the implemented tax rate is positive, both $w_l$ and $w_c$ will increase over time. If $\tilde{y}_0$ does not change, it will eventually be the case that some workers will meet the franchise rule and obtain voting rights. Since there is no depreciation, wages will never fall. Hence, $e_s(\tilde{y}_0)$ and $e_u(\tilde{y}_0)$ will (weakly) increase over time. □

This result yields two insights on the relationship between enfranchisement and growth. First, in the absence of enfranchised workers, if party $A$ represents a majority of the elec-
torate, $\eta > \eta_c$, it will always be able to enact its preferred policy $\tau^*_A = 0$. As a result, there will be no economic growth via investment in the public good. Further, if capitalists constitute a majority, $\eta_c > \eta_l$, some degree of growth will be exhibited through the public good since $\tau^*_M > 0$. This emphasizes the importance of the electoral and political institutions in achieving economic growth. This result follows much of the empirical evidence on long-run growth. For example, Adelman (1999) concludes that

even in Great Britain and the United States, where the direct economic role of governments was least, governments played a pivotal role in promoting the industrial revolution.

Secondly, given a majority of capitalists among the elite, it follows from proposition 7 that workers will eventually be enfranchised. (Recall we are currently assuming $\tilde{y}_0$ is fixed.) Thus, in some sense enfranchisement can be thought of as a natural process of development. That is, given that a democratic institution exists, economic growth is good for democracy in that growth raises incomes and the ability of workers to satisfy the franchise rule in a process of “trickle-down” democracy\(^{21}\) (Justman and Gradstein, 1999).

Note that although $\tau^M > 0$ when $\eta_c > \eta_l$, there is no way for party $C$ to achieve its ideal policy until enough workers become sufficiently wealthy and satisfy the franchise rule. In particular, until a mass of skilled workers equal to $\eta_l$ are enfranchised, $\tau^M < \tau^*_C$. Thus, one may infer that capitalists are the first to favor extension of the franchise. However, as discussed below, our model has the potential to explain not only extensions favored by capitalists, but also those favored by the agricultural sector.

5.2 Extending the Franchise

We now focus on the evolution of the franchise via an incumbent party’s use of the franchise rule to maximize its welfare.\(^{22}\)

\(^{21}\)This result depends on the competitive nature of the labor market. If landlords and capitalists were able to extract any surplus from workers, elites could keep workers disenfranchised.

\(^{22}\)Observe that in the absence of uncertainty about the implemented policy, parties have no incentives to use the franchise rule strategically, since they cannot alter their probability of winning. Had a party
As a natural starting point, consider the case in which the agrarian party is the incumbent party. Following proposition 7, party A can implement its ideal policy \((\tau = 0)\) if \(\eta_l > \eta_c\). Thus, we might expect an incumbent agrarian party to either not extend or restrict the franchise (i.e. increase the franchise rule to \(\tilde{y}_0\)) in order to guarantee the implementation of its preferred policy in the next election.

**Proposition 8** If \(\eta_l > \eta_c\), then a period \(t\) incumbent party A can implement \(\tau_A^* = 0\) by choosing \(\tilde{y}_t > \tilde{w}_{c,t-1}^{*}\).

*Proof:* Follows from proposition 7. \(\square\)

Thus, an incumbent agrarian party may restrict the franchise in order to implement its ideal policy.\(^{23}\) However, our model can also explain cases in which an incumbent agrarian party will promote large extensions of the franchise.\(^{24}\) Recall that unskilled workers also prefer \(\tau = 0\) and are the poorest of all workers. Thus, if party A can enfranchise enough unskilled workers such that the median voter has a preferred policy \(\tau^M = 0\), party A and all landlords may endorse universal suffrage.

**Proposition 9** If \(\eta_l < \eta_c\) and \(F_{w}(\tilde{\theta}_{t-1}) \geq \frac{1/2 - \eta_l}{\eta_w}\), then a period \(t\) incumbent party A can implement \(\tau_A^* = 0\) by promoting universal suffrage \((\tilde{y}_t = 0)\).

*Proof:* Given that capitalists and skilled workers have strictly positive preferred policies, the median citizen will have ideal policy \(\tau = 0\) if

\[
\eta_l + \eta_{u,t-1} \geq \frac{1}{2}.
\]

\(^{23}\)For instance, the 1850 law in France enacted by the Conservatives reduced the electorate by 62% (Collier, 1999, pg. 42). Other examples are represented by the 1887 anti-socialist law enacted by Bismark, or the number of unequal suffrage systems used in the 1890s by the German states to preserve their privileged political position.

\(^{24}\)In Germany, under Bismarck and in many Nordic countries, universal suffrage was favored by conservative political interests (Colomer, 2001).
Using the fact that $\eta_{u,t-1} = F_w(\tilde{\theta}_{t-1}^*) \eta_w$ (Proposition 1), we obtain

$$F_w(\tilde{\theta}_{t-1}^*) \geq \frac{1/2 - \eta_l}{\eta_w}. \quad (40)$$

If this condition is satisfied, party $A$ can guarantee $\tau = 0$ by choosing $\tilde{y}_t = 0$. Note that a positive tax would be implemented in the event of any restriction of the franchise.

Thus, there exist situations in which an incumbent party $A$ can achieve its preferred policy $\tau^*_A = 0$ through the implementation of universal suffrage. Recall that $\frac{\partial \tilde{\theta}^*}{\partial N} < 0$. Thus, proposition 9 implies that when industrial productivity is relatively low we may see universal suffrage supported by landowners. Such an extension does not derive from changes in social values (as in arguments regarding the enlightenment) or revolutionary threat from the disenfranchised, but rather from the strategic use of the electorate by party $A$ to manipulate implemented policies.

More generally, since skilled workers will always support strictly positive tax rates greater than that of the median capitalist, party $A$ will only enfranchise skilled workers if it can enfranchise more unskilled workers at the same time. Thus we have the following:

**Corollary 2** The agrarian party $A$ will either restrict the franchise to the elite or promote full suffrage, but it will never support partial extensions of the franchise.

**Proof:** Two cases are already covered by Propositions 8 and 9. Consider the third case: $\eta_l < \eta_c$ and $F_s(\tilde{\theta}_{t-1}^*) < \frac{1/2 - \eta_l}{\eta_w}$. Any franchise rule will now yield a positive tax policy, which will increase with the number of enfranchised industrial workers. Hence, party $A$ will only extend the franchise if the enfranchisement of agricultural workers more than compensate the enfranchised industrial workers. Whether party $A$ chooses universal suffrage or a completely restricted franchise will depend on the relative size of agricultural workers with respect to industrial workers. □

25 As mentioned in footnote 24, conservatives supported universal suffrage in many Nordic countries. One interpretation of this behavior is that, in the face of eventual exogenous technical change, conservative interests opted for universal suffrage in order to forestall positive tax rates and obtain their preferred policies in the short run. In our model, exogenous changes in $N$ result in a larger class of skilled workers and, ceteris paribus, less likelihood of implementing $\tau = 0$. 31
We now characterize the choices $\tilde{y}_t$ which will be implemented by an incumbent party $C$. Recall that, given a positive measure of landowners, party $C$ is unable to implement its preferred policy in period $t$ when $e_s(\tilde{y}_t) = 0$. Further, since unskilled workers have ideal policies identical to that of party $A$, enfranchising this class of workers will unambiguously reduce the preferred policy of the median voter. Thus, party $C$ will enfranchise industrial workers until the median capitalist becomes the median voter. (Further extensions of the franchise would overly increase the tax.) But this is equivalent to extending the franchise up to the point where the enfranchised mass of industrial workers offsets the mass of landlords. Thus, we have the following.

**Proposition 10** The preferred franchise rule of party $C$ is given by

\[
\tilde{y}^*_C,t = \begin{cases} 
  w^*_{l,t-1} & \text{if } \eta_l \geq \eta_{s,t-1} \\
  w^*_{c,t-1} \theta^*_w & \text{otherwise}
\end{cases}
\] (41)

where $\theta^*_w \in \Theta_w$ satisfies

\[
F_w(\theta^*_w) = 1 - \frac{\eta_l}{\eta_w} \left( 1 - F_w(\tilde{\theta}^*_{t-1}) \right)^{-1}.
\] (42)

**Proof:** The best party $C$ can hope is the implementation of $\tau^*_C$. This will occur if $G_c(\tau^*_C) = \frac{1}{2}$. That is, if

\[
\frac{\eta_l + \eta_c G_c(\tau^*_C) + \eta_{s,t-1} e_s(\tilde{y}_t) G_s(\tau^*_C) + \eta_{u,t-1} e_u(\tilde{y}_t)}{\eta_l + \eta_c + \eta_{s,t-1} e_s(\tilde{y}_t) + \eta_{u,t-1} e_u(\tilde{y}_t)} = \frac{1}{2}
\] (43)

Recall that $G_c(\tau^*_C) = \frac{1}{2}$. Note that since all agricultural workers have ideal policies $\tau = 0$, party $C$ will never lower the franchise rule beyond $w^*_{l,t-1}$ otherwise it would lower the median voter. Hence $e_u(\tilde{y}_t) = 0$ for all $t$. Further, since skilled workers have preferred policies greater than capitalists, all skilled workers will support rates higher than $\tau^*_C$. Thus, equation (43) can be simplified to

\[
\frac{\eta_l + \frac{\eta_c}{2}}{\eta_l + \eta_c + \eta_{s,t-1} e_s(\tilde{y}_t)} = \frac{1}{2},
\] (44)
or \( \eta_{s,t-1} e_{s,t-1}(\tilde{y}_t) = \eta_l \). Choosing \( \tilde{y}_t \) here is equivalent to choosing a skill level since skilled workers have income \( y_{t-1} = w_{c,t-1} \theta_w \). Thus, \( e_{s,t-1}(\tilde{y}_t) = 1 - F_w \left( \frac{\tilde{y}_t}{w_{c,t-1}} \right) \). Substituting this into equation (44) yields the franchise rule that implements \( \tau^*_C \): \( \tilde{y}_t = w^*_{c,t-1} \theta^* \) where \( \theta^* \) solves

\[
F_w(\theta^*) = 1 - \frac{\eta_l}{\eta_w} \left( 1 - F_w(\tilde{\theta}^*_{t-1}) \right)^{-1}.
\] (45)

Thus, party \( C \) will always put forth a franchise rule implementing \( \tau^M > 0 \) and, if possible, \( \tau^*_C \). This leads to an important aspect of the democratization process in the context of economic growth. Recall that for a fixed franchise rule, the fraction of enfranchised workers is growing as skilled workers receive higher wages. This result generalizes to the case in which the mass of capitalists exceeds that of landlords, which in turn exceeds the mass of skilled workers (i.e. as would have been the case in early stages of industrial development):

**Proposition 11** If \( \eta_c > \eta_l \), \( \eta_l \geq \eta_w \left( 1 - F_w(\tilde{\theta}^*_{t-1}) \right) \) and

\[
\tilde{\theta}^*_{t-1} \leq \frac{1 + 2(\eta_w - \eta_l)}{2\eta_w},
\] (46)

then, the electorate will grow over time.

**Proof:** If the above conditions are satisfied, then \( \tau^M_t > 0 \) for all \( t \). Thus, workers’ wages are rising and the electorate is growing. \( \Box \)

Three conclusions follow from this analysis. First, franchise contractions are mainly fostered by conservative governments. Second, extensions of the franchise promoted by conservative (agrarian) governments should typically be larger than those promoted by liberal (capitalist) governments. And third, capitalists’ support for extending the franchise has a limit: Once their place is secured (i.e. \( \tau^*_C \) can be implemented), capitalists should oppose further extensions of the franchise. We show in Section 7 that these hypothesis
conform with historical evidence.

6 Franchise, Growth, and Social Composition

We now turn our attention to the implications of the above model on the levels of economic growth exhibited by a country. Of interest here is the relationship between the distribution of agent types (i.e. the share of landlords, capitalists, skilled and unskilled workers) and the distribution of political power (as characterized by the franchise rule) on implemented tax rates. Since tax revenues are used to finance a growth enhancing public good, this implies a relationship between the extent of political voice and economic growth.

6.1 The Effect of Enfranchisement on Growth

Suppose that landowners always vote for their party. Under this assumption, in economies in which the class of landlords exceeds that of capitalists, all growth is exogenous in nature:

\textbf{Proposition 12} If } \eta_l > \eta_c, \text{ then } \tilde{y}_t > w_{c,t-1}^* \theta_c \text{ and } \tau = 0.

\textit{Proof:} Derives hence from proposition 2 and the structure of voting behavior. Recall that landlords vote for their party when they are indifferent between the policy alternatives. \qed

Notice that in such an economy, the landed class will always win the election by restricting the franchise. Thus one might expect economies in which landed interests dominate to experience lower levels of growth and static franchise levels. Analogously, we have the following:

\textbf{Proposition 13} Consider an economy in which } \eta_c > \eta_l. \text{ Positive tax rates will prevail regardless of the party in power’s affiliation if}

\begin{equation}
\eta_c + \eta_{s,t-1} > \eta_l + \eta_{u,t-1}.
\end{equation}

\footnote{This assumption does not alter our previous results. This is equivalent to landowners voting for the party putting forth their most preferred policy and for the agrarian party if indifferent.}
Proof: Derives from corollary 2 and proposition 10.

This result implies that two characteristics of the electorate are necessary for growth through public investment. First, the class of landlords must be sufficiently small so as not to outweigh those in favor of strictly positive tax rates (i.e. capitalists and skilled workers) in the electorate. Secondly, an initial level of development is necessary to prevent growth from being cut off by landed interests. That is, recalling that $\eta_{s,t} = (1 - F_w(\tilde{T}_{t}))\eta_w$, we can rewrite equation (47) as

$$F_w(\tilde{T}) < \frac{1/2 - \eta_l}{\eta_w}. \quad (48)$$

Using proposition 2, one can think of economies with a high $\tilde{T}$ as being at an early stage of development (i.e. technology in the skilled sector, $N_t$, is low relative to that in agriculture, $M$, and hence there is a majority of unskilled workers among the population of workers; recall equation 14). Notice that for such an economy there exists the potential for landlords to implement $\tau = 0$ by embracing universal suffrage. Such an act enfranchises unskilled workers (who prefer zero taxes), choking off investment in the public good and, hence, economic growth.

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This is consistent with the observations of Rueschemeyer et al. (1992), who finds in the political strength of agrarian elite a perfect predictor for the survival of democracy in the interwar period (see table 4.1 in page 84).
Taken together, propositions 12 and 13 characterize the attributes of an economy which yields endogenous growth. Namely, for democracies to ensure endogenous growth through strictly positive investments in the public good, the class of landlords cannot be too large (proposition 12) and the economy must be at a stage of development such that (paraphrasing proposition 13) there are a sufficient number of industrial workers. We elaborate on this relationship in section 6.2.

Given these insights, there exists a Kuznets-type relationship between the franchise and economic growth for democracies. When only the elites are enfranchised (i.e. \( \tilde{y}_t > w_{c,t-1}^s \)) parties put forth relatively low tax policies. As the franchise rule is lowered, skilled workers are extended voting rights. This raises the median voter's preferred policy, leading to higher levels of public investment and growth. However, if the franchise is fully extended, and unskilled workers are given suffrage rights, the preferred policy of the median voter falls, thereby reducing the parties’ policy proposals. Figure 2 illustrates this relationship for an economy in which \( \eta_c > \eta_t \) (positive tax rates prevail when \( \tilde{y}_t > w_{c,t-1}^s \)) and in which \( \eta_{a,t-1} > \eta_{s,t-1} \) (tax rates are lower when \( \tilde{y}_t = 0 \)). Changes in the relative productivity of industry and agriculture \( \frac{N_t}{M_t} \) are characterized by vertical shifts of this curve.28

6.2 Predictions

In this section we summarize the predictions of the model for the relationship between the distribution of voting rights (i.e. the franchise), economic growth, and the social composition of an economy (i.e. the relative masses of landlords (landed interests of aristocracy), capitalists or bourgeoisie, and industrial and agricultural workers). From propositions 9, 12 and 13, our analysis distinguishes three types of enfranchisement-growth relationships. These are embodied in the following “predictions” or “types” of economies. (We present in square brackets the most emblematic examples of each type. A description of the political reform processes of these and other countries is offered in the next section.)

28The sharp fall of the tax rate for \( y < w_{a,t-1}^s \) is particular to the specifications of the model. In particular, heterogeneous policy preferences among the peasantry would smooth the fall, as shown by the dotted line in the figure, displaying the more standard inverted-U shape.
I Economies without a significant entrepreneurial group (capitalists) exhibit no franchise extension and low or no growth. (Growth is driven by exogenous shocks.) [Spain, Italy]

II Economies with a large number of capitalists but lacking a mass of industrial workers exhibit universal suffrage but low growth. (Growth through the public good only occurs when capitalists are in power.) [Germany, Chile]

III Economies with enough capitalists and a substantial group of industrial (or urban) workers exhibit gradual franchise extension accompanied by high growth. (Growth is fuelled or reinforced by investment in the public good.) [Switzerland, U.K.]

We have represented these predictions in figure 3. Type I economies correspond to agrarian or pre-industrial societies where a majority of landlords among the elite (the aristocracy) control the government and oppose any extension of the franchise. The economy is at a steady-state with slow or no growth. Type II economies are also at an early stage of development, but the landed class finds it necessary to promote a large extension of the franchise (incorporating peasants) in order to retain the control of the state. Liberals, on the other hand, favor a far more restricted franchise, arguing perhaps the myopic behavior of the poorer class. Finally, type III typifies “industrial” economies where liberals favor and conservatives oppose franchise extension.

7 Historical Evidence

In this section we present several historical cases consistent with the pattern of democratization described above. Given our model, our focus is on elite-led reform occurring “at

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29Rueschemeyer et al. (1992, Table 4.1) show that of the sixteen Western European countries they discuss, all but one country with a politically strong agrarian elite in the late nineteenth century ended up with a modern authoritarian regime. Furthermore, all those with a weak agrarian elite developed a democracy that survived in the inter-war period.

30During the first extensions of the franchise, many liberals and socialists leaders expressed their fear of giving the right to vote to the ignorant peasantry. The Socialist Pierre-Joseph Proudhon held that “universal suffrage given to a people of so neglected an education as ours, far from being an instrument of progress, is only the stumbling-block of liberty.” (Proudhon, 1923, as cited in Colomer (2001))
Figure 3: Predictions of the Model: Location of a different types of economies in the franchise-growth space.

a very early stage of industrialization, prior to the emergence of class-conscious workers acting as a group” (Collier, 1999, pg. 33). Our analysis spans from the mid-nineteenth century to World War I, a period in which parties representing the elite not only faced little pro-democratic pressure from below but, in some cases, labor leaders even “spoke out against political inclusion, arguing precisely that it was electoral support mobilization geared toward elite politicians’ interests” (Collier, 1999, pg. 55).

We focus our analysis on identifying the common characteristics of various electoral reforms emphasized in our model. First, fundamental to our model, we seek to identify an economic cleavage among the elite. It is this conflict among the elite which leads to partisan strategizing in extending the franchise. Secondly, we show that a heterogeneity among the disenfranchised existed. This heterogeneity drove the elite to strategically extend (fully or partially) or rescind voting rights. Finally, we relate the cleavage among the elite to the growth potential exhibited by a country. This relation emphasizes the dual role of economic growth in the political decision making of elites. Namely, economic growth serves to beginning a process of “endogenous enfranchisement” in which individuals satisfy voting requirements as their incomes rise. Further, the process of economic growth alters the cost of enfranchising various groups by altering the mass of disenfranchised individuals who
support either party.\textsuperscript{31}

\textbf{Continental Europe}

\textbf{Switzerland}

The Swiss reform of 1848 combined the absence of revolutionary threats, an elite split on a political-economic reform, and a limited extension of the franchise imposed by the Liberals, the ruling elite class at the time.

After joining the political elite, the Liberal movement created a national coalition and fostered a popular movement for a stronger national government. Given that the beneficiaries of the traditional restrictions also held political power, Liberals called for the extension of suffrage rights (Gitermann, 1941, pg. 441). In response Conservatives turned to disfranchised groups, seeking to gain rural supporters by “appealing to anti-urban, fundamentalist religious sentiment in the countryside” (Collier, 1999, pg. 57).

At this time, the political debate centered around religion and a political-economic cleavage: Liberals favored a secular federal state promoting commerce while Conservatives supported a decentralized confederation protecting the authority of the Catholic Church. It is worth highlighting that Conservatives “did not oppose democracy; on the contrary, they sought to extend it and mobilize their followers against the Liberals” (Rueschemeyer et al., 1992, pg. 86). This follows our model’s prediction of conservative interests favoring large extensions of the franchise when unskilled, agricultural workers dominate the population of workers.

After the Liberals obtained a majority in the federal Diet, political tensions provoked the brief Sonderbund War in 1847 and the constitution of 1848. This reform consolidated a national state and introduced democratic institutions at the federal level. The new constitution imposed democratic elections in unreformed cantons and channelled support for liberals. Given the relative lack of urbanization in Switzerland at this time, these Liberal reforms were less than those proposed by Conservatives and raised the share of the

\footnote{\textsuperscript{31}In the model, this arises through growth altering the shares $\eta_s$ and $\eta_u$ among the population of workers.}
electorate among the population to approximately 31% (Collier, 1999, pg. 58).

**France**

The Restoration and its downfall present a clear example of a split among the elite in which the franchise was manipulated to pursue partisan interests. The conflicting elite was integrated, on one side, by the Orleanists (mainly upper bourgeoisie of Paris, the financial sector, and increasingly the railroads) and, on the opposite side, by the Legitimist (aristocracy who favored the restoration of the Bourbon monarchy).

The Restoration regime attempted to base its rule narrowly on the nobility, and the 1830 suffrage restriction eliminated all but the richest landowners from the electorate (consistent with proposition 9). The subsequent downfall of the Bourbon monarchy and the Restoration regime aborted the implementation of this reform and a new suffrage law was enacted under the Orleanists. Although broader than the Restoration reform, the Orleanist’s limited extension ensured that “the upper bourgeoisie, particularly those sectors based in Paris and in finance, and not the artisans that did the street fighting,” were the primary beneficiaries (Rueschemeyer et al., 1992, pg. 88). The reform imposed the paying of at least 200 francs in direct taxes as a prerequisite to exercising one’s right to vote, thereby enfranchising only 1 in 170 inhabitants (Magraw, 1983, pg. 48-49, 68).

Interestingly, both parties opposed further extensions of the franchise beyond the 1830's levels. However, while Orleanists favored the existing restricted suffrage (one may argue that they managed to establish their 'maximum' franchise extension in terms of our proposition 10), Legitimists favored a return to the Restoration and a more restricted franchise. Outside the elite, provincial bourgeoisie, professionals, and the petty bourgeoisie favored greater extension of the franchise, but opposed universal suffrage fearing social revolution and its consequences for property rights.

In May 1849, the petty bourgeoisie and professionals managed to organize a political platform and obtain a victory in 21 of 30 by-elections (Rueschemeyer et al., 1992, pg. 90). As a consequence, conservatives enacted an 1850 reform, reducing the electorate by 2.8
million men, mostly workers (Collier, 1999, pg. 42). Such a move is consistent with our model’s predictions regarding limitations of the franchise favored by both conservative and liberal interests among the elite.

Germany

The 1848 liberal revolution represented the first attempted franchise extension in Germany. Liberals, representing a blend of educated and economic elite (capitalists), sought to remove the abuses of the existing political system and establish universal manhood for all ‘independent’ Germans. Liberals were “deeply suspicious of the masses, considering lacking in independence” and welcomed franchise restrictions that served as buffers between the political class and the people (Blackbourn, 1998, pg. 234). Thus, in practical terms this first extension of the franchise was restricted in the sense of proposition 10 and enfranchised only skilled workers. The failure to implement these reforms exposed the inability of the Liberals to reach a consensus beyond general abstract principles and revealed the political weakness of the liberal movement, whose roots can be found in their own divisions, their alienation from the populace, and their dependence on their enemies (Sheehan, 1978, pg. 72).

By 1860, economic development was having an unmistakable impact on Germany. Data on Prussian elections between 1958 and 1966 (and the scattered data available on other states) show that liberals drew their strongest support from the economic elite in cities throughout Germany (Sheehan, 1978, pg. 81). At that time, Bismarck, a conservative who had become prime minister of Prussia in 1862, established universal suffrage in the Northern German Confederation (1867) and the unified empire (1871). There exists consensus that these extensions were based on Bismarck’s political calculations to swamp liberalism, as the liberals themselves feared when they accused him of “stirring up the poorer classes against the propertied middle class” (Blackbourn, 1998, pg. 255-56). In Sheehan’s words,32

32For similar statements see also Blackbourn (1998, pg. 255-56), Colomer (2001, pg. 60), or Collier (1999, pg. 102-103), among others.
He [Bismarck] wanted a democratic suffrage because he was convinced that the majority of the Germans would be committed upon to elect a cooperative parliamentary elite. In order to ensure that this would happen, the chancellor wanted to combine universal male suffrage with three other provisions ... designed to produce what would remain Bismarck’s ideal representative body: a group of propertied men, drawn from landed and business elite. (Sheehan, 1978, pg. 145)

In line with our analysis (corollary 2), a politically weak opposition and a small working-class movement (which was not consolidated until 1875) motivated the conservative government to introduce full (male) suffrage and preserve the conservative order. Interestingly, when socialists started to take advantage of these electoral reforms, Bismarck, with the support of the Liberals, responded with the anti-socialist laws of 1878.

Three inferences follow from German democratization. First “neither the unequal manhood suffrage of 1848 in Prussia nor the equal suffrage of 1867 and 1871 in the Confederation and Reich respectively was the result of – or, indeed, attended by – working-class pressure” (Collier, 1999, pg. 103). On the contrary, they resulted from calculations by the ruling elite to advance their political power and implement their interests. Secondly, German democratization presents several instances (like the anti-socialist laws) in which the established elite used unequal suffrage systems or laws curtailing voting rights to deflect the impact of mass-based political movements. Finally, the ‘late democratization’ of Germany (democracy was not achieved until the post-war reforms of 1918-1919) can be attributed to the absence of a cleavage among the elite: The lack of a strong, unified liberal movement against

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33 While the 1848 liberal revolution from above established a restricted extension intended to remove the abuses of the existing political system (Sheehan, 1978, pg. 69-70), the 1860s and 1870s saw “the establishment of the principles of full suffrage as part of a conservative strategy from above [over the heads of the liberal opposition and with the objective to swamp liberalism], and it was not accompanied by other components of a democratic regime, specifically parliamentary sovereignty, civil liberties, or, in Prussia, equality of the vote” (Collier, 1999, pg. 104).

34 The anti-socialist laws were not the only instance of franchise restriction. In the 1890s, the Saxon Landstang and a significant number of German cities used unequal suffrage systems to maintain their hegemony (Sheehan, 1978, pg. 222,229).
conservatives' interests (namely Bismarck).\textsuperscript{35}

Thus, despite the particularities of the German political system (its federal structure and the predominant role of the Chancellor), our model can comfortably explain the main events of its pre-WWI democratization.

**Anglo countries\textsuperscript{36}**

**The United Kingdom**

The case of Britain has received the most attention by both political scientists and economists. As discussed by Rueschemeyer et al. (1992), the British case “is so singular in so many ways, both in terms of the antecedents of democracy and the process of democratization, that it is virtually impossible to decide which factor(s) was (were) the most important on the basis of comparative analysis” (pg. 95). In any case, the first two British reforms fit well with our model’s predictions for a type III economy.

The main political reforms in nineteenth century Britain, the reforms of 1867 and 1884, are commonly viewed as directed towards incorporating the lower classes into the electorate. These reforms demonstrated the strategic possibilities of seeking labor support, and “once reform had been put on the agenda, the parties competed for the ability to shape it, to cast it in a form to their benefit” (Collier, 1999), with Liberals striving for limited extensions and Conservatives favoring broader suffrage rights (Lee, 1944; Smith, 1967).

An excellent analysis of Britain’s ‘Age of Reform’ can be found in Lizzeri and Persico (forthcoming).\textsuperscript{37} Three main implications follow from their study. First, the progressive

\textsuperscript{35}Even when political conflicts were at their height, liberals either cooperated with Bismarck (the government) on foreign, economic and social policies or could not agree on a means to act without or against him (Sheehan, 1978, pg. 112-135).

\textsuperscript{36}One will notice that the United States is absent from our analysis. While many of the franchise changes in the United States are consistent with our model, it is difficult to disentangle various confounds in the U.S. experience. Specifically, many of the changes in the electorate were implemented at the state level (often under federal electoral law) and are strongly influenced by issues most germane to the states in which they were enacted. Changes in literacy and income rules and the implementation of policies such as voluntary registration were under the control of state and local governments and had profound effects on the distribution of voting rights. Given the potential tensions between federal and state governments and the specificity of many state issues, we have chosen to abstract from the United States in the following analysis.

\textsuperscript{37}We refer the reader to Lizzeri and Persico (forthcoming) for details and references.
franchise extensions were closely linked to the rapid urbanization, a product of the industrial revolution. Second, pre-reform governmental institutions were under the control of a subgroup within the elite. Hence, political reforms and the accompanying economic policies favored commercial and urban classes within the elite. Industrial and commercial factions saw in political reform a way of ending a situation where their “policies were blocked in a Parliament that disproportionately represented the landed groups” (Collier, 1999, pg. 62). Finally, the observed increases in public spending were devoted mainly to infrastructure (public health before 1890, education afterwards). This public spending facilitated commerce and raised domestic industrial productivity. These findings are fully consistent with our theory and, combined with high economic growth, shows Britain as an example of a type III economy (Figure 3).

Canada

In Canada, the evolution of the franchise involved piecemeal extensions and reductions in which control over electoral rules served as a political tool for promoting the agenda of those in power. For example, in 1840 elites were heavily split over the Act of Union uniting Upper and Lower Canada. The governor general, fearing losing control of the resource base in Lower Canada, used electoral rules to effectively enfranchise and disenfranchise proponents and opponents of the Act (Abella, 1966).

The strategic use of electoral law was also an important tool in British Columbia’s decision to join the Confederation. Prior to 1870, migration from the U.S. and strong commercial ties between Vancouver and San Francisco created a movement for amalgamation with the United States. Fearing the loss of British Columbia’s rich resource base (and a domino effect in which other endowment rich Western provinces would follow British Columbia against confederation), Conservative leader John MacDonald imposed additional electoral rules. Most striking was the requirement that voters be born British citizens, thereby eliminating the votes of U.S. and immigrant settlers (Ryerson, 1968). These reforms ensured a majority of pro-federation voters and victory for MacDonald in the 1871
election to join the Confederation.

MacDonald continued to use changes in the electorate to favor the policies of his Conservative party. In particular, the *Electoral Franchise Act* of 1885 centralized the rules governing the electorate in the hope of increasing support for Confederation and his economic policies (including a protectionist stance against the U.S.) (Ryerson, 1968). The act introduced new rules regarding who could vote in federal elections, mandating that voters be males of at least 21 of age, British subjects by birth or naturalization, and satisfy new (higher) property and rent requirements. Consistent with liberal interests favoring limiting expansion, much of the act was reversed in 1898 when Liberal leader Wilfrid Laurier (who sought to expand trade and agreements of reciprocity with the United States; see Beaulieu and Emery, 2001) returned electoral rules to provincial control.

**Nordic Countries**

**Denmark**

Prior to 1848, democratization was primarily pushed forward by the bourgeoisie and a rural middle class coalition. The latter represented “independent owners of moderately sized farms” who had become “small capitalist traders” with the increasing commercialization of agriculture and who opposed the great proprietors (Hovde, 1943). Culminating in the 1849 constitution, this ‘liberal’ coalition established manhood suffrage for non-pauper men under 30 and introduced a two-house parliamentary system. The *Landsting* or Upper House was dominated by the Conservatives (representing the upper landowning classes, conservative bourgeoisie, and industrialists) and members were either nominated by the king or elected under a very restricted suffrage. On the other hand, the Liberal party (“developed (on old roots) as the defender of rural, agricultural, and liberal values and interests;” Elklit, 2002, pg. 27) controlled the *Folketing*, whose members were elected under a broader (but restricted) suffrage. The king (who, by constitutional mandate, chose his ministries) favored the *Landsting* and Conservatives governed until 1901 without a major reform of the political system. The rural/urban cleavage was the dominant social and cultural divide and, as Elklit
(2002) writes, “it is interesting to note how clearly the basic rural-urban ... dimension was reflected in a simple two party system” (pg. 27).

When Liberals obtained power in 1901, the Social Democratic party (appealing to the growing working class) was consolidated. Hence, it was in the best interest of the Liberal party at that time to freeze any electoral change which would have enfranchised supporters of this group. In 1913, when (because of industrialization, urbanization, and the natural enfranchisement of the working class as it grew overtime; Luebbert, 1991) the growing support for Social Democrats (and Social Liberals, representing small farmers and middle class) led them to power. This resulted in a major extension of the franchise and, eventually, universal suffrage. The extension was closely related to industrialization and urbanization, promoted by and benefiting the Social Democrats-Social Liberals government. There is no evidence in the Danish case of a government forced to offer expansions of the suffrage against its will. On the contrary, in the electoral issue parties were driven by self-interest: “their main objective was to ensure for themselves as much parliamentary (and of course bicameral) bargaining power as possible, since that would allow them to pursue policy objectives more efficiently” (Elklit, 2002, pg. 36)

Sweden

There are two important reforms in Swedish electoral history. The 1866 reform against the old ruling elite “represented the fulfillment of the program of [the] early nineteenth-century bourgeois Liberals” configured by non-noble ironworks owners, wholesalers, non-noble landed proprietors, and prosperous farmers (Rueschemeyer et al., 1992, pg. 93; our italics). This reform created the new Riksdag consisting of two chambers dominated by

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38 See Elklit (2002, pg. 30-36) for a description of the strategy followed by the Liberal Prime Minister (J.C. Christensen) to “avoid any decisions that would eventually inflict losses on him and his party”.

39 The electorate jumped from 18% of the population in 1915 to 41% in 1918. The electoral system in the Folketing was also changed from plurality to proportional representation, although at this point Social Democrats would preferred plurality. However, they needed the support of the Landsting to change the Constitution and the “Conservatives were very keen to have PR [proportional representation] in the Folketing” (Elklit, 2002, pg. 34). Observe that the need of constitutional amendments for (some type of) changes in the electoral system does not invalidate our assumption that the governing party sets the franchise rule. It is because our (or any other) model does not include bicameralism, that we cannot explain the adoption of proportional representation system.
conservative groups. The First Chamber represented the wealthy and socially prestigious. Its members were elected by the councils and cities outside the counties under a restrictive franchise with plurality voting (i.e. an individual’s number of votes was a function of their wealth). The Second Chamber (elected by citizens fulfilling stringent property or income qualifications) was dominated by the Agrarian Party. During this period, no reforms took place as there was no dividing conflicts among the ruling elite (a necessary condition in our model for expansion of the electorate).

During the last decades of the 19th century, debate over free trade split the Agrarian Party. A new Conservative Party formed from “most of the remaining Agrarian Party and a parliamentary faction of the right.” On the opposite side, the Liberal Party emerged as a “broad-based political force with its roots in the free-trade tendency.” Not surprisingly, by the end of the 19th century, “the suffrage issue [promoted by the liberals and fought by conservatives] constitutes the ideologically most potent dividing line between left and right” (Särlvik, 2002, pg. 234). In 1905, when the Liberals (and the Social Democrats) obtained a majority in the Second Chamber, the new Liberal government proposed general suffrage and single-member constituencies. Although the measure was defeated in the First Chamber, Conservatives realized they could not stall political reform and, in 1908, proposed “a suffrage reform bill which in their view contained conservatives guarantees” (Särlvik, 2002, pg. 234), namely some economic restrictions (people with unpaid taxes or under bankruptcy would lose the right to vote) and proportional representation.

Like the Danish case, bicameralism and the need of constitutional amendments for political reforms delay the implementation of universal suffrage until 1911 and link it up to proportional representation. It is, however, in the split of the elite along the free trade/protectionism where we find the origin of the franchise extension.
Latin Europe: Italy and Spain

The common element to the Italian and the Spanish cases is the absence of a split elite.\(^{40}\) In both cases, the agricultural and industrial interests merged in seeking a protective state, as evidenced, for instance, by the introduction of tariffs on agricultural and industrial imports in 1887 (Italy) and 1891 (Spain).\(^{41}\) This concurrence of elite interests resulted in the transformismo/el Turno systems that effectively fixed electoral outcomes, stalling franchise expansions until the years around World War I.\(^{42}\) The late industrialization and late extension of the franchise (i.e. a type I economy during most of the nineteenth century) are consistent with our argument given the merger of landed and industrial interests in these countries.

Latin America

As Sokoloff and Engerman (2000) and Engerman and Sokoloff (2001) point out, it is striking how limited the franchise was in Latin American countries during the nineteenth century. For example, due to combination of wealth and literacy requirements, only 1.8\% of Argentineans and 2.4\% of Brazilians were included in the electorate as late as 1896 and 1914. (Similar rates are attained for other Latin American countries.) The political (and economic) power in these countries was concentrated in the hands of a small landed aristocracy. The lack of an active capitalist class among the elite and the inability to enfranchise a significant share of industrial workers made it impossible for electoral reforms which would have led to greater investments in public goods (e.g. education) and raised productivity and wages (i.e. transitioning from type I or type II to type III economies). Thus it is

\(^{40}\)For instance, the Spanish agricultural reforms of the 1850s opened the possibility of landowning for the affluent nobility, the upper peasantry, the local political bosses in the rural towns, and the bourgeoisie, merging their economic interests and hence their political support for the Conservatives (Rueschemeyer et al., 1992, pg. 119)

\(^{41}\)More generally, as Rueschemeyer et al. (1992) points out for the Italian case, protectionism, defense expenditure, labor peace, and economic nationalism linked agricultural and industrial interests (pg. 104).

\(^{42}\)The Italian Liberal leader, Giovanni Giolitti, promoted a 'limited and cautious' expansion of the franchise. He managed the 1913 election through corrupt practices, and it was not until after the war that mass electoral enfranchisement was implemented (Colomer, 2001, pg. 56-57). In Spain, the military coup of 1923 ends the corruption of El Turno and institutes a short-lived, highly democratic Republic.
unsurprising that these countries experienced little industrialization and economic growth over this period.

**Argentina**

The Argentinean political system of the second half of the 19th century was highly restrictive and dominated by a single party representing landed interests, with provincial elections being dominated and manipulated by the local oligarchy (Collier, 1999; Colomer, forthcoming). As Colomer (forthcoming) points out, “governors’ control of voters, coercion, and so-called ‘patriotic fraud’ became regular.” Thus, conservative governments followed one another in the absence of effective political competition.

At a time when immigrants were becoming an absolute majority, citizenship requirements implied a drastic reduction in the share of the population enfranchised (even though Argentina adopted formal universal suffrage in 1856). Moreover, the continued presence of wealth and literacy requirements further reduced the electorate to only a slim fraction of the eligible voting population (Sokoloff and Engerman, 2000). Thus, “actual turnout stayed at so low levels as between 1 and 3 per cent of total population for more than fifty years” (Colomer, forthcoming). Consistent with our model, the dominance of the Conservative party led to voting restrictions which extended the electorate little beyond the elite. Moreover, the absence of a cleavage among the elite gave little reason for parties to pursue electoral reforms.

However, through the 1880’s, Argentina saw significant increases in foreign investment (including 5,800 miles of British owned railroads), international trade (increasing seven-fold over the period 1860 to 1889), and immigration (with the nation’s population increasing three-fold from over the same period) (Rock, 1985, pg. 132). These changes paved the way for the 1912 electoral reforms, as a growing faction of the elite espoused a reduction in trade barriers and changes in foreign policy. These were cast against the views of a landed elite pressing for subsidies and trade credits. Faced with this situation (and in accordance with proposition 9) conservative leader Sáenz Peña enacted the 1912 reforms, extending
universal suffrage and making voting compulsory, while, at the same time, establishing “a set of formulas able to heavily distort electoral results” (Colomer, forthcoming).43

Chile

Chile held elections as early as the 1830’s, but they suffered from voting restrictions (e.g. property and literacy requirements, the absence of secret balloting) and informal practices that subordinated the legislature (e.g. manipulation of voter registration lists). The 1874 electoral reform addressed both “the franchise [it eliminated all voting restrictions other than literacy] and the impartiality of the two local juntas with responsibility for and oversight of registration lists.” (Collier, 1999, pg. 60)

Principal support for this reform came from the Conservative Party which “since their fall from power suffered from electoral intervention as much as they had formerly profited by it.” (Galdames, 1941) Conservatives sought to enfranchise the rural constituency by expanding the suffrage to all literate males and eliminating interference in voter registration. In accord with our model (proposition 9), conservatives pushed for greater suffrage, primarily enfranchising those considered supportive of conservative policies: “Indeed, the effect of the new law was primarily to enfranchise those who listed their occupation as agricultur- alists, a group that rose to nearly half the national electorate.”44 (Valenzuela, 1996) These reforms appeared as conservatives in the legislature tried to counterbalance the power of the Liberal executive and check the growing power of liberal oriented civil servants.45

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43Interestingly, after two victories of the opposition candidate (who unexpectedly won narrowly the first presidential election), conservatives supported a military coup that dissolved the constitutional government.
44Consistent with our argument in which the enfranchisement of unskilled workers necessitates the enfranchisement of skilled workers, the new law also enfranchised the newer urban classes, gaining the support of the Radical Party.
45The decades prior to the reform saw the growing power of career civil servants who “challenged Conservative landed elites and threatened to upset traditional relations in the countryside by curbing Church privileges.” (Collier, 1999)
8 Conclusion

Research on issues of growth and development are increasingly turning to the analysis of the distribution of political power in delineating the ability of an economy to realize its potential. As Sokoloff and Engerman (2000) demonstrate, while factor endowments played an important role in the development of the North and South America, the returns of these endowments are rarely fully realized when the distribution of political power (and hence decision-making rights over public goods) is highly skewed in favor of the elite.

Our analysis sheds some light on these findings. In particular, the use of suffrage rights in partisan competition helps explain how voting rights are allocated among the population. This in turn determines the way an economy invests in public goods fuelling the process of development.

We find in the social structure of society an explanation for the connection between enfranchisement and growth. When (1) there exist an economic conflict among the elite, (2) the landed classes are not politically strong, and (3) there exists a critical mass of urban (industrial) workers, we observe both growth and democratization. The lack of conditions (1) or (2) resolves in stagnant autocracies while the absence of condition (3) drives growth-deterring democratic expansions (figure 3). It also follows from our analysis that we should observe (i) franchise contractions are mostly fostered by conservative governments, (ii) franchise extensions promoted by conservative (agrarian) governments tend to be larger than those promoted by liberal (capitalist) governments, and (iii) there exists a limit to capitalists' support for extending the franchise (corollary 2 and proposition 10).

Finally, two words of caution. First, we do recognize the role played by the working class in the final push of democratization. However, in most cases the working class was not strong enough to start the process of democratization. As an indicator of this, Therborn (1977) points out that in no case did the working class parties received electoral majorities even after the introduction of universal suffrage. Hence, our arguments aligns with Rueschemeyer et al. (1992) went they write that “not only did the working class need
allies in other classes in this final push, other classes were, in many cases, more important in earlier extensions of the suffrage and/or struggles for parliamentary government” (pg. 83). Secondly, our model does not adequately account for cases of high growth combined with large extensions of the franchise. Such patterns have been observed in some Northern European countries by changing political institutions from majority to proportional representation. We leave this issue for future research.

A Appendix

In this appendix we show that party $C$ will seek a lower tax than the one preferred by industrial workers if and only if the median capitalist is sufficiently rich. Formally, we claim that

$$\tau_s^* > \tau_C^* \quad \text{if and only if} \quad \theta^M_c > (1 - \beta)(1 - \tau_s^*)\pi_c(\tau_s^*) \frac{\hat{\mu}'(\tau_s^*)}{\hat{\mu}(\tau_s^*)},$$

where $\hat{\mu}(\tau) = \mu(\hat{\theta}^*(h(\tau)))$, with $\hat{\mu}' > 0$.

We know that $\tau_C^*$ maximizes $U_C$ which is a single-peaked function (proposition 5). Therefore, it is enough to show that $U_C$ is decreasing at $\tau_s^*$. Calculating

$$U'_C(\tau_s^*) = -\theta^M_c + (1 - \beta)(1 - \tau_s^*)\pi_c(\tau_s^*) \frac{\hat{\mu}'(\tau_s^*)}{\hat{\mu}(\tau_s^*)},$$

where we have used $h(\tau_s^*) = (1 - \tau_s^*)h'(\tau_s^*)$ (see (32).) It follows that

$$\tau_s^* > \tau_C^* \Leftrightarrow U'_C(\tau_s^*) < 0 \Leftrightarrow \theta^M_c > (1 - \beta)(1 - \tau_s^*)\pi_c(\tau_s^*) \frac{\hat{\mu}'(\tau_s^*)}{\hat{\mu}(\tau_s^*)}.$$

And therefore our claim is shown.
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