The political class and redistributive policies*

Alejandro Corvalan† Pablo Querubin‡ Sergio Vicente§

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Abstract

We study the relationship between the composition of the political class and the size of government. First, we use a citizen-candidate model to show that the extension of suffrage is inconsequential for government spending when stricter eligibility requirements are in place. The removal of eligibility requirements, on the other hand, leads to the election of less wealthy politicians and the enactment of more redistributive policies. We test these predictions empirically using data from the 13 U.S. original states. We find no robust correlation between the extension of the franchise and government spending or the composition of the political class. However, the subsequent elimination of eligibility restrictions is associated with an increase in government spending and the election of state senators with a less elite background.

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†Universidad Diego Portales. Email: alejandro.corvalan@udp.cl.

‡New York University. Email: pablo.querubin@nyu.edu.

§Universidad Carlos III de Madrid. E-mail: sergio.vicente@uc3m.es.

1 Introduction

Democratization has often been perceived as a fundamental stage in political and economic development. A large strand of political economy literature predicts that the extension of the franchise should lead to increased government spending and redistribution (Meltzer and Richard, 1981; Acemoglu and Robinson, 2000). However, recent studies suggest that the preferences of the electorate may not be the only determinant of economic policies; the identity of those who hold office may also play a major role.[1]

At the beginning of the nineteenth century, when democratization took off in many countries, elites controlled the decision-making process by imposing restrictions not only on who could vote, but also on who could run for office. Strict economic qualifications to run for office were a widespread practice in the United States, Europe and Latin America.[2] In fact, restrictions on who can hold office have been pervasive throughout the history of democracy. In Ancient Greece, the Athenian lower classes (the *thetes*) were allowed to participate in the assembly (the *Ekklesia*) around 600 BC, but it was not until Pericles– around 460 BC–that the thetes were also allowed to hold office. Right after the French Revolution, the 1791 constitution conceded universal male suffrage, but imposed severe economic restrictions on eligibility. In a very recent example, the massive protests in the streets of Hong Kong in 2014– the "Umbrella Revolution"–were ignited by the decision of the Chinese Communist Party to grant voting rights to Hong Kong's citizens while keeping control over the pool of candidates that can participate in elections.

This paper studies the relationship between the composition of the political class and the size of government. We argue that the preferences of politicians, and not only the preferences of the electorate, are important determinants of economic policies in democratic societies. In this sense, we take a broader approach to the study of democratization by bringing together suffrage and candidate eligibility restrictions.

In the first part of the paper, we construct a simple theoretical model to study the interplay between suffrage and eligibility requirements. We build on the citizen-candidate model (Osborne and Slivinski, 1996; Besley and Coate, 1997) by adding a wealth threshold for voting, and a different wealth requirement–typically higher–for running for office. The key player in this polity turns out to be what we dub the *decisive citizen*, which is either the median of the constituency–when this citizen is eligible–or the minimum-wealth citizen who is allowed to run. We use this basic set up to illustrate the policy consequences of

[1]For work on how the identity of officeholders may affect policies see Chattopadhyah and Duflo, 2004 for the role of gender, Pande, 2003 for the role of ethnicity, and Besley et al., 2011 for the role of education.

[2]For US and Europe, see Miller (1900) and Cotta and Best (2004), respectively. For Latin America, see Annino (1995), Posada-Carbo (1996) and Sábato (1999)).

reductions in suffrage and eligibility requirements.[3] The key implication of our theory is that, in the presence of strict eligibility requirements, suffrage extensions do not lead to an increase in redistributive policies, which would only arise following a reduction of eligibility requirements.

To test this prediction, we focus on the 13 original states of the United States during the period 1776-1900. This is an ideal setting to test our theory thanks to variation in the year in which different states eliminated economic requirements for suffrage and candidacy. Availability of state-level government spending data for the 19th Century is unusual and this also makes the U.S. a unique setting for our empirical analysis. While restrictions on voting and candidacy were a widespread phenomenon across the world, data limitations would make it unfeasible to study this phenomenon in other countries or in a cross-country setting.

We first construct a novel data set on economic eligibility restrictions for the 13 original states during our period.[4] The data is coded from a report by historian Frank H. Miller in 1900, which describes legal qualifications for office in the American colonies and states, from the seventeenth to nineteenth centuries (Miller, 1900). In particular, the report provides a comprehensive list of property requirements for state legislators and governors and, more importantly, when those requirements were finally abolished. We combine this information with data on voting qualifications provided by Keyssar (2000) and Engerman and Sokoloff (2005). Next, we estimate panel data regressions using state-fixed effects and state-specific time trends to test the correlation between the size of government and suffrage and eligibility reforms during 1788-1900.

Our results provide evidence of a positive relationship between the elimination of eligibility requirements and government size, as measured by state expenditure per capita. We show that this result does not capture differential pre-existing trends and is robust to different samples, estimation strategies and the coding of our reform variables. We also show that eligibility reform is associated with an increase in the share of the most redistributive components of spending, such as welfare and education. By contrast, the correlation between suffrage extension and the size and composition of government expenditure is small and statistically insignificant.

Next, in order to corroborate that changes in these policy outcomes are driven by the mechanism proposed in our model (namely, the election of politicians with a less elite background) we use biographical and census data to code a rich set of personal characteristics for a sample of state senators. Most notably, we use the full count file of the 1850 U.S.

[3] In this paper we do not study the causes of such democratic reforms. In the next section we summarize the literature on this topic.

[4] As explained below, the study of eligibility restrictions is not possible for US states other than the original 13 states.

Population Census to find the real estate wealth of this sample of state senators. This is the most relevant variable for our purposes, given that most of the eligibility requirements during this period made explicit reference to minimum property wealth requirements. We show that eliminating eligibility requirements led to the election of a more diverse–less elite–set of state senators as measured by variables such as education, occupation, real estate wealth and previous relatives in office (dynastic status).

Our empirical results must be interpreted cautiously, as the timing of suffrage and eligibility reforms was not exogenous, and may confound the effect of other time-varying state characteristics or reforms. However, all of our empirical evidence is consistent with the basic predictions of our model: whenever strict eligibility requirements are in place, extending the right to vote does not affect policy outcomes unless eligibility restrictions are also removed. Once eligibility restrictions are removed, the decisive citizen (politician) becomes less wealthy, which leads to the adoption of more redistributive policies–as captured by higher government expenditure and the increase in the share of welfare and education. The fact that we find an effect not only on government spending but also on the elite background of elected politicians gives us further confidence that our estimates capture the role of eligibility reforms and not of other potential confounding variables or reforms during that period.

In most of our empirical analysis we focus on the elimination of *property* requirements for both office and suffrage. However, other suffrage restrictions based on race (prior to the Civil War) or gender (prior to 1919, at the federal level, or late 19th Century in some states) as well as poll taxes, literacy tests and residence and citizenship requirements remained in place or were subsequently enacted in some U.S. states. These restrictions disenfranchised women and poorer segments of the population (Miller, 2008; Naidu, 2012). Similarly, other restrictions on candidacy based on citizenship and age remain in place for many elected offices. Nonetheless, Engerman and Sokoloff (2005) argue that these property restrictions had very important redistributive consequences and their elimination substantially increased the pool of eligible candidates and the size of the electorate. In addition, in our empirical analysis we also control for the removal of other suffrage restrictions.

In sum, we argue that democratization should be understood more broadly as the process of allowing a broader set of citizens to vote and run for public office. We do not minimize the importance of extending the franchise in the process of democratization, but highlight the fact that universal suffrage is a *necessary* but not a *sufficient* condition for redistributing power away from the elite and for the enactment of redistributive policies.

In the next section we describe the related literature. In Section 3 we present the theory and explore the implications of the model. In Section 4 we discuss eligibility and suffrage qualifications in the 13 original American states. Section 5 provides quantitative evidence on

the relationship between suffrage and eligibility reforms and policy outcomes and the elite background of politicians. Section 6 concludes.

2 Related Literature

This paper aims to bridge the literatures on suffrage extension and political selection (Besley, 2005). A prolific body of work has explored the causes of the expansion of suffrage in the context of the Downsian paradigm (Meltzer and Richard, 1981; Acemoglu and Robinson, 2000; Bourguignon and Verdier (2000), Llavador and Oxoby (2005) and Gradsterin (2007). According to this approach, electoral competition induces candidates to implement the median voter's preferred policy (Downs, 1957), even when candidates may themselves be policy motivated (Wittman, 1977; Calvert, 1985). Other authors, including Lizzeri and Persico (2004) and Galor et al. (2009), use alternatives to the median voter model, but their mechanisms do not address the role of eligibility restrictions. Indeed, most (if not all) of the literature on suffrage democratization assumes that the identity of the politician is irrelevant and that equilibrium policies depend on characteristics of the electorate. As far as we can tell, our work is the first attempt to study democratization as a process that includes both the extension of suffrage and access to political office.

A separate literature has emphasized the role of candidate selection–and, more specifically, politician characteristics–on implemented policies. For instance, McGuire and Ohsfeldt (1989) provide convincing evidence that the delegates who drafted the U.S. constitution at the Federal Convention of 1787 voted according to their personal economic interests. The recent works by Pande (2003), Chattopadhyah and Duflo (2004) and Besley et al. (2011) study the importance of the race, gender and education of the political class, respectively, on a variety of economic outcomes.

Two recent papers discuss the relationship between extending the right to vote and politicians' socio-economic backgrounds. Larcinese (2014) finds that the introduction of quasi-universal suffrage in Italy in 1912 did not affect the parliamentary representation of the aristocracy and traditional elites. Likewise, Berlinski et al. (2014), using evidence from the Second Reform Act in the UK in 1867, show that this reform extended the franchise but had no causal effect on the political representation of the British aristocracy in parliament. These findings are consistent with the predictions of our model and our empirical evidence on suffrage expansions and the socio-economic background of U.S. state senators. However, we extend the analysis to include both suffrage and candidate eligibility reforms to show that the second type of reform mattered for political selection.

Our paper also builds on and contributes to the literature on persistence and institu-

tional change (Querubin, 2012; Acemoglu et al., 2014). It is generally acknowledged that nineteenth-century elites maintained their power even in the face of democratic reforms (Dal Bo et al., 2009). Acemoglu and Robinson (2008) suggest that ruling elites may have democratized *de jure* power via institutional reforms, but that they managed to maintain control in practice as a result of their *de facto* economic dominance. The more recent work by Bertocchi and Arcangelo (2014) and Carvalho and Dippel (2016) provides evidence to support this argument. In this paper we explore a complementary explanation. By leveraging institutions that regulated candidate eligibility, elites may have extended the suffrage with limited consequences on their overall political power. Following the terminology in Acemoglu and Robinson (2008), elites were able to fully offset one *de jure* reform using another *de jure* reform. Naidu (2012) documents the presence of other types of offsetting *de jure* suffrage reforms. The enactment of poll taxes and literacy tests in some Southern states post-1870 can be understood as an attempt to disenfranchise black males that had been given the right to vote by the 15th Amendment following the Civil War. Our findings are also related to the work of Baland and Robinson (2008) and Anderson et al. (2015) who show how in clientelistic societies elites can often control the voting decisions of non-elites. This may partly explain why, absent other reforms, such as removing eligibility restrictions, or introducing the Australian ballot, suffrage expansions may fail to impact economic policy.

Finally, our work is related to the empirical literature that studies the relationship between franchise expansions and government spending. Peltzman (1980) finds no effect for a cross-section of countries. Husted and Kenny (1997) show that extending the franchise in the United States led to a sharp increase in welfare spending but had no effect on other policy items, while Aidt et al. (2006) finds the opposite result in a cross-section of European countries. In recent works, Vernby (2013) finds that the effect of enfranchising non-citizens in Swedish municipalities was the increase of spending on education and social services, while Falch et al. (2014) find null causal effects of franchise extensions in Norwegian municipalities. Kroth et al. (2016) find that the enfranchisement of new voters in South Africa led to an increase in basic service delivery such as electrification. Finally, for the case of England during the 19th Century, Aidt et al. (2010) and Chapman (2016) present contradictory findings of a non-linear relationship between franchise extensions and government spending. Thus, the empirical evidence on the effects of suffrage extensions is mixed, and often contradictory, with some studies finding an impact on overall government spending, other studies finding effects only on some specific components of expenditure, and a smaller set of studies finding no impact at all.

3 Theoretical Framework

We construct an electoral competition framework building on the "citizen-candidate" model (Osborne and Slivinski, 1996; Besley and Coate, 1997), to which we add a suffrage and an eligibility requirement. We use the model to analyze the redistributive policies that arise as the result of electoral competition in the context of a constitutional design that establishes both suffrage and eligibility requirements. In addition, we address the consequences of removing these constitutional restrictions.

3.1 Preferences, Constitution and Political Competition

The society consists of a continuum of citizens with mass one endowed with heterogeneous wealth y, which is distributed over the interval $[0, +\infty)$ according to a cumulative distribution function F with associated density f. For analytical simplicity, we assume that F is continuous and strictly increasing. Hence, any truncated distribution with density $\frac{f(\cdot)}{1-F(y)}$ in the support $[y, +\infty)$ has a unique median, which is denoted by $m(y)$. We let μ denote the mean wealth of the population.

The citizenry has to decide on a proportional distortionary wealth tax $\tau \in [0, 1]$ in order to fund a balanced public budget. For simplicity, we assume that all citizens have the same preferences over final consumption and public goods, which induce an indirect utility function over tax rates given by some $V(y, \tau)$ satisfying the following properties:

(i) For any y, $V(y, \tau)$ is continuous and single-peaked in τ, with a well-defined and unique preferred tax rate $\tau(y)$.

(ii) Citizen y's preferred tax rate $\tau(y)$ is strictly decreasing in the citizen's wealth level y.

In particular, these preferences imply that wealthier citizens prefer lower levels of taxation. For notational simplicity, we let $V^*(y) \equiv V(y, \tau(y))$ stand for the (indirect) utility level that a citizen with wealth y obtains when her preferred tax rate $\tau(y)$ is implemented.

The citizenry chooses its representatives through elections. The constitution $\Omega = (y_S, y_E)$ specifies both a *suffrage requirement* y_S and an *eligibility requirement* y_E. The constituency is formed by citizens with wealth $y \geq y_S$, that is, only individuals with wealth above y_S have the right to vote. Similarly, the constitution establishes that only citizens with $y \geq y_E$ are eligible to run for office.

The political process consists of two strategic stages and a payoff realization stage. At stage 1, any individual meeting the eligibility threshold y_E may run for office. Entering the political race entails a cost $c > 0$ for the candidate. At stage 2, citizens with wealth

$y \geq y_S$ cast their votes for one of the candidates running for office. Voting is costless, and is assumed to be sincere whenever strategic choices of votes may be relevant. In case voters are indifferent amongst a given number of candidates, we assume that an equal split of the indifferent voters casts their ballots for each candidate. After elections have taken place, the candidate with the highest number of votes is proclaimed the winner. If there is a tie, a balanced die is rolled to determine the winner from among the tying candidates. Finally, the winner implements a policy of her choice.

As it is usual in citizen-candidate setups, policy promises are not binding. Consequently, any winning candidate implements her preferred tax rate. In addition, the winning candidate gets a payoff of $b \geq 0$ as her spoils of office. The payoff for a citizen with wealth y, when a candidate with ideal policy τ is elected, is given by $1_b \cdot b - 1_c \cdot c + V(y, \tau)$, where 1_c and 1_b are indicator functions taking a value of 1 if the citizen runs for office and wins the election, respectively, and a value of 0 otherwise. In order to ensure that at least one candidate runs for office, we assume that having an anarchic society, one in which no citizen runs, entails a payoff of $-K(y)$ for a citizen with wealth y, for some $K(y) > c - b - V^*(y)$.

If the spoils of office were significantly larger than the cost of running, we would have several candidates with the same preferences running for election simultaneously. For instance, for $b = nc$, for some integer n, and no suffrage or eligibility restrictions, a number n of median-voter citizens running for office constitutes an equilibrium.[5] In order to reduce the number of cases to consider and simplify our exposition, we additionally impose the assumption that $b < 2c$.

3.2 Equilibrium existence and uniqueness

In this section, we address the question of equilibrium existence and characterize the conditions for equilibrium uniqueness. We provide a full characterization of the equilibria of this game in Proposition 4, which is laid out in the Appendix.

As we shall see shortly, the key player in this electoral competition game is the *decisive citizen* $\hat{y}$, who is defined as $\hat{y} \equiv \max\{m(y_S), y_E\}$. We say that the eligibility requirement is binding when $y_E > m(y_S)$. In this case, the decisive citizen is given by the eligibility restriction, that is, $\hat{y} = y_E$: this is the citizen closest to the median within the set of candidates meeting the wealth qualification to run as a candidate. If, on the contrary, the eligibility requirement does not bind (that is, if $m(y_S) \geq y_E$), then the decisive citizen is the constituency median, that is $\hat{y} = m(y_S)$. The following proposition provides an existence

[5] For a detailed description of the equilibria for $b \geq 2c$ and no suffrage or eligibility restrictions, see Osborne and Slivinski (1996).

result in which the decisive citizen plays a central role.

Proposition 1 (Decisive citizen and equilibrium existence)**.** An equilibrium in which the decisive citizen's preferred policy $\tau(\hat{y})$ is implemented always exists.

Proof. See Appendix. ■

This existence result stems from the fact that the decisive citizen cannot be electorally defeated by a citizen with different preferences. If the eligibility requirement does not bind, then the decisive citizen is the median of the constituency, who would obtain more than half the votes against any other candidate. If eligibility requirements bind, the decisive citizen would also obtain the support of more than half the electorate, as any other contender would be further away from the constituency median. Since an anarchic society yields a loss in excess of the payoff that any candidate could achieve by running and implementing her own preferred policy, the decisive citizen running and implementing her preferred policy always constitutes an equilibrium outcome of this electoral game.

The decisive citizen implementing her preferred tax rate may not be the unique equilibrium outcome of this electoral game. The following proposition characterizes the conditions for uniqueness.

Proposition 2 (Decisive citizen and equilibrium uniqueness)**.** The decisive citizen's preferred policy $\tau(\hat{y})$ is the unique equilibrium outcome of this electoral competition game if and only if $b \geq c$ and $y_E \geq \underline{y}$, for some $\underline{y} \in [0, m(y_S))$.[6]

Proof. See Appendix. ■

This proposition states that whenever the perks of winning office are sufficiently large (i.e., $b \geq c$), and the wealth requirement to run as a candidate is not too low (i.e., $y_E \geq \underline{y}$), the decisive citizen's preferred policy $\tau(\hat{y})$ constitutes the unique equilibrium outcome of this electoral game. The intuition for this uniqueness result is as follows. The decisive citizen would always win an election against any other contender. Hence, whenever the perks of winning office exceed the cost of running (i.e., if $b \geq c$), the decisive citizen would find it profitable to contest any other single citizen's candidacy. Hence, there cannot be a citizen other than the decisive citizen running as a single candidate.[7] In addition, there could be an

[6] We provide a precise characterization of $\underline{y}$ in the proof of the proposition.

[7] The condition $b \geq c$ is not only sufficient (together with $y_E \geq \underline{y}$), but also necessary for equilibrium uniqueness. If $c > b$, the decisive citizen would not find it beneficial to run against a citizen with preferences too close to hers, because the policy gain from implementing her own preferred policy would be lower than the overall loss entailed by running as a (winning) candidate. Hence, there exists a set of citizens sufficiently close to the decisive citizen that could also run as candidates as well in the case $c > b$, as characterized in Proposition 4, item 1(iii).

equilibrium with a "leftist" and a "rightist" candidate located to the left and to the right of the median of the constituency, respectively. In that case, the median may not win the election in case she decided to run against them. An equilibrium with a leftist and a rightist candidate competing for office requires that the policy preferences of the running candidates be sufficiently dissimilar, which in turn requires that sufficiently poor citizens are allowed to run. An eligibility requirement $y_E \geq \underline{y}$ can rule out this possibility by preventing leftist candidates from running, in which case the decisive citizen's favorite tax rate would be the unique equilibrium outcome.[8]

Eligibility requirements, even if not binding, can therefore restrict electoral competition by ruling out the possibility that candidates willing to implement high taxation levels can run. When eligibility requirements do not bind, but prevent the emergence of leftist candidates, the resulting policy outcome is the constituency median's preferred tax rate. In this case, the combination of suffrage and eligibility restrictions shape the degree of redistribution in the society. When, on the contrary, the eligibility requirement binds, the suffrage requirement does not play any role in the determination of the level of redistribution in the society: the equilibrium tax rate is fully determined by the eligibility requirement. The following corollary, which follows directly from Proposition 2, formalizes this observation.

Corollary 1 (Equilibrium uniqueness with binding eligibility requirements)**.** Let $b \geq c$. If eligibility requirements are binding (i.e., if $y_E > m(y_S)$), then the degree of redistribution is given by $\tau(y_E)$.

3.3 Sequential elimination of suffrage and eligibility restrictions

As we argue in Section 4.2, the wealth eligibility requirements for several offices often exceeded the median wealth of the constituency. Consequently, (wealth) eligibility requirements were likely "binding" at the time at which (wealth) suffrage requirements were lifted. In the following propositions we assess the policy implications of extending the suffrage and lessening eligibility requirements when eligibility restrictions are binding. In order to simplify the exposition, for the remainder of the section we assume that $b \geq c$, so as to focus on the decisive citizen. In Proposition 5 we analyze the policy implications of extending the suffrage and reducing eligibility requirements for the case $b < c$.[9]

[8] An equilibrium with a leftist and a rightist candidate competing for office may not exist at all regardless of the eligibility requirement. In that case, we have that $\underline{y} = 0$, so that uniqueness of the decisive citizen's preferred policy only requires that $b \geq c$. See Proposition 4, item 2, where we establish the conditions for the existence of an equilibrium with a leftist and a rightist candidate, as well as the proof of Proposition 2, where we characterize $\underline{y}$.

[9] As argued above, the decisive citizen's preferred policy is the unique equilibrium outcome when both $b \geq c$ and eligibility requirements are binding. Moreover, when $c > b$ only citizens that are sufficiently

Proposition 3 (Lessening suffrage and eligibility restrictions)**.** Assume that $b \geq c$ and that eligibility requirements are binding (i.e., $y_E > m(y_S)$). Then, we have that:

(i) Lessening suffrage restrictions (i.e., changing suffrage restrictions from y_S to any $y'_S \in [0, y_S)$) does not change the decisive citizen, that is $\hat{y}' = \hat{y}$. Consequently, the degree of redistribution remains unchanged.

(ii) Lessening eligibility restrictions (i.e., changing eligibility restrictions from y_E to any $y'_E \in [0, y_E)$) shifts the decisive citizen towards more redistribution, that is, the new decisive citizen $\hat{y}' = \max\{y'_E, m(y_S)\}$ is such that $\hat{y}' < \hat{y}$.

Proof. See Appendix. ■

The intuition for this result follows directly from the statement of the proposition. When eligibility requirements are high enough so as to be binding, extending the suffrage does not change the decisive citizen. Therefore, enlarging the constituency is policy inconsequential. On the contrary, relaxing eligibility restrictions makes the decisive citizen less wealthy, hence favoring more redistribution.

Constitutional reforms in the original 13 US states were typically sequential, beginning with the elimination of the (wealth) requirements to vote and only later followed by the elimination of (wealth) eligibility requirements.[10] The following corollary, which follows immediately from Proposition 3, assesses the policy implications of eliminating the wealth requirement to vote first and the lifting of eligibility restrictions at a later time.

Corollary 2 (Sequential elimination of suffrage and eligibility restrictions)**.** Assume that $b \geq c$ and that eligibility requirements are binding (i.e., $y_E > m(y_S)$). Consider the following sequential reform: first, eliminate suffrage requirements; second, eliminate eligibility requirements. Then, it follows that the suffrage extension is policy inconsequential, while the elimination of eligibility requirements shifts the decisive citizen towards more redistribution.

Figure 1 illustrates Corollary 2.

*** FIGURE 1 HERE ****

close to the decisive citizen can run in equilibrium. While we make no attempt to single out any particular equilibrium, in this section we focus on the decisive citizen as a focal point, in the sense of Schelling (1960), and analyze the implications of changes in suffrage and eligibility restrictions. As a robustness check, we show in Proposition 5 that the "point results" that we obtain for the case $b \geq c$ translate into analogous "set results" for the case $c > b$.

[10] As depicted in Figure 2, 10 out of 13 states abolished suffrage and eligibility restrictions sequentially, while 3 (Pennsylvania, Virginia and Rhode Island) did so simultaneously.

The figure represents the space of constitutions as pairs $\Omega = (y_S, y_E)$ in the Euclidean plane. The constituency median-voter mapping $m(y_S)$ is a strictly increasing function of suffrage requirements y_S, with an intercept at m–the unrestricted median wealth citizen. The function $m(y_S)$ partitions the constitutional space into the *Eligibility-Restriction Set*–the upper contour set of $m(y_S)$–and the *Suffrage-Restriction Set*–the lower contour set of $m(y_S)$. By construction, for any given constitution on the Eligibility-Restriction Set the decisive citizen is determined by the eligibility restriction (i.e., $\hat{y} = y_E$). Analogously, for any given constitution lying on the Suffrage-Restriction Set the decisive citizen is determined by the suffrage restriction (i.e., $\hat{y} = m(y_S)$). The dotted line depicted in Figure 1 is an *isopolicy line*, which corresponds to the locus of constitutions with the same decisive citizen $\hat{y}$. Isopolicy lines are inverted L-shaped lines, being horizontal on the Eligibility-Restriction Set (where $\hat{y} = y_E$), and vertical on the Suffrage-Restriction Set (where $\hat{y} = m(y_S)$).

Consider a sequential reform of an initial constitution $\Omega^0 = (y_S^0, y_E^0)$, which we depict on the Eligibility-Restrictions Set to represent binding eligibility restrictions. In the first stage, the constitutional reform consists of removing suffrage restrictions, leaving eligibility restrictions unchanged. Hence, the new constitution is given by $\Omega^1 = (y_S^1 = 0, y_E^1 = y_E^0)$. Eligibility restrictions are then lifted in the second stage, so that $\Omega^2 = (y_S^2 = 0, y_E^2 = 0)$. Observe that the change from Ω^0 to Ω^1, which fall on the same isopolicy line, leaves the decisive citizen unchanged, since $\hat{y}^1 = \hat{y}^0 = y_E^0$. In this case, the eligibility constraint continues to bind, and hence the removal of the wealth suffrage restrictions is inconsequential. The eligibility reform, on the contrary, yields a decisive citizen that favors a higher degree of redistribution (i.e., $\hat{y}^2 = m < y_E^0 = \hat{y}^1$).

We make a final observation before proceeding to the empirical sections of the paper where, among other tests, we assess the elite background of politicians following electoral reforms. In citizen-candidate models, such as this one, the only credible policy outcome is the elected politicians' preferred level of redistribution. Extending the suffrage neither alters the pool of eligible candidates, nor modifies the eligible candidate that the constituency median prefers. Hence, extending the suffrage does not lead to the election of less wealthy politicians. On the contrary, lessening eligibility restrictions leads to a higher degree of redistribution through the election of less wealthy politicians. We state this remark in the form of a corollary that follows immediately from Proposition 3.

Corollary 3 (Suffrage and eligibility restrictions and politicians wealth)**.** Assume that $b \geq c$ and that eligibility requirements are binding (i.e., $y_E > m(y_S)$). Then, we have that:

(i) Lessening suffrage restrictions does not lead to the election of less wealthy politicians.

(ii) Lessening eligibility restrictions leads to the election of less wealthy politicians.

4 Qualifications for Suffrage and Office in the U.S.

Throughout the rest of the paper, we assess the relevance of our theory on the sample of the 13 original U.S. states from 1776-1900. We choose this sample and period for several reasons. First, at the beginning of the period all 13 states, with the exception of Pennsylvania, had in place some form of property requirements, for both the right to vote and the right to run for office. During this period these requirements were abolished at different points in time by the different states, giving us both cross-sectional and time-series variation to estimate the consequences of eliminating these requirements on political and economic outcomes. In contrast, other states admitted to the union after the original 13 states, with the exception of Louisiana, Mississippi and Tennessee, did not include any property restrictions on suffrage or eligibility in their original constitutions, and thus do not exhibit any variation in our key explanatory variables of interest. Moreover, for Louisiana, Mississippi and Tennessee we only have government expenditure data starting after such property requirements had been abolished and thus we cannot perform a differences-in-differences analysis with them. We focus on eligibility restrictions for the state senate since eligibility restrictions for state legislatures were typically lower and less likely to be binding.

Second, we have access to data on various economic and political outcomes. While other countries also enacted electoral reforms during this period, the within-country variation and data availability make the United States a unique setting to study the sequential introduction of democratization reforms.

In this section we provide historical evidence that illustrates how, consistent with our argument, fear of redistribution was an important consideration for elites when deciding whether to remove eligibility requirements based on property. We then describe our coding of property qualifications for both suffrage and office, the key independent variables in our subsequent empirical analysis.

4.1 Qualifications for Office and Redistributive Conflict

From 1691 onwards, every colony stipulated property requirements for both voting and running for office. At first, the requirement for both suffrage and eligibility was a simple freehold.[11] More specific requirements regarding the value and location of the freehold were

[11] A freehold was defined as the ownership of real property and all the immovable structures attached to the land. The link between freehold property and voting rights had a long tradition in England. The group of people who had the parliamentary franchise to vote were the 40-shilling freeholders, who needed to own land or have an annual rent of al least 40 shillings. The introduction of a minimum annual rent (as an alternative or instead of real estate ownership) became increasingly common as societies became more urbanized. As noted by (Ratcliffe, 2013, p. 221) "...colonies also allowed alternative qualifications to freehold

later prescribed. These provisions were upheld in all of the colonies until the late eighteenth century. The American Revolution brought a modest improvement in the right to vote, although in more than one-third of the states, colonial restrictions on suffrage remained in force. On the other hand, qualifications for office became more stringent. The first state constitutions, adopted between 1776 and 1790, specified detailed candidate eligibility restrictions. Property requirements were typically increased and extended to other public offices that had not been restricted under colonial rule.[12]

Several scholars have pointed to the fear of redistributive conflict by political elites as a motivation for eligibility qualifications. According to Beard and Beard (1921, p.110), "special qualifications, laid down in several constitutions, for governors, senators, and representatives, indicated that the revolutionary leaders were not prepared for any radical experiments in democracy". Pole (1962, p. 637) writes that the ruling class was "prepared to extend the suffrage when it suited their interest to do so, in the 1760's, but refused to take the same step when it would have opened the question of political power, a generation later".

This was particularly evident for states in New England, that modeled their constitutions (and eligibility qualifications) after the 1780 Massachusetts Constitution (Marshall and Hesse, 2011). For the case of New Hampshire, Beard (1914, p. 80) argues that "(f)earing that the interests of the wealthier classes could not be sufficiently safeguarded by the restrictions placed on voters, the original constitution-makers imposed still higher qualifications on representatives and senators."

Similarly, according to Szatmary (1980, p.49):

> The constitutions of many New England governments further enhanced the position of the commercial elite. (...) Although extending the franchise to most males, it limited the senatorial post to men with a freehold of 300 pounds or a personal estate of 600 pounds, restricted the representative office to males having a freehold of 100 pounds or 200 pounds in personal estate, and established a one thousand pounds qualification for governors. Obviously, the mercantile elite had the best chance for political office under this plan.

This led historian Samuel Eliot Morison to conclude that "(t)he Constitution of 1780 was a lawyers and merchants constitution, directed toward something like quarterdeck efficiency in government and the protection of property against democratic pirates."[13]

ownership in the form of personal property or payment of taxes, opening the suffrage to owners of urban property, and even to those prosperous farmers who rented their land or held it on some form of leasehold."

[12] Miller (1900) p 105.

[13] Morison (1922), p.29.

Even more illustrative were the interventions by members of the different Constitutional Conventions, where amendments to repeal or strengthen eligibility requirements were often considered. During the Delaware Constitutional Convention of 1831, Joseph Maull, representing Sussex County, warned that "(i)t is necessary to protect us from the 'workies'. Abolish the property qualification and they will make us clothe and educate their children."[14]

Willard Hall[15] from New Castle County similarly added that:

> If you take off the property qualification for Senator, I fear we shall run down hill rapidly (...) we may have a Legislature who may have no interest in regard to the manner in which taxes shall be laid, we may be giving away the power of taxation, and the taxes themselves, to men who have nothing to be taxed.

Finally, Edward Dingle from Sussex County said that "the right of suffrage was now so much extended that, if no property qualification should be required for office, they would be putting the property holders at the mercy of those who do not hold property."[16] Delaware would not eliminate property qualifications for state senators until 1897.

During the 1821 Constitutional Convention in New York, several members mentioned the importance of imposing property qualifications for the state senate (upper chamber). This was particularly important given that in this state there were no property requirements for eligibility to the assembly (lower chamber). Chancellor Kent from Albany[17] stated that:

> I shall feel grateful if we may be permitted to retain the stability and security of a senate, bottomed upon the freehold property of the state. Such a body, so constituted, may prove a sheet anchor amidst the future factions and storms of the republic. The great leading and governing interest of this state, is, at present, the agricultural; and what madness would it be to commit that interest to the winds. The great body of the people, are now the owners and actual cultivators of the soil (...) they are the safest guardians of property and the laws and (...) the foundation of national wealth and power. (...) Now sir, I wish to preserve our senate as the representative of the landed interest (...) I wish them to be always enabled to say that their freeholds cannot be taxed without their consent. The men of no property, together with the crowds of dependants connected with great

[14] Miller (1900) p 113.
[15] Gouge (1831, p. 127)
[16] Gouge (1831, p. 128)
[17] Carter and Stone (1821, p. 220-221)

> manufacturing and commercial establishments, and the motley and undefinable population of crowded ports, may, perhaps, at some future day (...) predominate in the assembly, and yet we should be perfectly safe if no laws could pass without the free consent of the owners of the soil. That security we at present enjoy; and it is that security which I wish to retain.

While many politicians at the time made explicit reference to qualifications for office as an important safeguard against redistribution, others offered alternative reasons in support of them. During the Philadelphia Federal Convention of 1787, William Pinkney said that while he "was opposed to the establishment of an undue aristocratic influence in the Constitution (...) he thought it essential that the members of the Legislature, the Executive, and the Judges, should be possessed of competent property to make them independent and respectable."[18] Under this view, property qualifications were important to prevent rent-seeking and the abuse of public office for personal benefit.

Finally, some legislators also pointed to the undemocratic nature of eligibility requirements based on property. This is illustrated by accounts of the intervention of Samuel Claytor, representing Campbell District during the 1830 Virginia State Convention:[19]

> The Convention had determined, that not only freeholders, but that every leaseholder, housekeeper, and head of a family, might exercise the right of voting; yet, here they were to be restrained from choosing, who among themselves would be their representative. (...) What need could there be for such a limitation? Did the possession of freehold any better qualify a man for the duties of Legislation? Unless some good reason were shewn him, he could not consent to the amendment.

In sum, while other motivations have been put forward for the enactment of eligibility property qualifications, both contemporary historians and political elites pointed to redistributive conflict and the protection of economic elites as important factors.

4.2 Coding Suffrage and Eligibility Qualifications

The 13 original American states implemented a variety of qualifications for both office and suffrage after independence. The restrictions included requirements on property, income,

[18] Elliot and Madison (1845, pp. 402-403).
[19] Virginia Constitutional Convention (1830, pp. 811-812)

residence, citizenship, race, religion, education and gender amongst others. We focus here on property requirements for white adult males, coding these restrictions in each state at different points in time. The main source of information on candidate eligibility requirements is Miller (1900). To our knowledge, ours is the first attempt to conduct a quantitative analysis on the consequences of property qualifications for office. As for the rules regarding suffrage, the most thorough sources are Keyssar (2000) and Engerman and Sokoloff (2005).[20]

Table 1 describes voting and office property qualifications for state senators, state legislators and governors, as stated in the original constitutions.[21] The table also indicates the year when such qualifications or other property restrictions were modified or abolished. Typically, property qualifications for office were much stricter than requirements for voting, in the sense that candidates had to own significantly more property than voters. Restrictions for the state senate and governorship were also typically higher than for the state's legislature (lower chamber). Note that all states eliminated property requirements for voting at the same time or prior to eliminating property requirements for office.[22] This implies that we cannot estimate the effect of eliminating eligibility requirements by holding constraints on suffrage constant. However, we can estimate the marginal effect of eliminating requirements for suffrage given restrictions on office, as well as the marginal effect of eliminating restrictions on office given no restrictions on suffrage.

*** TABLE 1 HERE ***

The gradual elimination of both suffrage and eligibility requirements in the 13 states during the nineteenth century is depicted in Figure 1. The upper line illustrates the gradual elimination of property requirements on voting. Voting enfranchisement enjoyed considerable momentum after the American Revolution. By the end of the 1820s, almost 80 percent of the original states had eliminated property requirements for voting. However, the removal of eligibility restrictions for the state senate, indicated by the bottom line, did not occur until after the Jackson administration in the early 1840s. In fact, 10 out of 13 states abolished suffrage and eligibility restrictions sequentially; the remaining 3 (Pennsylvania, Virginia and Rhode Island) did so simultaneously. We observe that there is substantial variation across states, not only in the year in which suffrage requirements were eliminated, but also in the lag with which qualifications for office were eliminated. For example, Delaware was the first state to eliminate property requirements for voting in 1792, but only eliminated requirements

[20] Other relevant works include Porter (1918), McGovney (1949) and Williamson (1960).

[21] All 13 original states enacted constitutions after 1776 except Connecticut and Rhode Island, where colonial charters remained in force.

[22] While states with no restrictions for governors are an exception to this rule, in all those states, governors were indirectly elected by the legislature and thus in practice were as constrained as legislators.

for office more than a century later in 1897. Rhode Island, on the other hand, only eliminated property requirements for voters in 1888 but eliminated qualifications for office in that same year.

*** FIGURE 1 HERE ****

Were eligibility restrictions for the state senate binding? Addressing this question requires information about the whole distribution of wealth in the 13 states over time. In particular, we must establish the location in the wealth distribution of the median voter and the least wealthy eligible citizen in every state given the suffrage and eligibility requirements put in place. While historical data on wealth distribution is scarce, we use two separate sources to assess this issue.

Detailed wealth distribution figures by state for the late eighteenth century are unavailable. However, Lindert and Williamson (2016) provide some statistics on wealth in 1774, on the eve of the revolution. They report distributional information–such as the mean, the median, cumulative wealth for different segments of the distribution and the Gini coefficient–for three aggregate regions: New England, Middle Colonies and South.[23] We adjust a Pareto distribution for each region, and assign to each state within that region the corresponding distribution.[24]

Second, we have micro data (complete file) for the 1850 Federal Population Census, which was the first census to collect data on the value of real estate wealth for every adult. This allows us to characterize the full distribution of real estate wealth in every state in this year.

Using these two sources, eligibility restrictions imply that, on average, the population excluded from candidacy for the state senate was between 76% (using Lindert-Williamson) and 85% (using the 1850 census). Since eligibility restrictions were removed after the elimination of property restrictions for suffrage, we can conclude confidently that eligibility restrictions were binding at the time of eligibility reform. The only exceptions were Connecticut (according to the Lindert-Williamson data) and Virginia (according to the 1850 census data), where the eligibility restrictions were sufficiently low that the median voter would have been allowed to run as a candidate. In the case of Virginia, the restriction was definitely not binding, given that suffrage was restricted for the same group of individuals. In all other

[23]Data are available in http://gpih.ucdavis.edu/tables.htm. Last accessed on 05/17/2017.

[24]We consider Massachusetts, New Hampshire, Connecticut and Rhode Island as New England; New York, New Jersey, Pennsylvania and Delaware as Middle Colonies; and Maryland, Virginia, South Carolina, North Carolina and Georgia as Southern Colonies. To convert property qualifications to a common unit (US dollars) we use average land prices per state provided by Lindert (1988) and use an exchange rate of £1=US$4.15.

states, the eligibility restrictions were binding. For state representatives, qualifications were less stringent.

The reforms put in place soon after the revolution had a varying impact on the average wealth of those in office. Before the revolution, state representatives were fairly rich. About 80 percent of the representatives were significantly wealthy (with property worth over £2,000), and indeed 40 percent of the total were considered very rich (more than £5,000).[25] The revolution reduced these percentages – to 55 and 20 percent, respectively, which means that it democratized access to office, at least at the level of state representatives. This was not necessarily the case for higher offices, such as governors or state senators. For some states, most notably Maryland and South Carolina, the senate was completely in the hands of the rich.[26]

As noted earlier, following the elimination of property restrictions for suffrage, other restrictions based on race, gender, as well as poll taxes, literacy tests and residence and citizenship requirements, remained in place or were subsequently enacted in some states. In this sense, the elimination of property requirements for suffrage cannot be interpreted literally as the introduction of "universal suffrage". Nonetheless, these reforms did enfranchise very large segments of the population. For example, Engerman and Sokoloff (2005) argue that by 1820 more than half of adult white males were casting votes, except in those states that still retained economic requirements for voting. In this regard, these reforms constituted important extensions of the right to vote, even if they fell way short of enfranchising all poor men and women. Nonetheless, in our empirical analysis we also control for the removal of other types of suffrage restrictions.

5 Empirical Results

In this section we present the empirical analysis to test some of the predictions of our theory in the sample of the 13 original U.S. states. We report results for two separate outcomes: i) government expenditure, and ii) characteristics of elected state senators.

5.1 Government Expenditure

First, we consider the effect of suffrage and eligibility reforms on the aggregate level and composition of state government expenditure. This is a frequently used proxy for the extent of redistribution pursued by the government. We use the Inter-university Consortium

[25] These figures are for 6 states: New Hampshire, New York, New Jersey, Maryland, Virginia and South Carolina. Main (1966), Table I, p 405

[26] Main (1967).

for Political and Social Research (ICPSR's) "Sources and uses of funds in state and local governments, 1790-1915," (Sylla et al., 1993) which contains information pertaining to the financial records of state governments, for different categories of expenditures. We use *total state expenditures per capita* as our main dependent variable.[27] Our sample consists of an annual unbalanced panel for the 13 original states covering the period 1776 to 1900 unless otherwise stated.[28] Political reforms may affect the overall level as well as the composition of expenditure. Data for specific sub-categories tend to be available for a smaller sub-set of years, but we still have enough information to perform our analysis at a disaggregated level. Thus, in our analysis we also provide separate estimates for the share of the following items in total expenditure: education, social spending and welfare, government administration and public safety.

Descriptive statistics for these, and other variables used in our empirical analysis, are presented in Table 2.

*** TABLE 2 HERE ***

Since we are interested in estimating the effect of *removing* property requirements on suffrage and office, our independent variables capture the extent to which a given state has already eliminated these requirements at any point in time. Thus, S_{it} is a dummy variable that takes a value of 1 if state i has eliminated property requirements for suffrage prior to year t and 0 otherwise. Similarly, E_{it} is a dummy variable that equals 1 if state i in year t has removed candidate eligibility restrictions for the state senate prior to year t and 0 otherwise. Take New Jersey, for example: for both legislators and governors, S_{it} takes a value of 1 for every year after 1807 and 0 otherwise, while E_{it} takes a value of 1 for every year after 1844 and 0 otherwise.

To estimate the effect of removing property requirements for voting or eligibility on government expenditure, we use the following specification:

$$y_{it} = \alpha y_{it-1} + \beta_1 S_{it} + \beta_2 E_{it} + \delta_i + \gamma_i t + \varepsilon_{it}, \tag{1}$$

[27]Data on population at the state level are from the decennial U.S. censuses. We conduct a basic linear interpolation for years between censuses. However, the results are very similar if we simply use total population from the closest census available.

[28]The starting date of the expenditure data changes across states. For some states, our expenditure data begins after suffrage or eligibility requirements have been eliminated. Expenditure data is available before and after suffrage reform for only 5 states: Connecticut, New York, North Carolina, Rhode Island and Virginia and thus the estimates on the suffrage dummy should be interpreted more cautiously. Expenditure data is available before and after eligibility reform for 9 states: Connecticut, Delaware, Massachusetts, New Hampshire, New York, North Carolina, Rhode Island, South Carolina and Virginia. We show that our results are robust to dropping states with only post-reform data from the analysis.

where y_{it} corresponds to the outcome variable in state i in year t, S_{it} and E_{it} are our main explanatory variables of interest, and δ_i is a full set of state fixed effects. In order to allow for heterogeneity in the trends of our outcome variables across states, we include in every regression a full set of state-specific linear time trends $\gamma_i t$.

The specification described in equation (1) is best suited for cases in which the dependent variable has serial correlation, as is the case with our government expenditure variables. For a long dynamic panel, the standard assumption is that the error term is first-order autoregressive: $\varepsilon_{it} = \rho\varepsilon_{it-1} + z_{it}$, where $|\rho| < 1$ and z_{it} is i.i.d. with a mean of 0. We conduct the test for serial correlation in the error term of linear panel data models proposed by Wooldridge (2002) and confirm that this assumption holds in our data.[29] Thus, in our baseline specifications described by equation (1) we implement the Baltagi and Wu (1999) within estimator and include one or more lags of the dependent variable. However, we show the robustness of our results to alternative estimation strategies and assumptions about the error term.

Since every state eliminated property restrictions on suffrage earlier, or at the same time, as restrictions on running for office, the coefficient β_1 measures the independent effect of removing restrictions on suffrage, while β_2 measures the effect of removing restrictions on office, conditional on having already eliminated restrictions for voting. In other words, β_2 corresponds to the estimate on the *interaction* of suffrage and eligibility reform and thus we do not include a separate interaction term.

Our empirical results must be interpreted cautiously, as the timing of suffrage and eligibility reforms is not exogenous and may confound the effect of other time-varying state characteristics. State fixed effects account for any time-invariant differences across states, while state-specific time trends account for any overall trend in the different outcome variables over time in each state. We perform a broad set of robustness checks that give us further confidence that our estimates do not simply capture pre-existing trends, differential patterns of spending across states during and after the Civil War, or that they are driven by some specific states. This gives us further confidence that our estimates capture the effect of eligibility reforms and not of other potential confounding variables. Thus, while our estimates of β_1 and β_2 cannot be given a causal interpretation, they are nonetheless informative as to whether the within-state variation in our outcome variables of interest, before and after suffrage and eligibility requirements were eliminated, are consistent with the predictions of our theory.

We report our baseline results in Table 3, where we use the log of state expenditure per

[29] We strongly reject the null hypothesis of no serial correlation with an F-statistic of 76.60 and a p-value of 0.00.

capita as the dependent variable. As state expenditures experienced a major spike during the Civil War, we add in all regressions a dummy equal to 1 for the period 1861-1865 as an additional control.

*** TABLE 3 HERE ***

Columns (1) and (2) in Table 3 report the results for suffrage and eligibility reforms separately, while column (3) combines the two reforms. Our main finding is that the coefficient for eligibility is positive and statistically significant. On the contrary, the coefficient on the suffrage dummy is small and statistically insignificant. The magnitude for the coefficient on eligibility is about 0.12, which implies a 13% increase in local government spending once office qualifications are eliminated.

In columns (4) to (8) we report the estimates for different specifications. In column (4) we move from fixed to random effects and eliminate the time trend, while in column (5) we drop the state time trend and the Civil War dummy but keep the state fixed-effects. In column (6) we replace the state-specific time trend with a unique time trend at the national level. In column (7) we include 3 lags of the dependent variable. We do not report the coefficients on lags 2 and 3 but they are statistically significant. Moreover, the coefficients on lags 4 or greater are not statistically significant and thus throughout the rest of the analysis we focus on the specification with 3 lags of the dependent variable. Finally, in column (8) we include, in addition to state-specific linear time trends, state-specific Civil War and post-Civil War dummies. This is a very demanding specification that allows for differential time patterns across states in a flexible way. Reassuringly, the positive and significant estimate for the eligibility dummy is robust across these alternative specifications, while the coefficient on the suffrage dummy remains insignificant in all of them.[30]

A graphical illustration of our main result is presented in Appendix Figure A.1, an event-study plot where we normalize each state relative to the year of its eligibility reform. Following Miller (2008), we plot the average residuals of log expenditure per capita, after partialling out covariates in our baseline regression (1) other than the eligibility dummy, in the 25 years before and after the reform. While the expenditure data are noisy, the figure illustrates an increase in expenditure per capita in the years following eligibility reform. Average annual expenditure exceeds the average pre-reform expenditure in 22 out of the 25 post reform years.

[30]In Appendix Table A.1 we report results from equivalent regressions on two and four-year (rather than an annual) panels. This is meant to approximate the length of state senate terms; 7 states had 2-year terms, 5 states had 4-year terms and 1 state (New Jersey) had a 3-year term. In spite of the smaller size, the coefficient on the eligibility dummy remains positive and statistically significant.

In Appendix Table A.2 we show that our baseline estimates are qualitatively similar when we use as independent variables continuous reform indices coded as the fraction of the population eligible to vote and run for office, replacing the dummies for suffrage and eligibility reforms, respectively, based on the Lindert-Williamson (Panel A) or the 1850 Census (Panel B) wealth distribution data described in Section 4.2.[31]

Next, we report a wide set of robustness checks to address potential concerns about our estimates. In Table 4 we test for differential trends in government expenditure, *prior* to the enactment of both suffrage and eligibility reforms. This would violate the standard parallel trends assumption in differences-in-differences regressions. In columns (1) and (2) we include 5 and 10-year leads of the suffrage and eligibility reform dummies. The coefficients on the leads are not statistically significant, while the coefficients on our eligibility reform dummies remain significant and of similar magnitude. In columns (3)-(4) we follow Miller (2008) and test for trend breaks in government expenditure just prior to the passage of suffrage and eligibility reforms, including dummy variables denoting time periods 3 and 5 years before (i.e., dummies for the period $[t-z, t-1]$ for $z = 3, 5$). The estimates provide no evidence of changes in expenditure just before the year of political reform and our main estimates remain similar.

*** TABLE 4 HERE ***

In Table 5 we test the robustness of our estimates to alternative samples. First, our sample period ends in 1900, since by this year all states had eliminated eligibility and suffrage requirements. However, the ICPSR data on government expenditure also covers the period 1900-1920 for a subset of states. In column (1) we show that our results are similar once we extend the period to 1920 (whenever available). Next, we rule out that our estimates are driven by any specific state or group of states. In Figure A.2 we report the estimates on the suffrage and eligibility reform dummies when we drop one state at a time from the sample. Reassuringly, the estimates remain stable and similar to the ones estimated in our baseline specifications with the full sample.

Another concern is that our estimates are driven by states that introduce reforms relatively early or relatively late in the 19th Century. For example, while there are northern and southern states amongst the set of early and late reformers (see Figure 2), southern states eliminate office qualifications on average 8 years later than northern states. However, we show that our estimates are robust to dropping from the sample: southern states[32] (column

[31] Indices take a value of 1 once property qualifications have been removed.

[32] Southern states are Georgia, North Carolina, South Carolina and Virginia.

2), slave states[33] (column 3), the three earliest suffrage and eligibility reformers (columns 4 and 5, respectively) and the three latest suffrage and eligibility reformers (columns 6 and 7, respectively). Finally, in column (8) we show that our estimates are also robust to dropping from the sample the four states for which our expenditure data begins after suffrage and eligibility qualifications have been eliminated.

*** TABLE 5 HERE ***

While property qualifications are the focus of our study, suffrage restrictions based on taxes, literacy, residence and race were common across several states and were removed at different points in time throughout the 19th Century. In Appendix Table A.3 we show that our estimates on the eligibility dummy are robust to controlling for dummies indicating the removal of other types of suffrage restrictions.[34]

We also report the robustness of our results to alternative estimation strategies. A well-known problem with the inclusion of lagged dependent variables in panel data models with fixed effects is the Nickell bias. This bias is less of a concern in our context given that our panel covers a very large number of time periods. However, in Appendix Table A.4 we report the coefficients from different estimation strategies to address this problem. For reference, in column (1) we report estimates from a simple first differences regression and in column (2) we report instrumental variable estimates following Anderson and Hsiao (1982), where we use the second lag of the dependent variable as an instrument for the difference of the first lag. In columns (3)-(6) we report similar estimates where we follow the more efficient GMM estimator proposed by Arellano and Bond (1991) for different sets of lags as instruments. Our point estimates for the eligibility reform dummy remain statistically significant and of similar magnitude to our baseline estimates, while the coefficients on the suffrage reform dummy remain statistically insignificant.

Next, we move to the analysis of specific expenditure components. Table 6 reports the estimates using as dependent variable the fraction (percentage) of total expenditure represented by different items.

*** TABLE 6 HERE ***

We observe that the two redistributive components of state expenditures, education and social services and welfare, are uncorrelated with suffrage but depend positively and significantly on eligibility. Their participation in the total budget increases by about 2 percentage

[33] Slave states include southern states plus Delaware and Maryland.

[34] The source for the year when these suffrage restrictions were dropped in each state is Keyssar (2000).

points after the eligibility reform. The share of spending on government administration falls after the reform. The coefficient for public safety is statistically insignificant.[35]

Overall, our results are consistent with the theoretical implications of our model. We find that simply removing property restrictions on voting is not associated with changes in the size of government. However, once requirements for office are also eliminated, there is evidence of a noticeable increase in government spending per capita. This suggests that changes in policy variables do not follow simply from a change in the socio-economic background of the median voter. Extending access to office to individuals from more diverse (less elite) backgrounds seems like a necessary condition for the preferences of a newly enfranchised poor majority to be reflected in government policies.

5.2 Characteristics of State Senators

We next explore whether the results on government spending reported in Tables 3-6 are consistent with the mechanisms proposed in our theoretical model. In particular, we test whether the reforms to suffrage and eligibility changed the elite background of politicians. To do this we follow two separate strategies: looking at socio-economic characteristics from biographical sources and a more direct approach looking at wealth data.

5.2.1 Socio-Economic Background

First, we test whether the socio-economic background of legislators changes following suffrage and eligibility reforms. We use ICPSR's "Biographical Characteristics of Members of the United States Congress, 1789-1978" (McKibbin, 1997) which compiles biographical information on U.S. members of Congress. While the members of Congress are not the main focus of our study, given that they were not subject to the eligibility requirements stipulated in each state's electoral rules, the biographical file reports whether a U.S. congressman held a state office prior to first entering Congress (but not the specific years in which he did so). For U.S. congressmen who previously served in their respective state senate, we code the exact year of entry to this office using the "Biographical Directory of the U.S. Congress."[36] We focus on state senators, as this was the office for which eligibility requirements were the highest and most likely to be binding. The final dataset includes the biographical characteristics of all state senators who subsequently occupied a seat in the U.S. Congress. While this may not be a representative sample of all state senators, we do not believe that sample

[35]The number of states falls from 13 to 12 in Table 6 since we have no disaggregated information on government spending for Georgia.

[36]http://bioguide.congress.gov/biosearch/biosearch.asp

selection in this case is a major concern for our purposes. Our analysis does not rely on comparing state senators who served in the U.S. Congress to those who did not. Rather, among the state senators in this selected sample, we want to compare the socio-economic characteristics of those elected before and after suffrage and eligibility requirements were eliminated in their respective states. Moreover, if only the wealthiest and most elite members of the state senate subsequently served in the U.S. Congress, this may, if anything, bias our results against finding that the elimination of eligibility requirements decreased the elite background of state senators.

The biographical data for our sample of state senators does not include wealth, but we can use several other variables as proxies for the elite background of the politicians. First, we have data on education. We construct dummy variables for whether the state senator attended a private high school or had a college degree, respectively.[37] Second, we have information on whether the state senator had other relatives in Congress. We consider two measures of membership in a political dynasty: the total number of relatives in Congress and the number of relatives belonging to the previous or the same generation (see Dal Bo et al., 2009).[38] Finally, we have data on occupation. We use a dummy for lawyers, which according to Querubin and Snyder (2013) was an elitist profession during the nineteenth century, and a dummy for whether the state senator was a businessman in agriculture (landlord) or a banker.

Table 7 reports estimates on the education, dynasty and occupation dummies. We follow a specification similar to that described by equation (1) but where the unit of analysis is the politician and thus we cannot include a lagged dependent variable. Also, given the dichotomous nature of our outcome variables, we report the marginal coefficient from probit regressions. For the S_{it} and E_{it} dummies, we use the year when the politician first entered the state senate. In all regressions we control for the age and age squared of the politician in the year in which he first entered the state senate, since age is a potential confounder of some of our measures of social status. Standard errors are clustered at the state level.

*** TABLE 7 HERE ***

For the probability of attending a private school, reported in column (1), the effect on the

[37] See for example, Querubin and Snyder (2013) for a brief description of congressional careers during this period. The composition of the U.S. Congress illustrates the link between education and class. For the senate, which is generally considered the wealthier chamber, 48.9% and 63.1% of its members attended private schools and obtained a college education, respectively, during the nineteenth century. In the House of Representatives, these figures fall to 36.8% and 48.5%, respectively.

[38] To have a relative in a previous generation means to be either a son, grandson, nephew or son-in-law (and so on) of a member of Congress. To have a relative in the same generation means to be either a brother, cousin, or brother-in-law of a member of Congress.

eligibility dummy reform is small and statistically insignificant. On the contrary, in column (2) we find that after eligibility requirements were eliminated, the probability that a state senator had a college degree decreased by 17 percentage points. Column (3) shows that universal eligibility decreased the probability of belonging to a political dynasty by about 10 percentage points. This holds for both the measure of dynasty based on total relatives as well as that based on relatives who are in a previous or contemporary generation. Finally, we also find that after property qualifications for candidacy were abolished, some traditionally elitist occupations decreased their political representation. The number of lawyers diminished by about 16 percentage points after the eligibility reform. As for wealthy businessmen, defined as either agricultural businessmen (landowners) or bankers, the reduction was about 8 percentage points.[39] Finally, notice that the coefficient on the suffrage dummy is usually statistically insignificant, or if anything, positive. The overall picture that emerges from Table 7 is that the elimination of eligibility requirements led to a democratization of the state's upper chamber.

5.2.2 Wealth

While education, membership in a political dynasty, and occupation are proxies for the elite status of state senators, a more direct approach is to look directly at their property or wealth. To do this, we use the complete count dataset of the 1850 U.S. Population Census put together by the Minnesota Population Center (Minnesota Population Center, 2015). This dataset reports the demographic and socio-economic characteristics of every individual included in the 1850 Population Census. Most important for our purposes, the 1850 census was the first to collect information on the value of real estate owned by every individual, a measure of wealth tightly connected to the eligibility requirements of the time.[40] Querubin and Snyder (2013) provide evidence of the reliability of census wealth figures from the 1850 census.

In order to study the relationship between suffrage and office democratization and the wealth of elected state senators, we use the sample of seven states that eliminated eligibility requirements for office shortly before or after 1850: Connecticut, New Hampshire, New Jersey, New York, North Carolina, South Carolina and Virginia (see Table 1).[41] Based on

[39]The sample size is slightly reduced in column (6) since we have no information about landowners or bankers in Rhode Island.

[40]The 1860 and 1870 censuses collected information on real estate wealth as well as personal wealth. However, these censuses have not yet been fully digitized, and thus a machine-readable file with the full population count does not exist. While there exists a full count and machine-readable file for the 1880 U.S. census, it did not collect any information on wealth.

[41]We choose these states because they eliminated eligibility requirements within 10 years of 1850, the census year. We also included North Carolina and South Carolina, which eliminated eligibility requirements

multiple sources, we put together a comprehensive list of elected senate senators in these states in the 30-year window around the year when eligibility restrictions were eliminated (15 years before and 15 years after).[42]

We then perform a fuzzy merge to match each state senator to the 1850 census file to find the value of his real estate wealth in this year. We merge by full name, first name, last name and state. A *perfect match* is a complete coincidence of the full name and state, while a *fuzzy match* allows for minor spelling differences or typos in an individual's name in either source.[43] After this first round of merging, we drop all matches to individuals in the census who would have been younger than 20 when the state senator was first elected to the senate, or older than 85 when he was last elected in our 30-year window, as well as matches to women. Whenever we end up with a unique match for a state senator following this process of elimination, we preserve the match and code the state senator's wealth based on this uniquely matched record. For state senators with common names, there are often multiple matches even after the process of elimination in the first round. In these cases, whenever one of the multiple matches resided in one of the counties in the district represented by the state senator, we keep this as the correct match. Whenever it is impossible to narrow multiple matches of a state senator to a unique match, to be conservative we simply drop these politicians from our sample. In the end we are able to match 60.68% of state senators to a unique individual in the census, a success rate similar to previous work using the 1850 census.[44] Moreover, the success rate is relatively uniform across states.[45] We do not believe that the failure to match several state senators to the census file is a major concern for our empirical analysis. First, in previous work, Steckel (1988) and Ferrie (1996) find that having a common name (which in our case may result in multiple matches and thus being dropped from the sample) is not correlated with an individual's wealth. Querubin and Snyder (2013) find that the probability of matching a member of Congress to the 1860-1870 population censuses is not correlated with reported wealth in the 1850 census. Moreover, our analysis

much later (in 1868 and 1865, respectively) in order to include in our sample state senators elected while office qualifications were in place, and for which 1850 corresponds to a baseline (pre-election) wealth.

[42]The time periods considered for the states in our sample are Connecticut: 1830-1860; New Hampshire: 1835-1865; New Jersey: 1830-1860; New York: 1830-1860; North Carolina: 1840-1883; South Carolina: 1850-1880; Virginia: 1835-1865.

[43]More precisely, we used Stata's *reclink* command, and we define a perfect merge as a matching score of 1.0 and a fuzzy merge as a matching score greater than or equal to 0.97.

[44]For example, Steckel (1988) reports a 59% success rate when trying to match over $1,800$ household heads from 300 different counties in the 1850 census.

[45]The success rate is 71% for Connecticut, 65% for New Hampshire, 60% for New Jersey, 73% for New York, 41% for North Carolina, 45% for South Carolina and 68% for Virginia. The lower success rates for North and South Carolina are understandable, since many of the state senators in these states served many years after 1850 and thus may have been too young in 1850, or may have been living in a different state at the time of the census.

relies on comparing the wealth of matched state senators who were first elected before and after eligibility requirements were eliminated. For selection bias to affect our results, it should happen differentially across rich and poor politicians, and for those elected before and after eligibility requirements were eliminated, which seems unlikely.

Our estimates are reported in Table 8. In columns (1)-(3) we limit our analysis to state senators for whom we found a *perfect match* in the 1850 census. In columns (4)-(6) we increase our sample to allow a *fuzzy*, though still unique, match with the 1850 census. We follow the specification in equation (1) where the unit of analysis is the politician. Again, we use the year when the politician first entered the state senate (in our 30-year window around the year of eligibility reform). In this analysis it is particularly important to control flexibly for the state senator's age. Those elected after suffrage or eligibility reforms were enacted will tend to be younger in 1850 (when we observe their wealth) than those elected before such reforms took place. Thus, in every specification we control for a state senator's age and age squared in 1850. The dependent variable in all specifications is the log of real estate wealth.

The estimates are reassuring regarding the change in the elite status of state senators when qualifications for office ended. In columns (1) and (4) we consider the full sample of state senators elected in the 30-year window around the eligibility reform year. The coefficient for the eligibility dummy is negative and statistically significant in column (1). The point estimate implies that eliminating qualifications for office led to a reduction in the average real estate wealth of state senators of about 40%.

*** TABLE 8 HERE ***

We perform several robustness checks on this analysis. One potential concern is that for many state senators first elected to the state senate prior to 1850, their measured wealth is post-senate, and thus the wealth figures may confound the effect of the eligibility constraints with the economic effect of serving in the state senate. Using census data for the same period, Querubin and Snyder (2013) find no causal effect of serving in the U.S. Congress on an individual's wealth, but the patterns for state offices may be different. This issue becomes more problematic the larger the window of years that we consider for each state. For example, for New York, wealth is measured 20 years after first entering the senate for those elected in 1830, and 10 years prior to entering the senate for those first elected in 1860. In order to address these potential concerns, we use two separate approaches. First, in columns (2) and (5), we consider a narrower window of 20 years around the eligibility reform date (those elected 10 years before and 10 years after). Second, in columns (3) and (6) we simply drop all state senators first elected before 1850, in which case we are certain that the

value of real state attributed to each state senator cannot confound the effect of serving in this office. The results broadly confirm that eligibility reforms led to a decrease in elected state senators' wealth. The coefficients in columns (2)-(3) and (5)-(6) remain negative and statistically significant, and in fact become larger in absolute value. The coefficients on the suffrage reform dummy, on the other hand, are less stable and usually smaller (or positive) than those for the eligibility dummy (the one exception is the coefficient in column 2, where the effect of suffrage is negative and larger in absolute value than the effect of eligibility).

6 Conclusions

We study democratization as the interplay between two different dimensions: the extension of the franchise and the abolition of eligibility restrictions. Our analysis stems from the fact that elites at the beginning of the nineteenth century used these two mechanisms to impose their control over the decision-making process. We present a model in which the implemented policy depends not only on the constraints on who is entitled to vote, but also on who is allowed to run as a candidate. Our model provides predictions that are confronted with empirical evidence. In particular, the model shows that when suffrage is extended prior to the elimination of eligibility restrictions, the expected redistributive effects of democratization should only be observed once the two reforms have been implemented. We study the empirical relationship between suffrage and eligibility reforms in the 13 original U.S. states and several outcomes of interest. All our results point to the importance of eligibility restrictions in the process of democratization.

We want to emphasize again that we do not see our thesis as an alternative to the extension of suffrage. The enfranchisement of the entire population is a fundamental stage in the democratization process. Rather, we assert that suffrage is a necessary but not a sufficient condition for democratization. Both suffrage and eligibility should be seen as complementary in the process of incorporating the masses into the political system.

While *de jure* economic restrictions for candidacy have been abolished in most contemporary democracies, in many societies campaigning costs, or the cost of engaging in clientelistic practices such as vote or turnout buying, imply that *de facto* only wealthy individuals can run for public office (see for example the recent work by Avis et al. (2017)). Thus, the insights of our study are relevant for understanding the consequences for democracy of economic barriers to entry to electoral races. These *de facto* restrictions may undermine political competition and may limit the extent to which democracy adequately represents the interests of the majority of the population.

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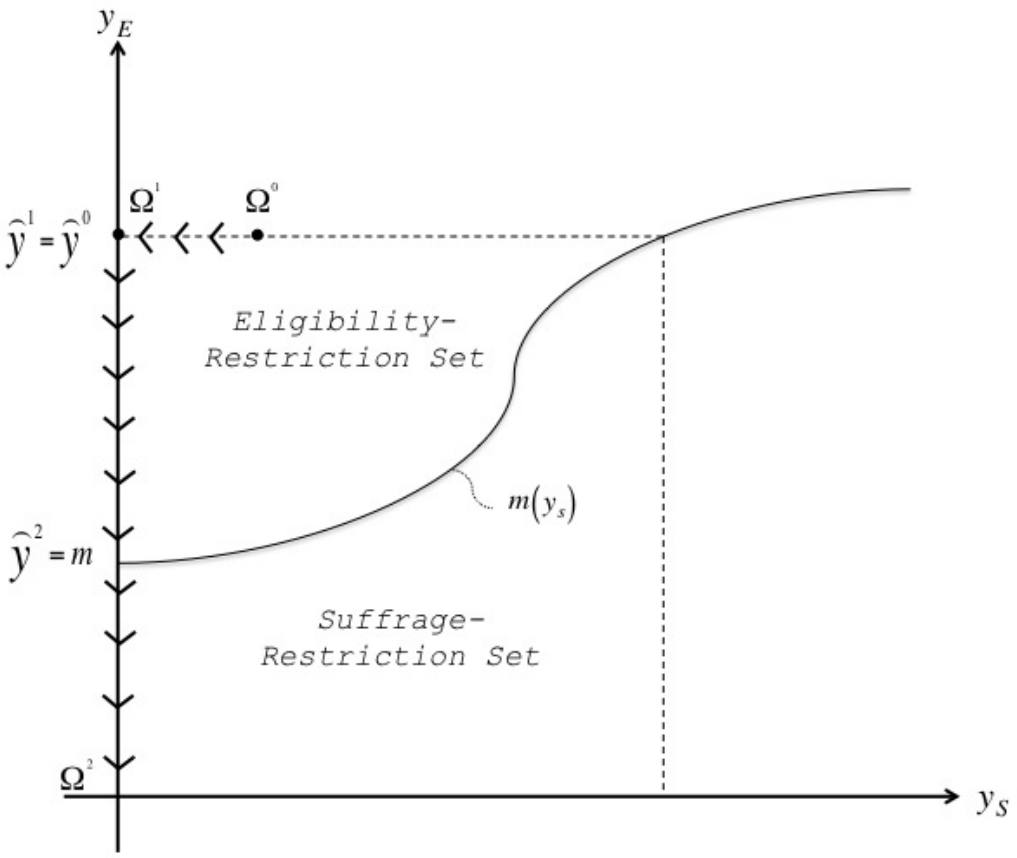

Figure 1: Isopolicies in the Constitutional Space

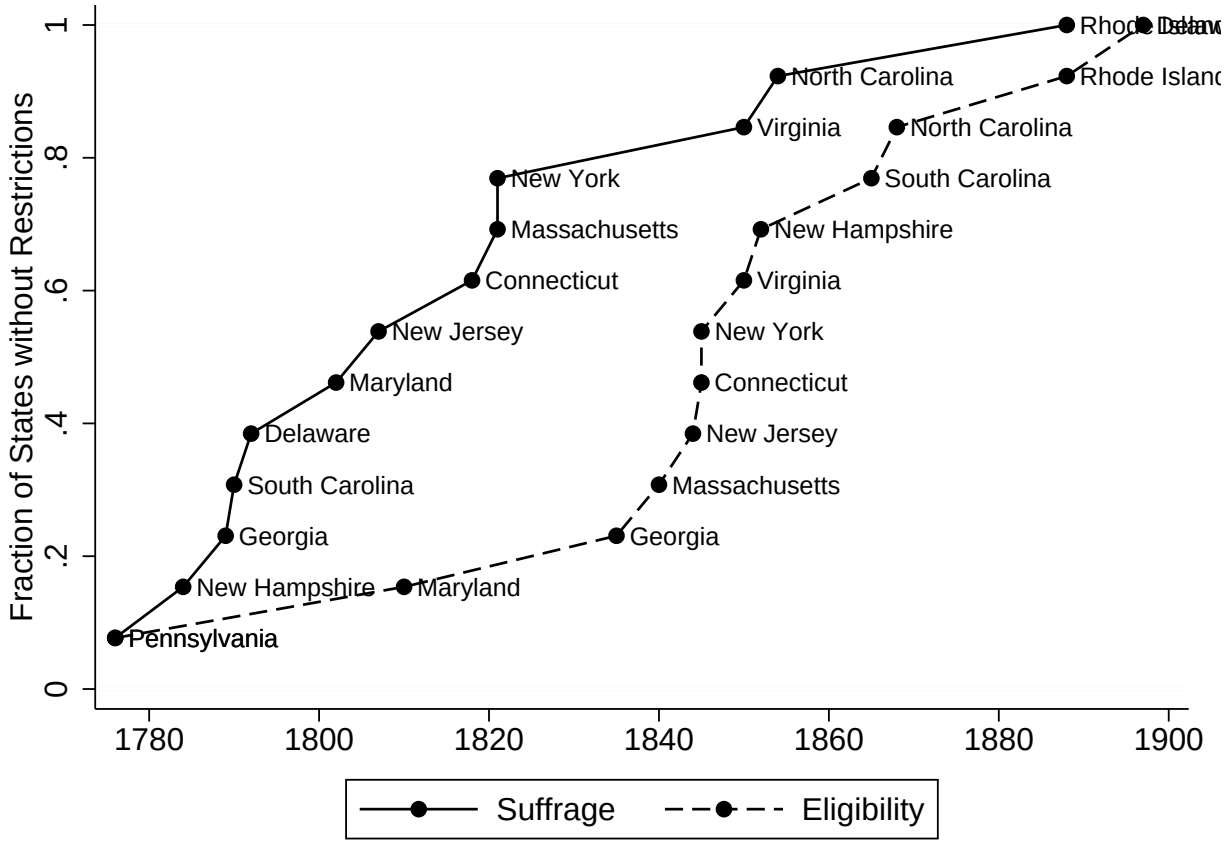

Figure 2: States without Restrictions for Voting and Running for Office

Table 1: Suffrage and Eligibility Restrictions for the Original 13 States

State	Year	Document	Suffrage	Senator	Representative	Governor
Connecticut	1818	Constitution	None	FH	FH	FH
Connecticut	1845	Amendment	None	None	None	None
Delaware	1776	Constitution	FH: 50A	FH	FH	FH; Leg.
Delaware	1792	Constitution	None	FH: 200A-1,000L	FH	None
Delaware	1831	Constitution	None	FH: 200A-1,000L	None	None
Delaware	1897	Constitution	None	None	None	None
Georgia	1777	Constitution	10L	FH:250A-250L	-	None; Leg.
Georgia	1789	Constitution	None	FH:250A-250L	FH:200A-150L	FH:500A-1,000L; Leg.
Georgia	1798	Constitution	None	FH:500D-1,000D	FH:250D-500D	FH:500A-4,000D; Leg.
Georgia	1824	Amendment	None	FH:500D-1,000D	FH:250D-500D	FH:500A-4,000D
Georgia	1835	Amendment	None	None	None	FH:500A-4,000D
Georgia	1847	Amendment	None	None	None	None
Maryland	1776	Constitution	FH:50A-30L	1,000L	FH:500L	FH:1,000L; Leg.
Maryland	1802	Amendment	None	1,000L	FH:500L	FH:1,000L; Leg.
Maryland	1810	Amendment	None	None	None	None; Leg.
Maryland	1838	Amendment	None	None	None	None
Massachusetts	1780	Constitution	FH	FH:300L-600L	FH:100L-200L	1,000L
Massachusetts	1821	Amendment	None	FH:300L-600L	FH:100L-200L	1,000L
Massachusetts	1840	Amendment	None	None	None	None
New Hampshire	1776	Constitution	FH	FH: 200L	FH: 100L	FH: 500L
New Hampshire	1784	Constitution	None	FH: 200L	FH: 100L	FH: 500L
New Hampshire	1792	Constitution	None	FH: 200L	FH: 100L	FH: 500L
New Hampshire	1852	Amendment	None	None	None	None
New Jersey	1776	Constitution	50L	1,000L	500L	None; Leg.
New Jersey	1807	Amendment	None	1,000L	500L	None; Leg.
New Jersey	1844	Constitution	None	None	None	None
New York	1777	Constitution	FH: 20L	100L	None	FH
New York	1821	Constitution	None	FH	None	FH
New York	1845	Amendment	None	None	None	None
North Carolina	1776	Constitution	FH: 50A	300A	100A	1,000L; Leg.
North Carolina	1835	Amendment	FH: 50A	300A	None	None
North Carolina	1856	Amendment	None	300A	None	None
North Carolina	1868	Constitution	None	None	None	None
Pennsylvania	1776	Constitution	None	None	None	None
Rhode Island	1776	Charter	FH: 40L	FH	FH	FH
Rhode Island	1843	Constitution	FH: 134D	FH	FH	FH
Rhode Island	1888	Amendment	None	None	None	None
South Carolina	1778	Constitution	None	2,000L	None	10,000L; Leg.
South Carolina	1790	Constitution	None	300L	500A-150L	1,500L; Leg.
South Carolina	1861	Constitution	None	300L	500A-150L	1,500L; Leg.
South Carolina	1865	Constitution	None	None	None	None
Virginia	1776	Constitution	FH: 50A	FH	FH	None; Leg.
Virginia	1830	Constitution	FH: 50A	FH	FH	None; Leg.
Virginia	1851	Constitution	None	None	None	None

Notes: Sources are Keyssar (2000) and Engerman and Sokoloff (2005) for Suffrage and Miller (1900) for Senator, Representative and Governor. FH is for Freehold; A, L and D are Acres, Pounds and Dollars, respectively. For Governor, Leg. means that the election was indirect and depended on the Legislature. Georgia had no Representatives in 1777.

Table 2: Dependent Variables: Descriptive Statistics and Sources

	Obs.	Mean	S.D.	Source
Total Expenditure per capita	956	0.092	1.084	Sylla, Legler and Wallis (1993)
Spending on Education (%)	742	11.614	11.922	Sylla, Legler and Wallis (1993)
Spending on Social Services (%)	760	7.607	7.551	Sylla, Legler and Wallis (1993)
Spending on Gov.Adm. (%)	926	30.229	24.324	Sylla, Legler and Wallis (1993)
Spending on Public Safety (%)	851	11.337	13.631	Sylla, Legler and Wallis (1993)
Private School	737	0.411	0.492	McKibbin (1992), Congressional Biographical Directory
College	737	0.512	0.500	McKibbin (1992), Congressional Biographical Directory
Relatives	737	0.206	0.405	McKibbin (1992), Congressional Biographical Directory
Relatives Previous	737	0.140	0.347	McKibbin (1992), Congressional Biographical Directory
Lawyer	737	0.570	0.495	McKibbin (1992), Congressional Biographical Directory
Landlords and Bankers	737	0.136	0.343	McKibbin (1992), Congressional Biographical Directory
Real State Wealth; All Sample; Perfect Match (Score=1.0)	687	8.494	1.317	Roster of State Senators collected by the authors Minnesota Population Center (2015)
Real State Wealth; All Sample; Fuzzy Match (Score=0.97)	946	8.389	1.360	Roster of State Senators collected by the authors Minnesota Population Center (2015)

Notes: All sources are described in the text. In the variables that use McKibbin (1992), we also relied on the Biographical Directory of the U.S. Congress.

For the Roster of state senators we used the following sources. Connecticut: Connecticut State Library, Connecticut General Assembly Members (available in http://www.cslib.org/connga.asp); New Hampshire: New Hampshire Manual for the General Court (1987); New Jersey: Manual of the Legislature of New Jersey, F.L. Lundy (Compiler), 1872; New York: Civil List and Constitutional History of the Colony and State of New York, Edgar A. Werner, 1889-1891, pp402-805; North Carolina: http://www.carolana.com/NC/1800s/home.html; South Carolina: http://www.carolana.com/SC/home.html; Virignia: The General Assembly of Virginia, July 30th 1619 - January 11th 1978: A Bicentennial Register.

Table 3: Total State Expenditure Per Capita

	Dependent Variable is Log (State Expenditure per capita)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dep(t-1)	0.870***	0.859***	0.859***	0.909***	0.894***	0.874***	0.295***	0.267***
	(0.0149)	(0.0154)	(0.0155)	(0.0130)	(0.0142)	(0.0144)	(0.0320)	(0.0323)
Suffrage	0.0336		-0.0352	-0.0466	-0.0311	-0.0457	-0.0882	0.0781
	(0.0488)		(0.0549)	(0.0354)	(0.0510)	(0.0501)	(0.0862)	(0.0955)
Eligibility		0.107***	0.121***	0.132***	0.141***	0.135***	0.197***	0.172**
		(0.0396)	(0.0447)	(0.0338)	(0.0425)	(0.0418)	(0.0710)	(0.0825)
State FE	YES	YES	YES	NO	YES	YES	YES	YES
State TT	YES	YES	YES	NO	NO	NO	YES	YES
Civil War Dummy	YES	YES	YES	NO	NO	YES	YES	State-Specific
Lags Dep. Var	1	1	1	1	1	1	3	3
Obs.	943	943	943	956	943	943	861	861
States	13	13	13	13	13	13	13	13

Notes: In all regressions we assume the error term is first order auto-regressive and implement the Baltagi and Wu (1999) within estimator. We include state fixed effects in all specifications except in column (4) where we assume random effects. State-specific linear time trends are included in all specifications except in columns (4), (5) and (6) (in the latter case we include a country-wide linear time trend). A dummy for Civil War years (1861-1865) is included in all specifications except in columns (4) and (5). In column (8) we include state-specific civil war and post-civil war dummies. Specifications in columns (7) and (8) include 3 lags of the dependent variable (coefficients on lags 2-3 are statistically significant but are not reported). *,**, ***, significance at the 10%, 5% and 1% level, respectively.

Table 4: Total State Expenditure Per Capita: Robustness I - Parallel Trends

	Dep. Var. is Log (State Expenditure per capita)			
	(1)	(2)	(3)	(4)
Dep(t-1)	0.298***	0.296***	0.293***	0.293***
	(0.0322)	(0.0323)	(0.0320)	(0.0321)
Suffrage	-0.131	-0.123	-0.0270	-0.0412
	(0.114)	(0.101)	(0.0938)	(0.0946)
Eligibility	0.203**	0.206***	0.188**	0.190**
	(0.0833)	(0.0762)	(0.0756)	(0.0764)
Suffrage (t+5)	0.0590			
	(0.101)			
Eligibility (t+5)	-0.00886			
	(0.0725)			
Suffrage (t+10)		0.0584		
		(0.0838)		
Eligibility (t+10)		-0.00893		
		(0.0626)		
Suffrage (1-3 Years Before)			0.284*	
			(0.147)	
Eligibility (1-3 Years Before)			-0.0797	
			(0.118)	
Suffrage (1-5 Years Before)				0.175
				(0.129)
Eligibility (1-5 Years Before)				-0.0223
				(0.101)
Obs.	856	851	861	861
States	13	13	13	13

Notes: In all regressions we assume the error term is first order auto-regressive and implement the Baltagi and Wu (1999) within estimator. We include state fixed effects, state-specific linear time trends, a Civil War dummy and three lags of the dependent variable in all specifications. *,**, ***, significance at the 10%, 5% and 1% level, respectively.

Table 5: Total State Expenditure Per Capita: Robustness II - Alternative Samples

	Dep. Var. is Log (State Expenditure per capita)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dep(t-1)	0.301***	0.304***	0.321***	0.337***	0.284***	0.283***	0.300***	0.349***
	(0.0309)	(0.0379)	(0.0410)	(0.0343)	(0.0350)	(0.0372)	(0.0386)	(0.0349)
Suffrage	-0.109	-0.110	-0.0857	-0.0867	-0.0524	-0.0906	-0.126	-0.0851
	(0.0816)	(0.111)	(0.109)	(0.0809)	(0.0921)	(0.0953)	(0.120)	(0.0790)
Eligibility	0.214***	0.266***	0.220**	0.168**	0.155*	0.261***	0.261***	0.165**
	(0.0666)	(0.0845)	(0.0869)	(0.0670)	(0.0800)	(0.0791)	(0.0784)	(0.0655)
Sample	Extend to 1920	Drop South	Drop Slave	Drop Early Suf.	Drop Early Elig.	Drop Late Suf.	Drop Late Elig.	Drop No Var.
Obs.	926	639	536	739	703	665	616	708
States	13	9	7	10	10	10	10	9

Notes: In all regressions we assume the error term is first order auto-regressive and implement the Baltagi and Wu (1999) within estimator. We include state fixed effects, state-specific linear time trends, a Civil War dummy and three lags of the dependent variable in all specifications. *,**, ***, significance at the 10%, 5% and 1% level, respectively.

Table 6: Composition of State Expenditure

	Dep. Var. is Share in Total Expenditure of:			
	Education	Soc. & Welfare	Gov. Admin	Pub. Safety
	(1)	(2)	(3)	(4)
Suffrage	-0.601	-0.793	1.880	-5.179*
	(0.877)	(0.697)	(1.402)	(3.023)
Eligibility	1.958**	1.565***	-4.206***	0.952
	(0.766)	(0.587)	(1.150)	(2.375)
Obs.	730	748	914	839
States	12	12	12	12

Notes: In all regressions we assume the error term is first order auto-regressive and implement the Baltagi and Wu (1999) within estimator. We include state fixed effects, state-specific linear time trends, a Civil War dummy and one lag of the dependent variable in all specifications. *,**, ***, significance at the 10%, 5% and 1% level, respectively.

Table 7: Biographical Characteristic of State Senators

	Dependent Variable is:					
	Private School	College	Relatives	Relatives (Previous)	Lawyers	Land Owners and Bankers
	(1)	(2)	(3)	(4)	(5)	(6)
Suffrage	0.113***	-0.023	0.045	0.007	-0.054	0.081**
	(0.041)	(0.101)	(0.052)	(0.061)	(0.088)	(0.033)
Eligibility	0.006	-0.178**	-0.112**	-0.082*	-0.161*	-0.087***
	(0.055)	(0.076)	(0.050)	(0.046)	(0.092)	(0.024)
Obs.	737	737	737	737	737	727
States	13	13	13	13	13	12

Notes: Dependent variables are dummy variables for whether the state senator has that attribute. All estimates come from Probit regressions and coefficients reported correspond to marginal effects. All specifications include state fixed effects, state specific time trends and controls for age and age squared of the state senator in the year in which it first entered the state senate. Standard errors are clustered at the state level. *,**, ***, significance at the 10%, 5% and 1% level, respectively.

Table 8: Real State Wealth of State Senators

	Dependent Variable is Log (Real State Wealth)					
	Perfect Match			*Fuzzy Match*		
	S1	*S2*	*S3*	*S1*	*S2*	*S3*
	(1)	(2)	(3)	(4)	(5)	(6)
Suffrage	-0.171	-1.376***	-0.415***	-0.011	0.625**	-0.253
	(0.182)	(0.173)	(0.092)	(0.228)	(0.205)	(0.200)
Eligibility	-0.506*	-0.496**	-1.269***	-0.300	-0.552**	-0.819***
	(0.232)	(0.180)	(0.291)	(0.172)	(0.216)	(0.178)
Obs.	687	401	344	946	532	495
States	7	7	7	7	7	7

Notes: In columns 1-3 we limit the analysis to state senators for which we could find a perfect match in the 1850 census. In columns 4-6 we allow for a fuzzy match between the state senators roster and the 1850 census file but still restrict the score of Stata's *reclink* command to be at least 0.97. Columns (1) and (4) use the entire sample of state senators elected in a window of 15 years around the year of elimination of eligibility requirements; columns (2) and (5) use the sample with state senators elected in a window of 10 years around the date of eligibility reform; columns (3) and (6) restrict the sample to state senators elected after 1850. All specifications include state fixed effects, state specific time trends and control for age and age squared (not reported). Standard errors are clustered at the state level. *,**, ***, significance at the 10%, 5% and 1% level, respectively.

Appendix

A.1 Additional Tables and Figures

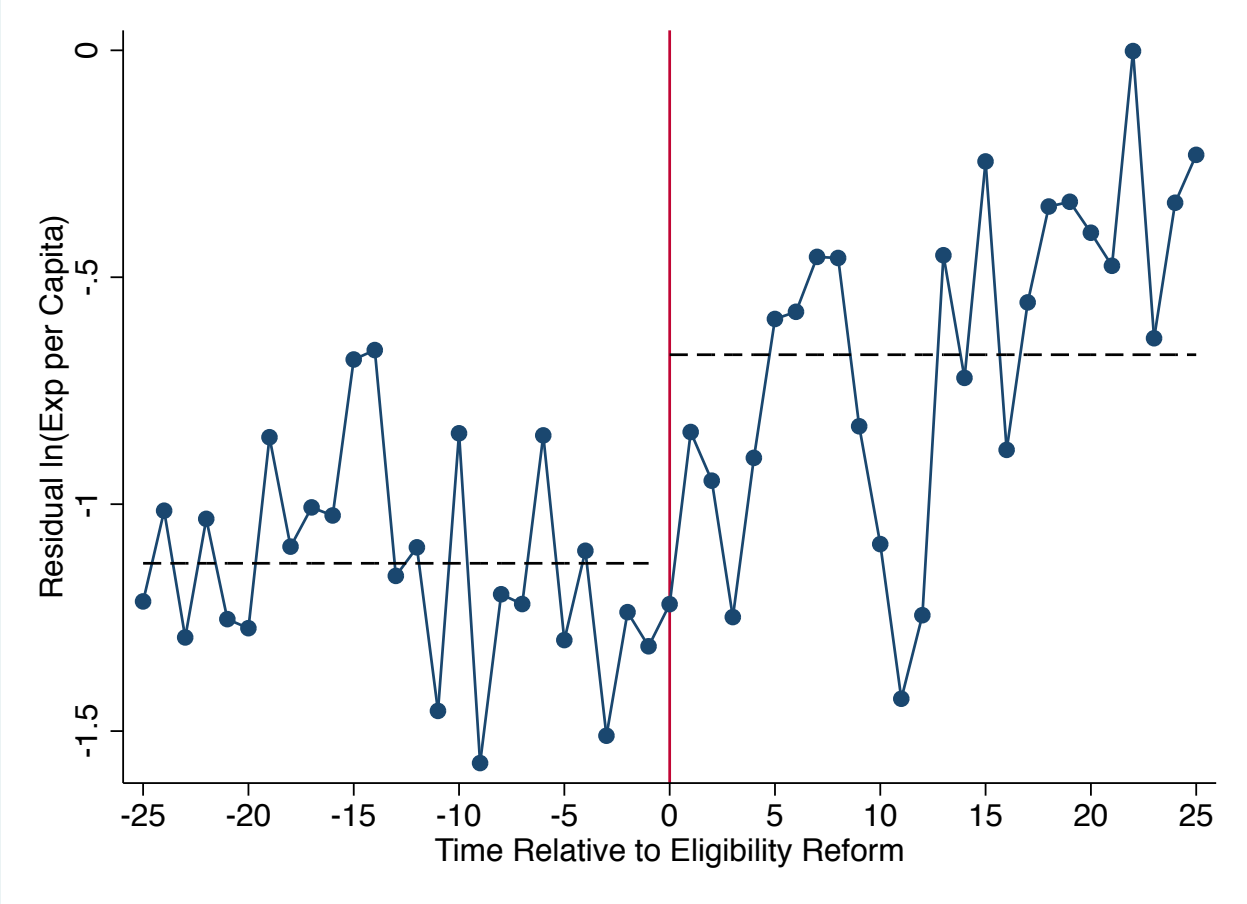

Figure A.1: Expenditure per Capita and Eligibility Reform

We follow Miller (2008) and plot the average residuals of log expenditure per capita, after partialling out covariates in our baseline regression (1) other than the eligibility dummy, in the 25 years before and after the reform. Since we implement the Baltagi and Wu (1999) within-estimator rather than OLS, our residuals do not have mean zero. Dashed lines in the bottom panel show pre and post reform averages.

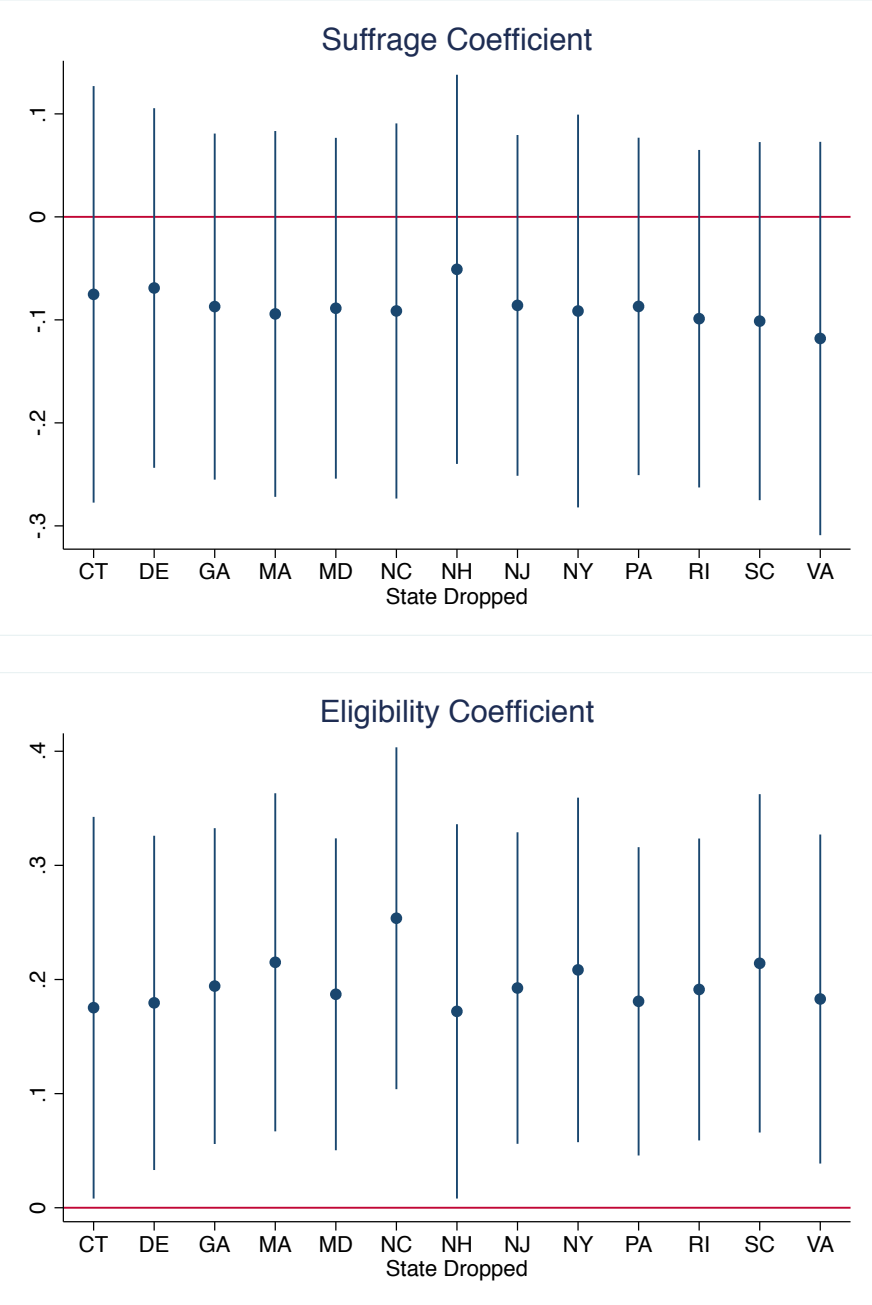

Figure A.2: Robustness of Suffrage and Eligibility Coefficients to Dropping Individual States

In all regressions we assume the error term is first order auto-regressive and implement the Baltagi and Wu (1999) within estimator. We include state fixed effects, state-specific linear time trends, a Civil War dummy and three lags of the dependent variable in all specifications. *,**, ***, significance at the 10%, 5% and 1% level, respectively.

Table A.1: Total State Expenditure Per Capita: 2 and 4-Year Panel

	Dep. Var. is: *Log (State Expenditure per capita)*	
	2-Year Panel	*4-Year Panel*
	(1)	(2)
Suffrage	0.0609	-0.121
	(0.128)	(0.196)
Eligibility	0.225**	0.391**
	(0.107)	(0.173)
Obs.	437	200

Notes: In all regressions we assume the error term is first order auto-regressive and implement the Baltagi and Wu (1999) within estimator. We include state fixed effects, state-specific linear time trends, and state-specific Civil War and post-Civil War dummies. We include two lags of the dependent variable. *,**, ***, significance at the 10%, 5% and 1% level, respectively.

Table A.2: Total State Expenditure Per Capita: Continuous Reform Indices

	Dependent Variable is Log (State Expenditure per capita)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Panel A: Lindert-Williamson Distribution							
Suffrage Index	-0.0172		-0.0726	-0.00184	0.0149	-0.0111	0.0249	-0.0543
	(0.104)		(0.106)	(0.0538)	(0.0912)	(0.0915)	(0.156)	(0.160)
Eligibility Index		0.115**	0.122**	0.145***	0.158***	0.142***	0.205**	0.185*
		(0.0516)	(0.0533)	(0.0365)	(0.0474)	(0.0468)	(0.0830)	(0.0990)
Obs.	943	943	943	956	943	943	861	861
States	13	13	13	13	13	13	13	13
	Panel B: 1850 Census							
Suffrage Index	0.0622		-0.0341	-0.0442	-0.0209	-0.0487	-0.110	0.115
	(0.0817)		(0.0943)	(0.0525)	(0.0873)	(0.0860)	(0.147)	(0.164)
Eligibility Index		0.126**	0.138**	0.145***	0.169***	0.164**	0.246**	0.229*
		(0.0587)	(0.0680)	(0.0450)	(0.0648)	(0.0639)	(0.109)	(0.132)
Obs.	943	943	943	956	943	943	861	861
States	13	13	13	13	13	13	13	13
State FE	YES	YES	YES	NO	YES	YES	YES	YES
State TT	YES	YES	YES	NO	NO	NO	YES	YES
Civil War Dummy	YES	YES	YES	NO	NO	YES	YES	State-Specific
Lags Dep. Var	1	1	1	1	1	1	3	3

Notes: In all regressions we assume the error term is first order auto-regressive and implement the Baltagi and Wu (1999) within estimator. We include state fixed effects in all specifications except in column (4) where we assume random effects. State-specific linear time trends are included in all specifications except in columns (4), (5) and (6) (in the latter case we include a country-wide linear time trend). A dummy for Civil War years (1861-1865) is included in all specifications except in columns (4) and (5). In column (8) we include state-specific civil war and post-civil war dummies. Independent variables measure fraction of population eligible to vote/run for office based on property qualifications. In Panel A we use estimated wealth distribution based on Lindert and Williamson (2016) and in Panel B we use raw data from the 1850 Population Census. *,**, ***, significance at the 10%, 5% and 1% level, respectively.

Table A.3: Total State Expenditure Per Capita: Controlling for Other Suffrage Restrictions

	Dep. Var. is Log (State Expenditure per capita)					
	(1)	(2)	(3)	(4)	(5)	(6)
Suffrage	-0.0882	-0.0763	-0.0952	-0.116	-0.104	-0.128
	(0.0862)	(0.0918)	(0.0850)	(0.0902)	(0.0868)	(0.103)
Eligibility	0.197***	0.184**	0.183***	0.228***	0.177**	0.198**
	(0.0710)	(0.0723)	(0.0694)	(0.0774)	(0.0724)	(0.0851)
Taxpaying		0.0199				0.00155
		(0.0700)				(0.0856)
Residence			-0.0610			-0.0354
			(0.0923)			(0.111)
Race				-0.0736		-0.0665
				(0.0721)		(0.0757)
Literacy					-0.108	-0.0827
					(0.0963)	(0.103)
Obs.	861	861	861	861	861	861
States	13	13	13	13	13	13

Notes: In all regressions we assume the error term is first order auto-regressive and implement the Baltagi and Wu (1999) within estimator. We include state fixed effects, state-specific linear time trends, a Civil War dummy and three lags of the dependent variable in all specifications. *,**, ***, significance at the 10%, 5% and 1% level, respectively.

Table A.4: Total State Expenditure Per Capita: Alternative Estimation Strategies

	Dep. Var. is Log (State Expenditure per capita)					
	(1)	(2)	(3)	(4)	(5)	(6)
Suffrage	-0.174	-0.205	-0.043	-0.034	-0.033	-0.059
	(0.117)	(0.136)	(0.088)	(0.061)	(0.055)	(0.041)
Eligibility	0.225*	0.278*	0.301***	0.207**	0.186**	0.155***
	(0.119)	(0.147)	(0.097)	(0.069)	(0.068)	(0.050)
Obs.	913	874	956	956	956	806
Number of st	13	13	13	13	13	13
Estimation Method	First Differences	Anderson Hsiao	Arellano Bond	Arellano Bond	Arellano Bond	Arellano Bond

Notes: We include state fixed effects, state-specific linear time trends, and a Civil War dummy in all specifications. We include one lag of the dependent variable in columns 1-5 and five lags in column 6. Specification in column 1 is estimated by OLS in first differences, and in column 2 we implement the Anderson-Hsiao estimator for first differences. In columns 3-6 we use Arellano-Bond's GMM estimator using 2, 5 and 10 lags as instruments, respectively. In all GMM estimations, the non-reported Sargan statistics reject the null hypothesis of overidentification. Standard errors are clustered at the state level in all columns and include a small sample correction in columns 3-6. We also conduct a wild bootstrap with 10,000 replications for the first difference coefficients in column 1. The p-value of the F-statistic is 0.28 for the suffrage coefficient and 0.01 for the eligibility coefficient. *,**, ***, significance at the 10%, 5% and 1% level, respectively.

A.2 Technical Appendix

In this section we provide a characterization of the set of equilibria of the electoral game, an analysis of the consequences of lessening suffrage and eligibility restrictions for the cases omitted in the main text and the proofs that we have omitted in the main text.

Before proceeding further, it is useful to define the following objects. For any wealth-difference threshold $\Delta y \in (0, m(y_S)]$, let $l(\Delta y) \equiv m(y_S) - \Delta y$ be the "leftist" citizen whose wealth difference with respect to the median of the constituency is given by Δy. Let $r(\Delta y)$ be the "rightist" citizen such that the median of the constituency is indifferent between the bliss taxation levels of $l(\Delta y)$ and $r(\Delta y)$, that is, $V(m(y_S), \tau(l(\Delta y))) = V(m(y_S), \tau(r(\Delta y)))$. Also, for any two citizens y_1 and y_2, let $\tilde{y}(y_1, y_2)$ be the citizen that is indifferent between the bliss policy of y_1 and y_2, that is, $V(\tilde{y}(y_1, y_2), \tau(y_1)) = V(\tilde{y}(y_1, y_2), \tau(y_2))$. In addition, for any given $\Delta y \in (0, m(y_S)]$, let $x(\Delta y)$ be the citizen such that if $x(\Delta y)$ were to electorally compete against $l(\Delta y)$ and $r(\Delta y)$, then $l(\Delta y)$ and $r(\Delta y)$ would receive the same electoral support; formally, $F(\tilde{y}(l(\Delta y), x(\Delta y))) = 1 - F(\tilde{y}(x(\Delta y), r(\Delta y)))$. Observe that $F(\tilde{y}(l(\Delta y), x(\Delta y)))$ is strictly decreasing in Δy and that $\lim_{\Delta y \to 0} F(\tilde{y}(l(\Delta y), x(\Delta y))) = 1/2$. Let $\overline{\Delta y}$ be defined as the maximum wealth difference $\Delta y \in (0, m(y_S)]$ such that $l(\Delta y)$ would collect an electoral support of at least one third of the electorate if $x(\Delta y)$ enters the electoral race, that is:

$$\overline{\Delta y} = \max_{\Delta y \in (0, m(y_S)]} \left\{ \Delta y : F(\tilde{y}(l(\Delta y), x(\Delta y))) \geq \frac{1}{3} \right\}.$$

The policy gain for citizen $l(\Delta y)$ from implementing her own bliss policy, when the alternative is the policy that citizen $r(\Delta y)$ would implement, is given by:

$$\Delta V_l^*(\Delta y) \equiv V^*(l(\Delta y)) - V(l(\Delta y), \tau(r(\Delta y))).$$

Observe that $\lim_{\Delta y \to 0} \Delta V_l^*(\Delta y) = 0$ and that $\Delta V_l^*(\Delta y)$ is strictly increasing in Δy. Analogously, let:

$$\Delta V_r^*(\Delta y) \equiv V^*(r(\Delta y)) - V(r(\Delta y), \tau(l(\Delta y))).$$

We define:

$$\underline{\Delta y_l} \equiv \max_{\Delta y \in (0, m(y_S)]} \{ \Delta y : \Delta V_l^*(\Delta y) \leq 2c - b \},$$

which is the maximum wealth difference such that the policy gain for $l(\Delta y)$ from defeating

$r(\Delta y)$ is at most $2c-b$. Equivalently, we define:

$$\underline{\Delta y_r} \equiv \max_{\Delta y \in (0, m(y_S)]} \left\{ \Delta y : \Delta V_r^*(\Delta y) \leq 2c - b \right\}.$$

Finally, we define:

$$\underline{\Delta y} \equiv \max\left\{ \underline{\Delta y_l}, \underline{\Delta y_r} \right\},$$

which is the largest value of the two previously defined wealth difference thresholds.

A.2.1 Characterization of equilibria

Proposition 4 (Characterization of equilibria)**.** 1. There exists a non-empty interval $Y^* = \left[\underline{y}^*, \overline{y}^*\right]$ such that a citizen with wealth y^* running as a single candidate constitutes an equilibrium of this electoral game if and only if $y^* \in Y^*$. Moreover, we have that:

(i) The equilibrium set does always contain the decisive citizen, that is, $\hat{y} \in Y^*$.

(ii) If $b \geq c$, then Y^* is a singleton composed of the decisive citizen, that is, $Y^* = \{\hat{y}\}$.

(iii) If $b < c$, then Y^* is a proper interval, that is $\underline{y}^* < \overline{y}^*$. If $y_E \geq m(y_S)$, then the equilibrium set is an interval to the right of the eligibility requirement, that is, $\underline{y}^* = y_E$. If $y_E < m(y_S)$, then the equilibrium set is an interval around the median of the constituency, that is, $\underline{y}^* < m(y_S) < \overline{y}^*$, with $\underline{y}^* \geq y_E$. If, in addition, we have that $\lim_{y \to +\infty} V^*(\hat{y}) - V(\hat{y}, \tau(y)) > c - b$, then the equilibrium set is bounded, that is, $\overline{y}^* < +\infty$.

2. A two-candidate equilibrium exists if and only if both $\underline{\Delta y} \leq \overline{\Delta y}$ and $y_E \leq l\left(\underline{\Delta y}\right)$. A pair of citizens $\{l(\Delta y), r(\Delta y)\}$ running for office constitutes an equilibrium of this electoral game as long as $\Delta y \in \left[\underline{\Delta y}^*, \overline{\Delta y}^*\right]$, where $\underline{\Delta y}^* \equiv \underline{\Delta y}$ and:

$$\overline{\Delta y}^* \equiv \begin{cases} \overline{\Delta y} & \text{if } y_E < l\left(\overline{\Delta y}\right) \\ m(y_S) - y_E & \text{if } y_E \in \left[l\left(\overline{\Delta y}\right), l\left(\underline{\Delta y}\right)\right] \end{cases}.$$

Proof. 1(i). Shown in the proof of Proposition 1.

1(ii). Shown in the proof of Proposition 2.

1(iii). Let $b < c$.

Consider first the case in which $y_E \geq m(y_S)$, so that the decisive citizen is $\hat{y} = y_E$. First, observe that no citizen with wealth below y_E is eligible. Moreover, from statement (i), we know that y_E belongs to Y^*. Hence, $\underline{y}^* = y_E$. Now, consider a citizen $y > y_E$ running as a sole candidate. Let $\Gamma(y) \equiv V^*(y_E) - V(y_E, \tau(y)) + b - c$ stand for the gain for the decisive citizen y_E from challenging a candidate with wealth $y > y_E$. $\Gamma(y)$ is strictly increasing, continuous and such that $\lim_{y \to y_E} \Gamma(y) < 0$. Consider first the case in which $\lim_{y \to +\infty} V^*(y_E) - V(y_E, \tau(y)) > c - b$. Then, there exists a unique $\overline{y}^* \in (y_E, +\infty)$ such

that $\Gamma(\overline{y}^*) = 0$. Moreover, $\Gamma(y) < 0$ for any $y < \overline{y}^*$. Hence, the decisive candidate does not have any incentive to enter the electoral race and defeat any candidate with $y \leq \overline{y}^*$. In addition, consider any citizen in the equilibrium set, that is, with wealth $y' \in (y_E, \overline{y}^*]$. Any such citizen y' could only be electorally defeated by citizens within the equilibrium set and to its left, that is, by any citizen with wealth $y'' \in [y_E, y')$. However, the utility gain that any citizen $y'' \in (y_E, y')$ would obtain from defeating Citizen y' would be strictly smaller than the utility gain that the decisive citizen would obtain from defeating y''. By construction of $\overline{y}^*$, this utility gain would therefore be negative. Hence, $\overline{y}^* \in (y_E, +\infty)$ defined by $\Gamma(\overline{y}^*) = 0$ constitutes the upper bound of the set of equilibrium citizens. Now, consider the case in which $\lim_{y \to +\infty} V^*(y_E) - V(y_E, \tau(y)) \leq c - b$. Then, the decisive citizen (and consequently, any citizen to the right of the decisive citizen) would not find it beneficial in terms of utility to challenge (and defeat) any wealthier citizen running as a single candidate. Hence, it follows that $\overline{y}^* = +\infty$.

Consider now the case in which $y_E < m(y_S)$, so that the decisive citizen is $\hat{y} = m(y_S)$. For any citizen citizen with wealth $y \neq m(y_S)$, define the set:

$$W(y) = \{y' \geq y_E : V(m(y_S), \tau(y')) > V(m(y_S), \tau(y))\}$$

of eligible citizens that could defeat a candidate with wealth y in an electoral race. Also, define the set:

$$\Psi(y) = \{y' \geq y_E : V^*(y') + b - c > V(y', \tau(y))\}$$

of eligible citizens that would obtain a positive utility gain if they were to run against and defeat a candidate with wealth y. A citizen with wealth y belongs to the set of equilibria of this electoral game if and only if any citizen that could obtain a positive utility gain from defeating her would lose against her in an electoral race, that is, if and only if $W(y) \cap \Psi(y) = \emptyset$. First, we show that the equilibrium set contains citizens to the left and to the right of the decisive citizen. We can write $\Psi(y) = \Psi_1(y) \cup \Psi_2(y)$, where $\Psi_1(y)$ is a (potentially empty) open interval $\Psi_1(y) = [y_E, y_1(y))$ for some $y_1(y) < y$, and $\Psi_2(y) = (y_2(y), +\infty)$, for some $y_2(y) > y$. Observe that, by construction of $\Psi(y)$, both y_1 and y_2 are bounded away from y, for any y. On the contrary, the set $W(y)$ can be made arbitrarily small by choosing a citizen y sufficiently close to $m(y_S)$. Hence, there exists some citizens with wealth y around $m(y_S)$, but such that $y \neq m(y_S)$, for which $W(y) \cap \Psi(y) = \emptyset$. Hence, the equilibrium set contains some citizens to the left and to the right of the decisive citizen. (Notice that this result holds true only because y_1 and y_2, as defined right above, are bounded away from y, to the left and to the right of y, respectively, which requires that $b < c$; and also because $y_E < m(y_S)$). Now, we show that the equilibrium set is an interval. Consider some $y \in Y^*$

such that $y > m(y_S)$ and assume, for the sake of contradiction, that there exists some $y' \in (m(y_S), y)$ such that $y' \notin Y^*$. But then, that implies that there exists a citizen $y'' < y'$ that could defeat y' and obtain a positive utility gain if it were to run against y'. But then, y'' could also defeat y and obtain a positive utility gain if it were to run against y, so that y cannot belong to the equilibrium set either. An identical argument applied to citizens to the left of $m(y_S)$ suffices to show that the equilibrium set is an interval around $m(y_S)$. Finally, observe that if $\lim_{y\to+\infty} V^*(m(y_S)) - V(m(y_S), \tau(y)) > c - b$, then y can be trivially made arbitrarily large so as to have $W(y) \cap \Psi(y) \neq \emptyset$, so that $\overline{y}^* < +\infty$. To conclude the proof, we have that $\underline{y}^* > y_E$ if only if $W(y_E) \cap \Psi(y_E) \neq \emptyset$. If $W(y_E) \cap \Psi(y_E) = \emptyset$, we have that $\underline{y}^* = y_E$.

2. Suppose that there exists an equilibrium with two candidates. Since running entails a cost $c > 0$, it must be that both candidates win with positive probability in equilibrium. Hence, the median of the constituency must be indifferent between any two such candidates. Consequently, if these candidates are different, they must be located to either side of the median of the constituency. Without loss of generality, we can write any potential candidate for an equilibrium located to the left of the median of the constituency as $l(\Delta y) \equiv m(y_S) - \Delta y$, with $\Delta y \in [0, m(y_S)]$. Moreover, the indifference condition allows us to map every "leftist" citizen to the "rightist" citizen $r(\Delta y)$ that could be running against $l(\Delta y)$ in equilibrium, which is given by the following condition: $V(m(y_S), \tau(l(\Delta y))) = V(m(y_S), \tau(r(\Delta y)))$. Moreover, $l(\Delta y)$ and $r(\Delta y)$ must be sufficiently further away from each other, so that both candidates are better off running against its opponent than stepping down from the electoral competition. In particular, it must be that both $V^*(l(\Delta y)) - V(l(\Delta y), \tau(r(\Delta y))) \geq 2b - c$ and that $V^*(r(\Delta y)) - V(r(\Delta y), \tau(l(\Delta y))) \geq 2c - b$, which requires that $\Delta y \geq \underline{\Delta y}$, where $\underline{\Delta y}$ is as defined above. In addition, $l(\Delta y)$ and $r(\Delta y)$ cannot be too far away either, as a third candidate could enter the electoral race and defeat them and obtain a positive payoff from defeating them. This requirement reads $\Delta y \leq \overline{\Delta y}$, where $\overline{\Delta y}$ is as defined above. Hence, a necessary condition for the existence of an equilibrium with two candidates is that $\underline{\Delta y} \leq \overline{\Delta y}$. Moreover, it must be that at least $l\left(\underline{\Delta y}\right)$ is eligible to run, which requires that $y_E \leq l\left(\underline{\Delta y}\right)$. Provided that these two necessary conditions are met, an equilibrium with citizens $l\left(\underline{\Delta y}\right)$ and $r\left(\underline{\Delta y}\right)$ running as candidates exists. Hence, these conditions are also sufficient for the existence of an equilibrium with two candidates. We conclude the characterization of the set of equilibria by noticing that any pair $\{l(\Delta y), r(\Delta y)\}$ constitutes an equilibrium as long as both $\Delta y \in \left[\underline{\Delta y}, \overline{\Delta y}\right]$ and $l(\Delta y)$ is eligible to run, that is, $l(\Delta y) \geq y_E$. We subsume both conditions by noticing that any pair $\{l(\Delta y), r(\Delta y)\}$ constitutes an equilibrium as long as $\Delta y \in \left[\underline{\Delta y}^*, \overline{\Delta y}^*\right]$ where, if $l\left(\overline{\Delta y}\right) > y_E$, then we have that $\overline{\Delta y}^* = \overline{\Delta y}$; otherwise, we have that $\overline{\Delta y}^* = m(y_S) - y_E$. ■

A.2.2 Lessening suffrage and eligibility restrictions

The following proposition establishes a parallel result to that in Proposition 3 for the case not analyzed in the main body of the text.

Proposition 5 (Lessening suffrage and eligibility restrictions (II))**.** Assume that $b < c$ and that eligibility requirements are binding (i.e., $y_E > m(y_S)$). Then, we have that:

(i) Lessening suffrage restrictions (i.e., changing suffrage restrictions from y_S to any $y'_S \in [0, y_S)$) does not change the set of equilibria, that is, $Y'^* = Y^*$.

(ii) Lessening eligibility restrictions (i.e., changing eligibility restrictions from y_E to any $y'_E \in [0, y_E)$) shifts the set of one-candidate equilibria towards more redistribution in the following sense: $\underline{y}'^* < \underline{y}^*$ and $\bar{y}'^* \leq \bar{y}^*$. If, in addition, $\lim_{y\to+\infty} V^*(y'_E) - V(y'_E, \tau(y)) > c - b$, then we have that $\bar{y}'^* < \bar{y}^*$.

Proof. Let $y_E > m(y_S)$, so that the set of equilibria consists of the interval $Y^* = [y_E, \bar{y}^*]$ of one-candidate equilibria, as stated in Proposition 4, item 1(iii).

(i) Lessening suffrage restrictions does not change y_E, so that the lower bound of the interval remains unchanged. Additionally, notice that $\bar{y}^*$ is determined by the condition that y_E does not obtain a positive utility gain from running against $\bar{y}^*$. Since y_E is unchanged, $\bar{y}^*$ remains unchanged as well.

(ii) Lessening eligibility restrictions shifts y_E to $y'_E < y_E$. Hence, we have that $\underline{y}'^* < y_E = \underline{y}^*$ (notice that, as long as $y'_E > m(y_S)$, we have that $\underline{y}'^* = y'_E < y_E = \underline{y}^*$; also, if $y'_E \leq m(y_S)$, we have that $\underline{y}'^* \leq m(y_S) < y_E = \underline{y}^*$). Suppose first that $\lim_{y\to+\infty} V^*(y_E) - V(y_E, \tau(y)) \leq c - b$, so that $\overline{y}^* = +\infty$, as shown in the proof of Proposition 4. Then, we may either have that $\lim_{y\to+\infty} V^*(y'_E) - V(y'_E, \tau(y)) \leq c - b$, in which case $\overline{y}^*$ does not change (y'_E would not obtain a positive utility gain from running against $\overline{y}^*$), or that $\lim_{y\to+\infty} V^*(y'_E) - V(y'_E, \tau(y)) > c - b$, in which case $\bar{y}'^* < \bar{y}^*$, since in this case y'_E would obtain a positive utility gain from running against some set of citizens $y \in (y'_E, +\infty)$. Now, consider the case in which $\lim_{y\to+\infty} V^*(y_E) - V(y_E, \tau(y)) > c - b$. Then, it follows from Proposition 4 that $\overline{y}^* < +\infty$. From the characterization of $\bar{y}^*$, which is determined by the condition that y_E does not obtain a positive utility gain from running against $\bar{y}^*$, but that it would benefit from running against any citizen richer than $\bar{y}^*$, it follows that y'_E would obtain a positive utility gain from running against $\bar{y}^*$. Hence, the upper bound of the equilibrium set must move to the left, that is, $\bar{y}'^* < \bar{y}^*$. ■

A.2.3 Omitted proofs

Proof of Proposition 1

Proof. First, observe that the decisive citizen cannot be defeated by a competing candidate with a different wealth level. Suppose first that $y_E \leq m(y_S)$, in which case we have that $\hat{y} = m(y_S)$. In this case, the decisive citizen, which is the median of the constituency, would clearly obtain more than half the votes against any other candidate (recall that F is strictly increasing, so that $f(y) > 0$ for all y). If $y_E > m(y_S)$, then $\hat{y} = y_E$. In this case, any alternative candidate would be further away from the median of the constituency than y_E, so that the decisive citizen would also obtain the support of more than half of the electorate. Hence no citizen with a different wealth level would have incentives to run against the decisive citizen, as this citizen would incur a positive cost $c > 0$ and lose the election for certain against the decisive citizen. A citizen with the same wealth as the decisive citizen $\hat{y}$ would not have incentives to contest a single decisive citizen running either, since this candidate would not obtain any policy gain from defeating a candidate with the same preferences as hers; indeed, the expected payoff difference from entering this electoral race versus staying away would be $\frac{b}{2} - c < 0$. Finally, the decisive citizen would not have incentives to renege on her candidacy, since that would entail a payoff of $-K(\hat{y}) < V^*(\hat{y}) + b - c$. ■

Proof of Proposition 2

Proof. We have shown in Proposition 1 that $\hat{y}$ running as a sole candidate constitutes an equilibrium. Now we show that this equilibrium is unique if and only if $b \geq c$ and $y_E \geq \underline{y}$ for some $\underline{y} \geq 0$ that we characterize below.

For the sufficiency part, let $b \geq c$. Since the perks b of winning office exceed the cost c of running as a candidate, any citizen who were guaranteed an electoral victory would contest any standing candidate. Hence, the only citizen who could run uncontested is the decisive citizen $\hat{y}$. In addition, there could be an equilibrium with two candidates, to the left and to the right of the median of the constituency, which an eligibility requirement $y_E \geq \underline{y}$ prevents from happening, as we show in turn. Suppose first that $\underline{\Delta y} > \overline{\Delta y}$. Then, an equilibrium with two candidates does not exist, regardless of the eligibility restrictions, as the distance from the median to the "leftist" candidate must lie between $\underline{\Delta y}$ and $\overline{\Delta y}$ (see Proposition 4, item 2). Hence, in this case we have that $\underline{y} = 0$. If, on the contrary, $\underline{\Delta y} \leq \overline{\Delta y}$, then an eligibility restriction $y_E > l\left(\underline{\Delta y}\right)$ would prevent a two-candidate equilibrium from happening, since the closest possible "leftist" candidate to the median of the constituency would not be eligible (see Proposition 4, item 2). In this case, we have that $\underline{y} = l\left(\underline{\Delta y}\right)$. Hence, if $b \geq c$ and $y_E \geq \underline{y}$, the decisive citizen $\hat{y}$ running as a sole candidate is the unique equilibrium.

For the necessity part, it suffices to show that whenever $c > b$ there exists an equilibrium in which a citizen with wealth $y \neq \hat{y}$ runs as a single candidate. But this precisely what we show in Proposition 4, item 1 (iii). ■

Proof of Proposition 3

Proof. Let $b \geq c$ and $y_E > m(y_S)$. Hence, the decisive citizen is $\hat{y} = y_E$ and, as stated in Corollary 1, it follows that the degree of redistribution is given by the decisive citizen's preferred policy, that is, by $\tau(y_E)$.

(i) Lessening suffrage requirements does not affect the decisive citizen, since eligibility restrictions continue to be binding. Hence, the degree of redistribution remains unchanged.

(ii) Since eligibility restrictions are binding, establishing an eligibility requirement of $y'_E < y_E$ shifts the decisive citizen from $\hat{y}= y_E$ to $\hat{y}' = \max\{y'_E, m(y_S)\} < y_E = \hat{y}$, where the last inequality follows from the fact that both $y_E > y'_E$ and $y_E > m(y_S)$. ■