

IS DIRECT DEMOCRACY A PROBLEM OR A PROMISE FOR
FISCAL OUTCOMES? THE CASE OF THE UNITED STATES

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Is direct democracy a problem or a promise for fiscal outcomes? The case of the United States.

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Abstract

In time of worry for large deficits and pressure to balance the budget, the question on whether direct democracy can be a problem or a promise to better rule modern societies in the long run is likely to arise. Both theoretical and empirical studies provide mixed answers. This paper is an attempt to investigate the direct effect (i.e. the frequency of use) of direct democratic institutions (voter initiatives and popular referendums) on major fiscal outcomes across the American States over the period 1992-2009. In this perspective, this study is based on a wider time span with respect to the existing literature and it takes into account more detailed information beyond the availability of the direct democracy process (i.e. its indirect effect) such as the type of institution implemented, the voting result, and the topics of concern. Preliminary results suggest that direct democracy activity can contribute to increase state spending; the intensity degree of different direct democracy measures matters; the effect of the different topics on the ballot is not the same on all fiscal variables.

JEL classification: H710, H720, P160, O510

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1. Introduction

As confidence in government decreases and trust in politicians' hits low, the idea of shifting decision-making directly to citizens becomes ever more appealing. Theoretical considerations do not provide a conclusive assessment as to whether institutions of direct democracy have a positive or negative impact on fiscal and policy outcomes. According to some views, direct democracy instruments, such as referendums¹ and initiatives, are influenced by narrow and special interest groups that neglect the majority view²; but to others, they uncover outcomes that are generally supported by the many and affirm that more direct form of democracy may improve productive resource allocation (see, for example, Blomberg *et al.* 2004). More generally, the central theme of this strand of literature sustaining the "virtuous" effect of direct democracy is based on evidence (basically in the United States and Switzerland) that such instruments appear to increase the flexibility of resources allocation and lead to lower taxes and spending. However, it is not *a priori* clear whether citizens are generally more in favor of cutting or increasing public spending as this may depend on historical, cultural or other context factors. In time of worry for large deficits and pressure to balance the budget, this raises the question on whether direct democracy can be a problem or a promise to better rule modern societies in the long run.

Around half of America's States and an increasing number of countries have adopted some form of direct democracy institutions. Recently, Britain has had its first referendum for years (on whether to change its voting system), and the European Union has just introduced the first supranational initiative process. With technology making it ever easier to hold referendums and Western voters ever angrier with their politicians, direct democracy could be on the march. Switzerland represents, after all, a successful model of direct democracy in the 19th century at the federal level and in the middle ages at the local level. Where some kind of referendum institution already exists few people want to ban it. The debate about the merits of representative and direct democracy goes back to ancient times. It is mainly based on the difference between the "people rule" (i.e., pure democracy for the Athenians) and the "public thing" (i.e., the choice of a republic for the Romans). In real-world societies of a size too large to efficiently vote directly on all issues, representative and direct democracy are usually complementary institutions; in these societies, a different degree of direct democratic institutions is combined with representative institutions.

The effects of direct democratic institutions have been explored by many empirical studies on the US. Few exceptions refer to more recent cross-country analysis of Blume *et al.* (2009), and case-studies on Switzerland by Feld and Savioz (1997), Feld and Kirchgaessner (2000), Feld and

¹ We follow the *Oxford English Dictionary* and most of the modern literature (e.g., Feld and Matsusaka 2003) in adopting the plural term *referendums* instead of *referenda*. See also Butler and Ranney (1994) for further details on this grammatical issue.

² Broder (2000, p. 243) affirms: "The experience with the initiative process at the state level in the last two decades is that wealthy individuals and special interests...have learned all too well how to subvert the process to their own purposes".

Matsusaka (2003). US studies mainly concern citizens' voter turnout and civic engagement (Tolbert *et al.* 2001; Smith and Tolbert 2004); minority/majority rights (Gerber 1996, 1999; Hajnal *et al.* 2002); state economic performance (Feld and Savioz 1997 for Swiss cantons; Matsusaka 2005; Blume *et al.* 2009); state and local fiscal policy (Matsusaka 1995, 2004; Feld and Kirchgässner 2001; Feld *et al.* 2008); and the quality of government (Alt and Lassen 2003; Dalton 2008). For most topics, results are mixed and the effect of the initiative process on such items varies according to the level of government and the time period analyzed.

Although the usage of direct democracy mechanisms has spread in different forms to several countries, testing its impact on fiscal outcomes is a difficult empirical task. International comparisons are problematic given the impossibility to keep many factors affecting public policies constant across countries. The US serves as an interesting laboratory for other federal settings, thanks to a sufficient variation of institutions of direct democracy at the state level. Even without a national initiative process, more than half of all American States have some form of initiative - either direct or indirect (see Section 3) - according to which citizens have the ability to adopt laws or to amend the state constitution.

In this study, we are interested in performing a positive analysis on whether direct democratic institutions - considering their existence, usage and the topics of concern - have effects on the level of state debt, public expenditure (and its main components) and taxation items at the state level. The existing literature has provided a great deal of descriptive information about voter information, initiative campaigns, and the existence of the initiative process, while it has little to do with the actual use of direct democracy measures. Hence, this paper is an attempt to document the effect of usage initiatives and referendums by looking at fiscal outcomes and policies across states and across time, following the line direction suggested by Matsusaka (2004) in his seminal book.

Recently, *The Economist* (April 20th 2011) affirmed that the main culprit of the huge budget hole in California is direct democracy.³ The issue is widely debated. The underlying criticism of the initiative process is that it leads to irrational public policies because voters are myopic so that they would approve new spending programs while, at the same time, cut their taxes. This is properly summarized by Sears and Citrin (1985), who conclude that "to make a long story short, substantial majorities of the California electorate wanted cutbacks in government spending and taxes...while at the same time (and by equally strong majorities) requesting additional services in most areas of government responsibility" (p. 44).

³ "[R]ecalls, in which Californians fire elected officials in mid-term; referendums, in which they can reject acts of their legislature; and especially initiatives, in which the voters write their own rules. Since 1978, when Proposition 13 lowered property-tax rates, hundreds of initiatives have been approved on subjects from education to the regulation of chicken coops. This citizen legislature has caused chaos. Many initiatives have either limited taxes or mandated spending, making it even harder to balance the budget".

However, previous results on the US (e.g., Matsusaka 1995, 2004; Matsusaka and McCarty 2001) prove that State government spending is lower when voters participate directly in policy decisions (initiative-States spend less than non-initiative ones).⁴

A common feature of previous studies is that only part of the available data is used. Almost all consider the existence (and more rarely the usage) of the initiative process (see, for example, Blomberg *et al.* 2004) - which means State-with *versus* State-without initiatives - and not the more articulate differences between various instruments of direct democracy (i.e., direct and legislative initiatives; popular and legislative referendums). Likewise, the topic or scope for which initiative is undertaken is often not explored even though it can vary hugely. Initiatives may concern financing single infrastructure projects, welfare policies, electoral issues, environmental and regulation institutions, justice, civil rights, and immigration, etc. More generally, as pointed out by Feld and Matsusaka (2003, p. 2706), “many studies combine several institutional features into an *ad hoc* index of direct democracy”; this does not allow us to answer questions concerning the institutional details that possibly affect economic and fiscal outcomes and limits the policy relevance of the results.

The novelty of our paper is to take into account detailed information on direct democracy measures such as which kind of normative tool is used - direct or indirect initiatives; popular referendums - and which area of the policy agenda is explicitly involved - taxes, bonds, education, health, civil rights, etc. - in order to empirically investigate the effects of these instruments on the main fiscal variables in American States over the period 1992-2009. In this perspective, we follow the suggestion of Blume *et al.* (2009, p. 454) according to which “[o]ne desirable extension is to divide the category “initiative” into a number of more fine-grained sub-categories” and extend the content of previous works. We also consider a more recent time span with respect to the existing studies, by building a dataset with transparent coding criteria for institutional details of direct democracy.⁵

Preliminary results suggest that the direct effect (i.e. the frequency of use) of direct democracy is stronger than the indirect effect (i.e. the availability of the process); direct democracy activity can contribute to increase state spending; the intensity degree of different direct democracy measures matters; the effect of the different topics on the ballot is not the same on fiscal variables. Given that institutional details matter so much, a single indicator cannot be adopted to capture all aspects and policy implications of direct democracy.

The paper is organized as follows. Section 2 surveys the empirical literature concerning the possible relationship between direct democracy tools and major fiscal outcomes. Section 3 briefly provides background information on voter initiatives and referendums in the US, while Section 4 describes the data and the estimation approach used. Section 5 contains the estimation results and

⁴ For a detailed review on the role of political institutions in affecting the size of state government see also Krol (2007).

⁵ This was possible thanks to the comprehensive effort conducted by the *Initiative & Referendum Institute (IRI)* at the University of Southern California for many years, and additional information tracked on *Ballotpedia* (which is a free, collaborative, online encyclopedia about State politics, including elections, congress, legislatures, ballot measures, governors, etc.).

offers some possible interpretations. Finally, Section 6 concludes and suggests some questions for further research.

2. A review of the literature

As pointed out by Matsusaka (2005), the theory of direct democracy revolves around three main ideas: i) the principal-agent problem (wherein the role of the median-voter is crucial and the effect of direct democracy could be either that of pushing policy closer to the position of the median-voter or that of excluding the median-voter's ideal policy as in Romer and Rosenthal's (1979) work);⁶ ii) asymmetric information (whereby the performance of direct democracy relative to legislatures depends on the nature of the information required to make policy decisions); iii) issue bundling (whereby direct democracy tools, such as initiatives and referendums, give citizens a way to unbundle specific issues, so avoiding the "logrolling" phenomenon coming from bundling issues together in omnibus bills). Moreover, it also suggested that direct democracy institutions make politicians more accountable and result in policy choices that more closely match citizen preferences (Voigt 2011). Thus, the use of initiatives and referendums should act on government spending making it more in line with citizens' preferences. Most of the literature assumes that there should be some effect in terms of taxes, expenditure and deficits, although the direction of such effect is unclear.

Each of the above theoretical assumptions provides interesting insights on whether (and when) direct democracy mechanisms are likely to be helpful or harmful for a country's financial balance and inspires empirical investigations. Consistently with the scope of the paper, we focus our attention on a group of studies investigating the impact of direct democracy (through initiatives and referendums) on fiscal outcomes in the US first, and then in other countries.⁷

A common finding of more than ten studies (listed in Matsusaka 2004) is that, all other things equal, initiative States tax and spend less (about 4%) than non-initiative ones, at least from the mid-1970s to the end-1990s. The initiative effect here considered is "fully" (see Gerber 1999), i.e. given by the sum between a direct effect (measures inserted on the ballot by the voters) and an indirect effect (measures inserted on the ballot by legislation). For empirical purposes, the initiative effect on policy cannot be measured by examining only the propositions that actually pass (Lupia and Matsusaka

⁶ For theoretical explanations, see Tullock (1959); Niskanen (1971); Peltzman (1992).

⁷ More generally, economists are increasingly drawn to the study of political institutions and their policy consequences (see Krol 2007 for a review). Here we focus on fiscal outcomes, but other studies relate to productivity and economic performance. For example, Feld and Savioz (1997) highlight that economic performance (measured by GDP per employee) in Swiss cantons with extended democracy rights is some 5% higher than in cantons without such rights, based on evidence from the period 1984 to 1993. This study, as well as Blomberg *et al.* (2004) for the US, gives support to the idea that direct democratic systems are more efficient than representative democratic ones as the former should also lead to better private sector productivity and higher output.

2004), but should also try to consider information on both how difficult it is to use the direct democracy instruments and what kind of issues are at stake. Blomberg *et al.* (2004), for example, considers the signature requirement⁸ (for those states that do) in addition to the presence or absence of the initiative process.

More recently, attempts to better represent direct democracy issues are those of Blume *et al.* (2009) and the “Direct Democracy Index” (DDI) provided by Fiorino and Ricciuti (2007). However, the latter addresses the relevance of institutional details (e.g., the difference between referendums and initiatives); while, the former identifies four categories, passing from “0 = no actually observed direct democracy (i.e., no actual use between 1996 and 2005)” to “3 = high level of direct democracy (i.e., more than five voted issues with any sort of instrument).” Such measures are built to perform cross-country studies, whereby data comparability problems arise and data availability is not always so guaranteed over long periods of time.

As for the US, beyond the mainstream findings of lower spending in states with the initiative process than in those without (Matsusaka 1995, 2004; Matsusaka and McCarty 2001; Blomberg *et al.* 2004), there are some cases showing the opposite trend. Among them, Zax (1989) found that such institution increased per capita government spending in 1980 for 50 American States and 1305 local communities; Marschall and Ruhil (2005) demonstrate that ignoring states’ voluntary adoption of direct democracy when analyzing fiscal outputs generate biased and unreliable estimates of initiative effects, and that the initiative actually increased State expenditures, revenues and taxes in 1960-2000. Hence, in these studies, rather than reducing the size of the public sector, the initiative appears to have fostered and expanded the fiscal role for state government.

This pattern is actually quite similar to the one observed by Zimmerman (1999) and Matsusaka (2000) over the previous period (i.e., between 1900 and 1940), wherein State initiatives were more likely to require increases than decreases in expenditure (especially for education and welfare categories). In turn, Marschall and Ruhil (2005) explain the positive relationship between initiatives and public spending with the fact that if the initiative makes policy more responsive to public opinion, and more often than not, public opinion calls for more, not less, government expenditure - as it seems to be happened from 1960 to 2000 in the US. In general, the conclusion drawn by Lupia and Matsusaka (2004) is that rather than thinking direct democracy as ideologically predisposed in a particular direction - i.e., increasing or decreasing public spending - it is a “median-reverting” institution, which pushes policy back toward the center when legislatures move too far to the right or left.

Another interesting result in Kiewiet and Szakaly (1996) shows that, although initiatives tend to bring about both lower taxes and lower spending, neither initiatives nor referendums have a

⁸ The signature requirement (usually a percentage) is introduced as proxy for ease of use of the initiative. Nevertheless, it may be differently easy to collect the signatures of 5%, for example, of Californian voters and the same share of voters in Montana, due to both different population sizes and geographical location of inhabitants of the two States. For further details on this issue, see also Magleby (1984).

significant effect on the amount of debt issued. Similar evidence for the US is provided by Matsusaka (1995, 2004) and Bohn and Inman (1996), wherein States with initiatives are no more likely to borrow than those without initiatives.⁹ Finally, Camobreco (1998) found that initiatives have no effect on state and local (combined) per capita expenditures and tax effort in 1988 and 1990. Hence, the evidence on the net policy impact of the initiative in the US is rather mixed (for an historical perspective see Smith 2001).

With regard to countries other than the US, Feld and Matsusaka (2003) deal with the effects of mandatory fiscal referendums in 26 Swiss cantons from 1980 to 1998 and find that cantons with such mechanisms spend significantly less (about 19%) in per capita terms than cantons without them, holding constant other determinants of spending such as income. They also document an interaction between the mandatory referendum and voter initiative suggesting that the initiative process is a substitute way to restrain government spending - consistently with the evidence of Matsusaka (1995) for the American states.¹⁰

The fact that budget referendums and the initiative process are substitutes could be due to a sort of misspecification in some previous studies wherein the additive indexes are used and the two institutions are kept together into an *ad hoc* index. Following this reasoning, Bowler and Donovan (2004) discuss different ways in which the initiative process could be represented and outline an argument in favor of measures that take into account the considerable variety in the way the process is implemented, demonstrating that commonly used dummy variable measures for initiatives (present/absent) suffer validity problems, and hypothesis tests using such measures may underestimate the initiative effects on state policy.¹¹

A similar approach is adopted by Blume *et al.* (2009), who propose the first cross-country study analyzing the economic effects of direct democracy in 88 countries over the period 1996-2005 with findings only partially confirming prior intra-country results. Indeed, they show that total spending (as well as that on welfare) is lower in countries with mandatory referendums¹² but, at the same time, that countries with national initiatives appear to spend more and be more corrupt.

⁹ Similar results hold for the case of Switzerland. Feld and Kirchgässner (1999, 2001) report, for example, that debt referendums reduce borrowing and spending in Swiss municipalities.

¹⁰ Likewise, Feld and Kirchgässner (2001) find that in Swiss cantons with the mandatory referendum, both expenditure and revenue are lower by about 7% to 11% compared to cantons without mandatory referendums.

¹¹ Representing the initiative process as a simple dummy variable can be too simplistic since it lumps together states that make active and repeated use of the process and those that do not. Hence, a dummy variable makes a false distinction between states that do not have the initiative and those that have it in principle, but barely practice it. Moreover, it increases the risk of leading to claims that there is no relationship between initiatives and policy, where one may in fact exist. Finally, it is worth noting that the impact of the initiative process is likely to vary as a result of how institutions of direct democracy are designed, say a greater impact emerges whereby it is easier to use the initiative process; it can circumvent the legislative process, and perhaps most of all, whereby it is used the most.

¹² The basic feature of mandatory referendums is that the law (usually the constitution) directs authorities to holding referendums on specific matters (such is the case in amending most constitutions and ordinary legislation, or impeaching heads of state as well as ratifying international treaties) and such referendums are usually binding. In other words, mandatory referendums “force” governments to ask the citizens for approval

3. Direct democracy measures in the United States: some characteristics and trends.¹³

The foremost example of direct democracy in the US is the use and development of initiatives and referendums,¹⁴ whereby “the initiative is the means by which voters can correct legislative sins of omission and the popular referendum as the means of correcting legislative sins of commission” (Magelby 1984). In detail, the use of referendums can be prescribed by the constitution for passing certain types of legislation: in this case, agenda-setting power remains with parliament, but citizens’ consent is required and citizens have the ability to reject laws or amendments proposed by the state legislature. Referendums are *popular* or *legislative* according to the actor who “starts” the mechanism: in the first case, citizens have the power to refer to enacted specific legislation for the people to either accept or reject; in the second case, an elected official, a constitutional commission, the state legislature or other government/department agency submits propositions to the people for their rejection or approval.¹⁵

Initiatives, instead, allow citizens to become agenda setters as they can directly adopt laws or to amend the state constitution; more precisely, the standard form of an initiative permits citizens to propose a new law that can be placed on a statewide ballot (under the condition that a predetermined number of signatures from fellow citizens is collected) and approved or not by voters through a majority rule; if there is the approval, the proposal becomes law. There are two types of initiatives: direct or indirect. A *direct* initiative is one for which citizens’ proposals are directly placed on the election ballot and then submitted to the people for their approval/rejection, without any role of state legislature in this process; an *indirect* initiative is, instead, a proposal promoted by citizens but subject to the preliminary approval of the state legislature during a regular legislative session. Hence, the main difference concerns the degree of direct democracy entailed by the two measures; we also take this difference into account in the empirical analysis.

In the US, there is no a national referendum neither a national initiative process but in 2011 all States had at least a legislative referendum and among them, only 24 had popular referendums and initiatives (either direct or indirect) as shown in Figure 1.¹⁶

in some policy area (mostly their budget proposals). Thus, they differ from initiatives, which can be initiated directly by citizens themselves (having to collect signatures in favor of them) and be binding or not.

¹³ The information contained in this section was derived primarily from independent research conducted by the IRI and from *Texas Interim Report on the Initiative Process*.

¹⁴ A third variant are *plebiscites*, often used by the governing class to have its policies confirmed. They usually do not have a binding effect, which is why they do not play an important role in the literature on the economic effects of direct democracy.

¹⁵ We are able to distinguish between popular and legislative referendums for each state in the empirical analysis. Moreover, to our knowledge, no previous studies pay much attention to the referendum mechanism as they do to the initiatives, and also in the second case, no distinction is made between different types of initiatives.

¹⁶ The 24 States allowing popular referendums do not perfectly coincide with those with initiatives. Indeed, on the one hand, Florida, Illinois, and Mississippi have initiatives but not popular referendums; on the other hand, Kentucky, Maryland, and New Mexico have popular referendums but not initiatives. States have both are:

Insert Figure 1 about here

The use of initiatives at the state level expanded tremendously in the past century and it was more frequent than the referendum process. In particular, the IRI calculates that there were 118 statewide initiatives in the US during the 1950s; this figure increased to 378 initiatives in the 1990s, and remained quite stable for the decade 2000-2009 (367 initiatives).¹⁷ More precisely, from 1904¹⁸ to 2009 a total of 2,314 state-level initiatives have been on the ballot and 41% of them have been approved.

In our sample we count 1,118 direct democracy (including direct and indirect initiatives and popular referendums) events from 1992 to 2009, of which 54.8% passed. Figure 2 shows the total number of direct democracy events, those passed and failed for each State over the 1992-2009 period. The most frequent usage is observed in California (148), followed by Oregon (119). Additionally, Figure 3 summarizes State direct democracy activity year-by-year from 1992 to 2009, reporting the total number of measures used and (shaded) the number that were approved.

Insert Figure 2 and Figure 3 about here

Direct democracy activity visibly increases in recent years of our sample, reaching a peak of 173 events in 2002, 99 of which passed. An extensive usage of initiatives and popular referendums also occurs in 2004 (128), 2006 (157) and 2008 (142). In all these cases, the percentage of measures with a positive result is higher than those failed.

Details on how the initiative is administered vary across states as concerns the following features: the number of signatures needed and their deadline and their geographic distribution; the presence of single or more subjects on the ballot; the circulation period; the final approval and other minor points.¹⁹ As for approval, once an initiative is on the ballot, the general requirement for passage is a simple majority vote (exceptions are Nebraska, Massachusetts and Mississippi wherein a majority is obtained by the votes cast on the initiative equal to a percentage of the total votes cast in the election; Washington requires 60% affirmative vote for passage for measures concerning gambling; Utah has a requirement that any initiative pertaining to the taking of wildlife must pass by a 2/3 vote).

Alaska, Arizona, Arkansas, California, Colorado, Idaho, Maine, Massachusetts, Michigan, Missouri, Montana, Nebraska, Nevada, North Dakota, Ohio, Oklahoma, Oregon, South Dakota, Utah, Washington, Wyoming.

¹⁷ A similar trend apparently occurred at the local level, as citizens and interest groups increasingly turned to direct democracy to advocate their positions. In addition, about half of all cities also provided for the initiative.

¹⁸ Actually, the first year wherein statewide initiatives and popular referendums were adopted is 1898 (in South Dakota).

¹⁹ As an example, signature thresholds vary from a high of 15% of qualified voters based on votes cast in the last general election in Wyoming to a low of 2% of the state's resident population in North Dakota.

Finally, initiatives can aim at different levels of legislation (constitutional *versus* ordinary legislation), and their scope can vary hugely (e.g., some constitutions prohibit initiatives on budget-relevant issues). In 2009 (the latest data available in our sample), for example, headline issues were gay rights, tax and expenditure limits; likewise, in 2008 issues concerning civil and social rights represented the *leitmotiv* of ballot propositions combined with tax and expenditure measures, while in 2007 it is more difficult to identify national trends given relatively few measures on the ballot (even though taxes and bonds are often favourite topics). In general, fiscal policy items are of great importance at a state level as American States have a higher degree of fiscal autonomy and responsibility within the few boundaries of the federal Constitution. In this framework, normative instruments to limit the size and growth of revenues and expenditures (i.e., *tax and expenditure limitations*, TELs) are not imposed by the federal government or by the Congress but they come from the economic constitution of the States themselves and basically vary across them.²⁰ Voter initiatives and referendums are two way - among others - to promote and approve TELs.

4. The empirical analysis

4.1. The basic model

The unit of observation of our empirical analysis is each American state ($i = 1, \dots, 50$) in a given year ($t = 1992, \dots, 2009$); hence, we have a strongly balanced panel based on annual data for a total of 900 observations. The general specification is the following:

$$Fiscal_item_{it} = \alpha + \sum_{j=1}^s \beta_j Direct_dem_{it} + \sum_{k=1}^n \gamma_k Cont_{it} + v_t + \varepsilon_{it} \quad (1)$$

where $Fiscal_item_{it}$ denotes the dependent variable representing fiscal items (e.g., total revenue; general revenue; taxes; general expenditure; direct expenditure; capital expenditure; current expenditure; social welfare expenditure; debt) expressed in per capita current dollars and used one at time. Hence, we estimate nine different specifications, passing from wide fiscal aggregates (such as total expenditure) to more disaggregated variables (such as social spending or current expenditure).

On the right-hand side of equation (1), $Direct_dem_{it}$ stands for different measures of direct democracy: a dummy to indicate the use of direct or indirect initiatives or popular referendums; the number of all types measures implemented and that of those passed; the number of initiatives and referendums by topic. These variables basically capture the usage of such institutions. The different forms of the direct democracy (direct initiatives, indirect initiatives, popular referendums) variable

²⁰ For further details see the National Association of State Budget Officers (NASBO).

are used one at time - exploiting their different degree of detail and information - in order to develop a general-to-specific empirical approach.

By investigating the effect of multiple direct democracy measures (usage; type; result; topic) on the main fiscal variables, we also control for other socio-economic factors that may affect state fiscal policy, making our study consistent with the conventional approach (e.g., Matsusaka 1995). More precisely, the set of controls ($Cont_{it}$) includes demographics variables at the state level such as: population density (in order to capture, for example, the presence of economies of scale in production of government services); the annual growth rate of population (which is expected to lead to a short-run demand for public spending, which usually requires some forms of taxation); the percentage of population with total full- and part-time employment by industry (to control for potential differences between more and less developed area in benefits of spending and cost of rising revenue).

Beyond the demographic items, income per capita is obviously included among the covariates as it represents the most popular predictor of government size and public expenditure; likewise, it also has a natural relationship with the revenue side. In addition, federal revenue transfers to state²¹ belong to the controls of equation (1) as they can play a role in affecting state fiscal decisions concerning both sides of the budget and, at the same time, they can be assumed exogenous with respect to such decisions as properly argued by Matsusaka (1995).²² Finally, as direct democracy institutions were established in most states long ago, we assume that - as in most previous studies (e.g., Matsusaka 1995; Lascher *et al.* 1996; Bowler and Donovan 2002) - the decision to adopt them is, in practice, exogenous to policy decisions made in the sample period.²³ In any case, we consider a variable measure since how many years direct democracy institutions have been adopted in each State.

Summary statistics on explanatory and controls variables are reported in Table 1. Demographic and employment data come from the *Regional Economic Accounts* provided by the US Bureau of Economic Analysis (BEA); detailed data and qualitative information on direct democracy measures

²¹ More generally, intergovernmental revenue comprises monies from other governments, including grants, shared taxes, and contingent loans and advances for support of particular functions or for general financial support; any significant and identifiable amounts received as reimbursement for performance of governmental services for other governments; and any other form of revenue representing the sharing by other governments in the financing of activities administered by the receiving government. Intergovernmental revenue excludes amounts received from the sale of property, commodities, and utility services to other governments (which are reported in different revenue categories). For states, amounts received directly from the federal government includes federal grants and aid, payments-in-lieu-of-taxes on federal property, reimbursements for state activities, and revenue received but later transmitted through the state to local governments.

²² Actually, he also affirms that if federal aid is endogenous, its inclusion does not bias estimates as block grants, general revenue sharing and also categorical grants and matching funds are awarded on the basis of formulas set by federal officials (e.g., Congress or administrators), so reflecting political bargaining at the federal level. As a result, a state's ability to increase its fiscal aid by altering its fiscal behavior may be small (see also Hale and Palley 1981).

²³ To our knowledge, a notable exception is the work of Marschall and Ruhil (2005), who explicitly address the potential endogeneity of the initiative, even considering combined state and local spending and taxation.

(initiatives and referendums), through which we build our indexes, are derived from the *Initiative & Referendum Institute* (IRI).²⁴

Insert Table 1 about here

Specific state fixed-effects are also considered into the analysis as well as year dummies (v_t); ε_{it} is the standard error term. The benchmark regressions are estimated through a fixed effects (FE) panel estimator with White standard errors.

4.2. The dependent variables.

We use fiscal and economic data of state governments for several reasons. The majority of spending functions is allocated at the state level, and their general expenditure also includes revenue transfers from states to lower tiers of governments (mainly to local units and districts). Likewise, most taxes (basically sales taxes or VAT and some kind of tax base sharing for income) are decided and administered by each state.²⁵ Moreover, states have a higher degree of autonomy on tax/expenditure decisions than local governments, whose finance basically depend on intergovernmental grants. Finally, the organization of the local government sector is at the discretion of the states and the structure of lower tiers is therefore quite different across states. As a consequence, it seems to be difficult to provide a general framework concerning the functions of the various forms of local authorities.

Even though conceptually it makes sense to look for the effect of statewide initiatives on combined state and local spending mainly because initiatives can be (and are) targeted at the behaviour of both state and local governments, it may be more interesting to investigate how the cuts or increases in the overall size of state and local government size were achieved; whether, for example, they come from state government, local government, or both. This approach is followed only, to our knowledge,²⁶ by Matsusaka (2004) when he deals with the question of whether initiatives have any effect on the distribution of government spending between the state and the local level, finding that initiative states spend 13% less per capita at the state level than non-initiative states, but

²⁴ The original dataset is constantly being updated and verified. The project is being coordinated and managed by Professor Rich Braunstein of the University of South Dakota with the help of Mark Cullen and Janet Benton.

²⁵ It is, indeed, well documented that government centralization of revenue and expenditure increased throughout the twentieth century (see Wallis 1995), whereby spending/revenue is centralized if the state government makes the preponderance of expenditure decisions (and decentralized if local governments make most decisions).

²⁶ More recently, Marschall and Ruhil (2005), who restricted their attention to total state and local expenditures and revenues per capita, also affirm that revenue and spending shifts between states and their local governments as a consequence of the initiative is an intriguing question in its own right, and one to reserve for future research.

spend 4% more on the local level.²⁷ More precisely, and importantly for us, the finding that the initiative cuts state spending is highly robust to alternative specifications; while the positive effect on local spending is not, as in some cases there is no any impacts.

Additionally, the effect of the initiative on state spending is more “dramatic” than that for combined state and local spending (4% less) over the same period, suggesting that such institutional process may be more important for the spending composition rather than for its level.²⁸ For all these reasons, we focus on initiatives (and popular referendums) and fiscal outcomes at the same - as much as possible - governmental level, i.e., each American State.²⁹

In detail, we consider several expenditure items as dependent variables (i.e. *Fiscal_item_{it}*). We start with total expenditure, which is the sum of direct expenditure and intergovernmental expenditure, so avoiding the problem of underestimating the role of state government in spending decisions.³⁰ As for its composition,³¹ three main functions belonging to total expenditure are considered together in order to represent the so-called state “social welfare spending” (i.e., education plus health plus public welfare), and used on the left-hand side of equation (1).

Then, we consider direct expenditure that comprises all final expenditures paid to current employees, former employees (retirees) and to private sector entities outside of the government itself (e.g., all expenditure other than intergovernmental expenditure). The types of direct expenditure include current operations, capital outlay, interests on debt, subsidies and assistance. We also focus on the first two items³² in order to verify whether any differences exist between them when the initiative - or more generally the direct democracy - process is at work.

Indebtedness by term at end of fiscal year is also considered as dependent variable; it concerns general obligation bonds, term bonds, serial bonds, revenue bonds, industrial revenue bonds,

²⁷ Actually, in the same work he also analyzes how the initiative changes the size of government, as measured by total spending (or revenue), i.e. considering the *combined* spending (or revenue) of state and local government. In that case, he demonstrates that the initiative reduced the size of state and local government (measured by revenue or expenditure) by about 4% over the period 1970-2000.

²⁸ Actually, it is worth noting that in Matsusaka (2004) when the dependent variable is local expenditure (per capita), the initiative variable indicates whether a state-level initiative was available, and not whether a local initiative was available. Hence, it is not possible to hold the same unit of analysis as in the case of state government.

²⁹ Ballot measures that refer to local governments only exist (some examples are California’s Proposition 98 in 1988 requiring the state to provide specified minimum levels of spending for schools districts and California’s famous Proposition 13 in 1978 cutting local property taxes). However, there are probably few if any measures that legislate directly on the division of spending between state and local governments.

³⁰ The money raised by the state, and then transferred to a local government showing up as a local expenditure, is included in the first aggregate.

³¹ Total expenditure includes education, health, hospitals, public welfare, highways, airports, police and fire protection, housing programs, government administration, interest on general debt, and so on.

³² In detail, current expenditures are direct expenditure for compensation of own officers and employees and for supplies, materials, and contractual services except any amounts for capital outlay (i.e., for personal services or other objects used in contract construction or government employee construction of permanent structures and for acquisition of property and equipment); capital expenditures are direct expenditure for purchase or construction, by contract or government employee, construction of buildings and other improvements; for purchase of land, equipment, and existing structures; and for payments on capital leases.

pollution control bonds, special assessment bonds, certificates of participation, zero coupon or compound interest bonds, judgments, mortgages, and construction loan notes.

The revenue side is also explored as dependent variable of equation (1) to analyze how direct democracy institutions affect the way in which expenditures are financed. In this perspective, we consider three main items: i) total revenue (minus intergovernmental revenue); ii) general revenue (minus intergovernmental revenue); iii) taxes.³³ More precisely, we consider total and general revenue from own sources only, as revenues from the federal government are used as control variable in equation (1).

Descriptive statistics of all dependent variables used one at time in the empirical analyses are reported in Table 2.

Insert Table 2 about here

Fiscal, economic and financial data are derived from the *Annual Survey of State Government* provided by the US Census Bureau.

5. Estimation results and their discussion

Starting from equation (1), we present different cases in order to analyze the effects of direct democracy institutions on the level on the main fiscal items. In doing so, we keep clearly in mind that voter initiatives and popular referendums are not the preliminary determinants of fiscal policy and we focus on them only to evaluate whether their existence and usage can make a difference for fiscal outcomes with respect to pure representative institutions.

In detail, we adopt a general-to-specific approach, wherein the variable *Direct_dem_{it}* is very broad and encompasses all institutions (direct and indirect initiatives and popular referendums) dealing with legislation made by citizens; it becomes more detailed and includes more specific characteristics of the process (e.g., different types of institutions; results of initiatives and referendums; topics). Each case is treated and discussed separately.

³³ Total revenue is a sum of intergovernmental revenue (mainly from federal government), taxes, general revenue, liquor store revenue, utility revenue, social insurance trust revenue. In turn, general revenue comprises all revenue except that classified as liquor store, utility, or insurance trust revenue; so there are four types of revenue within general revenue sector: taxes, intergovernmental revenue, current charges, and miscellaneous general revenue. Finally, taxes are compulsory contributions exacted by a state government for public purposes, other than for employee and employer assessments and contributions to finance retirement and social insurance trust systems and for special assessments to pay capital improvements. Tax revenue comprises gross amounts collected (including interest and penalties) minus amounts paid under protest and amounts refunded during the same period. It consists of all taxes imposed by a state government whether the government collects the taxes itself or relies on another government to act as its collection agent.

5.1. Case 1: The usage of direct democracy.

Table 3 reports estimates of equation (1), where each row is a regression where the variable $Direct_dem_{it}$ is a dummy indicating year-by-year whether or not a state has implemented some form of direct democracy (i.e., *I*, *D* or *PR*) during the period 1992-2009. The remaining covariates are described in section 4.1 (for the sake of simplicity they not reported in the table). This represents the most general case and the most similar to the previous literature (e.g., Matsusaka 1995), even though in that literature the dummy variable for direct democracy stands for the existence of the initiative process in each American state, neglecting its actual usage.³⁴ In other words, it may happen that a state has initiative measures, but it does not use them in practice in a given year. In our sample, some notable examples are Illinois and Mississippi that have initiatives (see note 16 and Figure 1), but they do not seem to use them a lot (see Figure 2). In this perspective, the presence of direct democracy institutions (broadly defined) is not a sufficient condition to denote the effective use of such process and different fiscal effects concerning both aspects may arise. Moreover, the estimations show that there are no significant effects on fiscal outcomes of the variable measuring time direct democracy institutions have been adopted in each State (see time span variable further on).

Insert Table 3 about here

Looking at Table 3, we note that the effect of direct democracy is positive and highly statistically significant for the main spending items: total expenditure, current expenditure and social expenditure. In short, direct democracy tends to be associated with state governments spending more, on average, particularly for redistributive purposes - since public education, health and welfare programs are included in the social expenditure variable - and for current operations - mainly referred to compensations of employees and ordinary management. To some extent, the usage of initiatives and popular referendums appears to have increased the size of the public sector during the years 1992-2009

These preliminary results appear in line with those of Matsusaka (2000) - who finds that initiatives increased state spending (especially for education and welfare categories) during the period 1900-1940 - and also those of Zax (1989), Zimmerman (1999), Marschall and Ruhil (2005). They explained the positive coefficient of direct democracy on total expenditure by observing that the electorate was becoming more supportive of government spending over time (see Mayer 1993; Camobreco 1998; Stimson 1999; Lupia and Matsusaka 2004); this fact, combined with their assumption that direct democracy contributes to make policy more responsive to public opinion, provides support to their results.

³⁴ In that literature (see also Blomberg *et al.* 2004), this factor is captured by considerations on the signature requirement and represented through the inclusion of another dummy variable for it.

Different trends occur for the revenue side as no relevant effects can be ascribed to direct democracy institutions. Indeed, the coefficient on the dummy variable is never significant for all the revenue regressions. Hence, it seems that direct democracy tools have not the main effect of pushing down (or up) taxes and aggregate revenues, whereas they are more effective on the expenditure side. Additionally, inconclusive results emerge for the level of state debt (estimation not reported in the table) as well as in almost other studies on the US (e.g., Matsusaka 1995, 2004; Bohn and Inman 1996), suggesting that states with direct democracy are no more likely to borrow than those without.

As for the controls (estimated coefficients non reported in the table), the number of years since the date adoption is never significant; the explanation may be due to the fact states with direct democracy institutions introduced them many years ago, and this number is always higher with respect to our time span variable. In turn, income per capita is highly significant in all specifications: income is obviously the most determinant of expenditure and it also has a strong relationship with revenues, recalling that direct democracy is not the key element of fiscal policy. The same high significance with positive, no surprisingly, coefficient can be found for the percentage of population working full- and part-time by industry and for federal aid across different specification (mainly for spending items). As in Matsusaka (1995), population growth is not significant, while the time dummies better explain the variation in each fiscal item over the sample period.

5.2. Case 2: The usage of direct democracy by type and result.

Table 4 shows estimation results when $Direct_dem_{it}$ is represented by a set of variables denoting the type of democratic instrument used (i.e. the number of: i) indirect initiatives; ii) direct initiatives; iii) popular referendums) and the relative result after their implementation (i.e. passed or failed). More precisely, we have six explanatory variables, namely I , D , PR , IP , DP , PRP in order to disentangle the impact of all possible measures entailing a different “intensity” degree of direct democracy involved (say, $D > I > PR$) and to take into account the real *ex-post* effect by including the result after the voting mechanism. In this respect, this part of the empirical analysis is something not yet treated by the existing literature.³⁵ The other hand-right side variables are those used in case 1 (their estimated coefficients are not reported in the table) and each row of the table is the regression referred to a specific dependent variable.

Insert Table 4 about here

At first glance, it is worth noting that the type of direct democracy used seems to matter as different results can be obtained across specifications for I , D , and PR separately introduced into

³⁵ The approach of using the number of initiatives is also followed by Blume *et al.* (2009) in order to capture the effect coming from their actual usage. In our case, it is also useful as it allows us to consider the three available types and count for each of them.

equation (1). In detail, the number of indirect initiatives adopted contributes to reduce total expenditure of about \$35 per capita and social expenditure of about \$21 per capita. In turn, the effects of D and PR on total expenditure have the opposite sign even though their coefficients generally do not achieve statistical significance. Hence, when we start to refine the direct democracy definition, passing from a dummy for the general usage to specific kinds and how many measures used, we obtain manifold results for many dependent variables.

In addition, the number of approved indirect initiatives (IP) has a positive significant effect on total and social expenditure meaning that the final negative effect of I institution depends on the interactions between those really failed and passed. So that, different voting result concerning the same democratic instrument can have different effect on spending item and, more generally, fiscal variables.

A similar reasoning seems to hold for own total revenue. In this case, the final effect of using more direct institutions (i.e. D) is positive and statistically significant (even at 10%), while the effect of those only passed (DP) is negative at the same level of significance. In short, the number of both direct initiatives (D) and popular referendums (PR) actually implemented seems to allow states to raise, on average, more resources basically from liquor store revenue, utility revenue, social insurance trust revenue as the other two main components of own total revenue - taxes and general revenue - are not affected by such democratic measures.

Statistically significant (at 5% level) results for the level of state debt can be obtained only considering the lagged value of the variable I that shows a negative coefficient (not reported in the table). Specific comments on the control variables are similar to those drawn in the previous case (estimated coefficients not reported in the table).

5.3. Case 3: The usage of direct democracy by topic.

The third part of the analysis tries to add to the existing literature the importance of considering direct democracy issues by topic in order to answer questions concerning the institutional details that possibly affect fiscal outcomes. The topic is, to some extent, the core of initiatives and popular referendums since it identifies the scope and purpose of such instruments and, as anticipated in section 3, it can vary hugely (e.g., taxes, spending, bond, education, health, regulation, business, constitutional issues, environment, civil rights, government administration and so on).

In this vein, we re-estimate equation (1) for the same sample after grouping all possible topics into five categories, and use the number of initiatives (both direct and indirect) and popular referendums by topic as $Direct_dem_{it}$ variable. So, we pass from a “type-distinction” adopted in case 2 to a “topic-distinction” to capture whether any differences exist in the fiscal effects of different topics. More precisely, we consider these subjects as they are the most frequent on the ballots from 1992 to 2009 and they are likely to be a bit more related than others to fiscal outcomes: a) *Bond*; b) *Education & Health*; c) *Taxes & Revenues*; d) *Civil rights*; e) *Others*.

Table 5 provides a stylized picture of the size and distribution, on average, of the five selected topic based on the total number of direct democracy instruments and the number of each type (*I*, *D*, *PR*). The first four categories represent the 46% of the total. In turn, Figure 4 shows the percentage composition of the five topics in each state over the period 1992-2009.

Insert Table 5 and Figure 4 about here

Preliminary estimation results are, instead, reported in Table 6 according to the logic of the previous cases. In general, they are more informative for the expenditure than for the revenue side as before. In detail, the number of direct democracy measures with the topic *Bond* has positive and highly statistically significant coefficients (almost always at 1%) for many spending items such as total, direct, current and social expenditure. Such increases in the first three spending components (which are highly related each other as described in section 4.2) are basically referred to interests' payment that must be paid on bonds. Actually, questions on bonds are put on the ballot also for specific social and welfare purposes (e.g., \$ millions bonds for: children's hospitals; libraries; health facilities; higher education). This can explain the positive effect on social spending, even with a lower magnitude (\$19 per capita).

Insert Table 6 about here

As for the topic *Taxes & Revenues*, it is possible to capture a "virtuous", to some extent, effect of such questions on the above cited spending categories. Indeed, its coefficient is always negative and statistically significant (even at a lower level) suggesting that tax ballots has the main effect of reducing certain expenditures.³⁶ In fact, the negative impact of the *Taxes & Revenues* topic also holds - even it is not significant - in the cases of taxes and general revenues (which do not include liquor store revenue, utility revenue, and social insurance trust revenue), highlighting a consistent shrinking effect on the main spending items (the peak if for total expenditure with -\$43 per capita) through the implementation of such topic.

Finally, the *Education & Health* topic does not seem to be significant for fiscal outcomes. This is probably due to the fact that its related questions usually refer to organizational, administrative and cultural aspects of those functions (e.g., school district consolidation law; statute allowing medical use of marijuana; eliminate language requirements for private, denominational and parochial schools; health care that would be administered by a new public non-profit corporation). As for the *Civil rights* topic, it has a negative effect on those spending more related to current employees, former employees

³⁶ This effect is persistent even when we add to this topic questions on alcohol, tobacco and gambling that usually provide more resource to state governments.

(retirees) and to private sector entities outside of the government itself, say direct expenditure and its sub-category current outlay.

6. Concluding remarks

This paper is the first attempt to analyze the effect of direct democracy institutions on state fiscal outcomes in the United States focusing not only on the availability of the process - as almost all previous studies do - but also on the effective usage of this activity. In this perspective, many features of direct democracy events (such as the type of instrument used; the result of the voting process; the topics of concern) are taken into account in our empirical analysis, following the suggestions of Feld and Matsusaka (2003), Blume *et al.* (2009) according to which institutional detail matters, so more refined direct democracy indexes should be built.

Likewise, several issues of fiscal policy (e.g., total expenditure and its major components; total revenue and other taxation items; state debt) are considered as dependent variables and a more recent time span (1992-2009) with respect to the existing studies is examined. Even though most of the literature recognizes that direct democracy institutions have some effect in terms of spending, taxation and deficit, a widespread consensus on the direction of such effect does not emerge and mixed results can be found.

Our preliminary findings are based on three steps of analysis. When a general definition for the direct democracy process is adopted and no distinction between e.g., direct and indirect initiatives as well as among different topics is made, we observe that such institution tends to be associated with higher state governments spending (especially for redistributive purposes and current operations).

Moving from aggregate measures of direct democracy, we focus on specific types of such institution and analyze the effect of both direct and indirect initiatives and popular referendums together on the same set of fiscal variables. In this case, manifold results can be obtained across specifications. While the number of indirect initiatives implemented is more effective in reducing total and social expenditure, the number of direct ones tends to be associated with increase in total revenue. The different degree of democracy of the two instruments seems to favor different impacts on fiscal policy. Additionally, these results allow us to qualify better those of the first case, whereby a simple dummy variable was considered in order to capture the direct democracy issue as a whole.

Finally, the representation of direct democracy activity by the topics on the ballots provides a more informative picture and statistically significant results can be found for more spending categories. Questions concerning bonds are the most effective in increasing expenditure variables, while those referring to taxes and revenues work as “incentive” in reducing them. It seems that when voters try to propose or amend laws on taxation issues through the direct democracy process, this

has the dominant effect of shrinking the size of the state public sector (mainly in terms of direct and current expenditures) and of reducing whole government spending.

To summarize, because institutional details matter so much, empirical studies (especially on a single country), which use an index-variable capturing only one dimension of direct democracy phenomenon, may produce not comprehensive results. Our work try to illustrate the importance of model specification and estimation based on multiple aspects of direct democracy keeping in mind that, however, voter initiatives and popular referendums are not the key determinants of fiscal outcome as other important factors actually play a major explicative role. Beyond this, much remains to be learned about the impact of institutions of direct democracy, starting from the reasons inherent in a state's decision to introduce the ballot initiative instead of being grounded on pure representative mechanisms.

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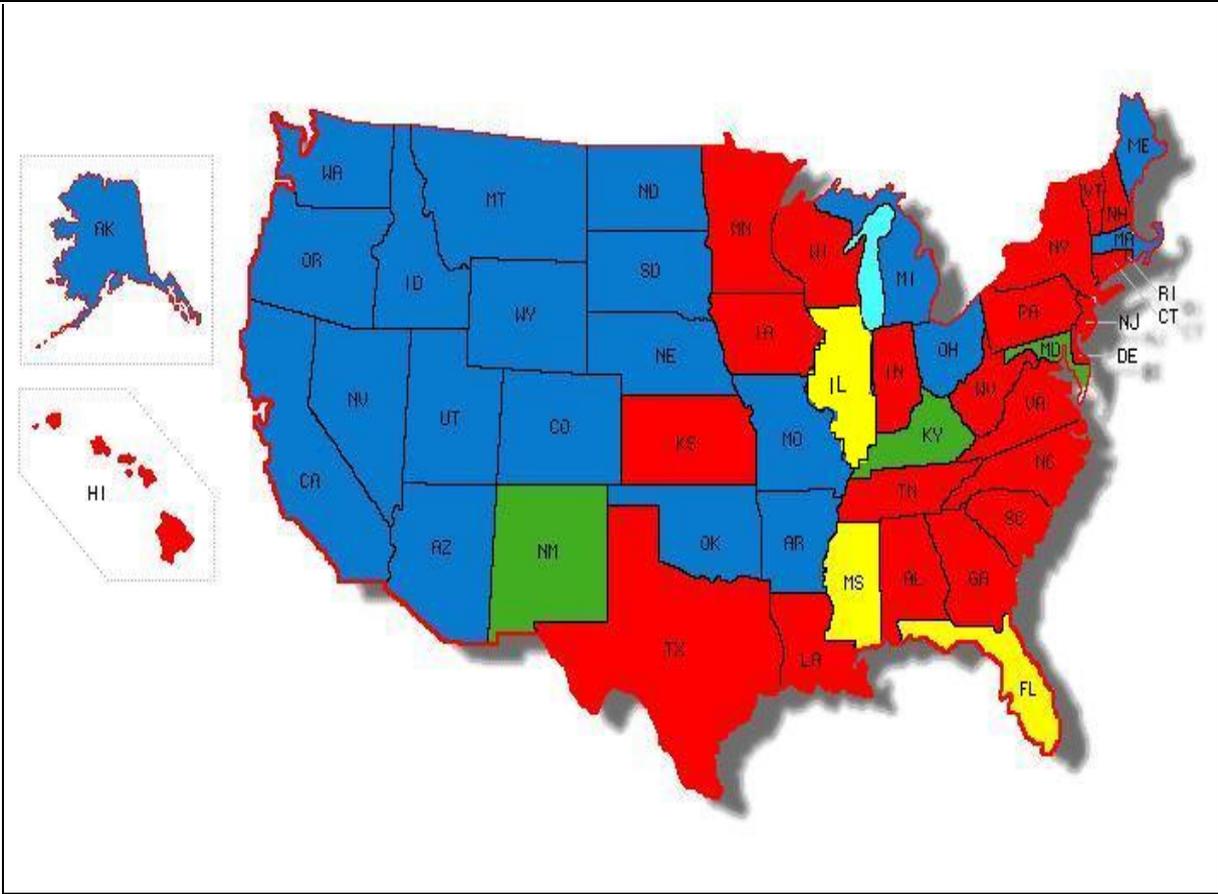
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Figures and tables

Figure 1 - State-by-State map of initiatives and popular referendums (2011).

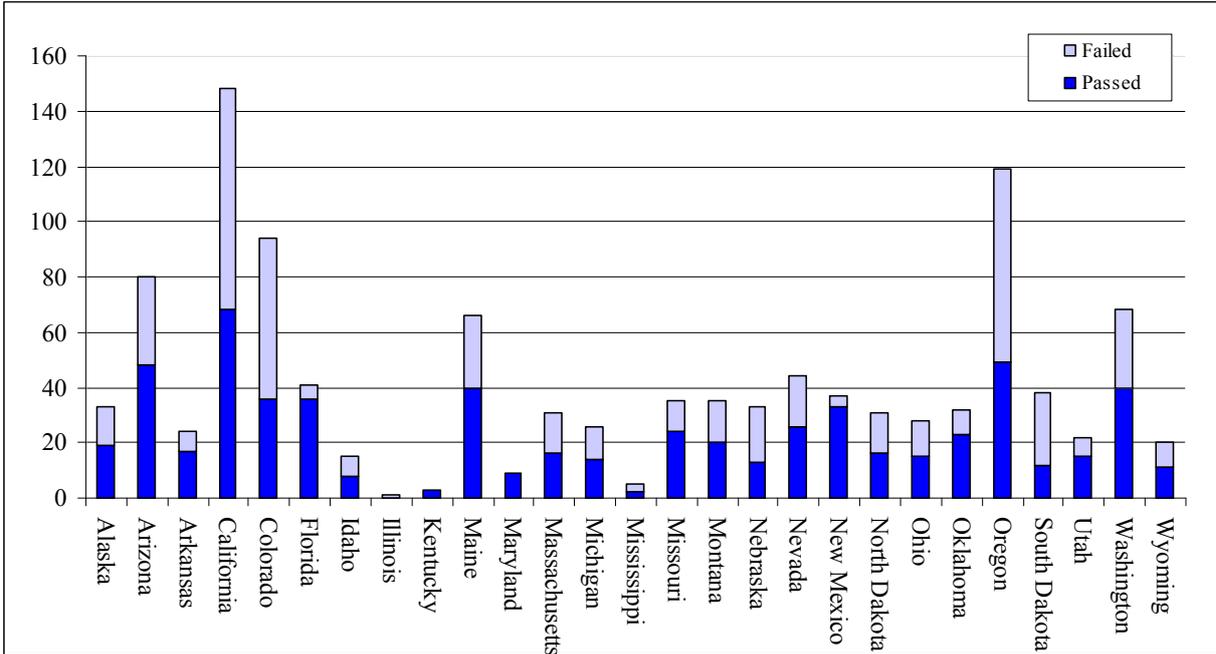


Legend: Blue = Both initiatives and popular referendums; Yellow = Initiative constitutional amendments only; Green = Popular referendums only; Red = Neither methods.

Notes: Each state has some form of the legislative process which allows the government to place issues on the ballot (i.e., legislative referendum), and therefore it is not reported on the map.

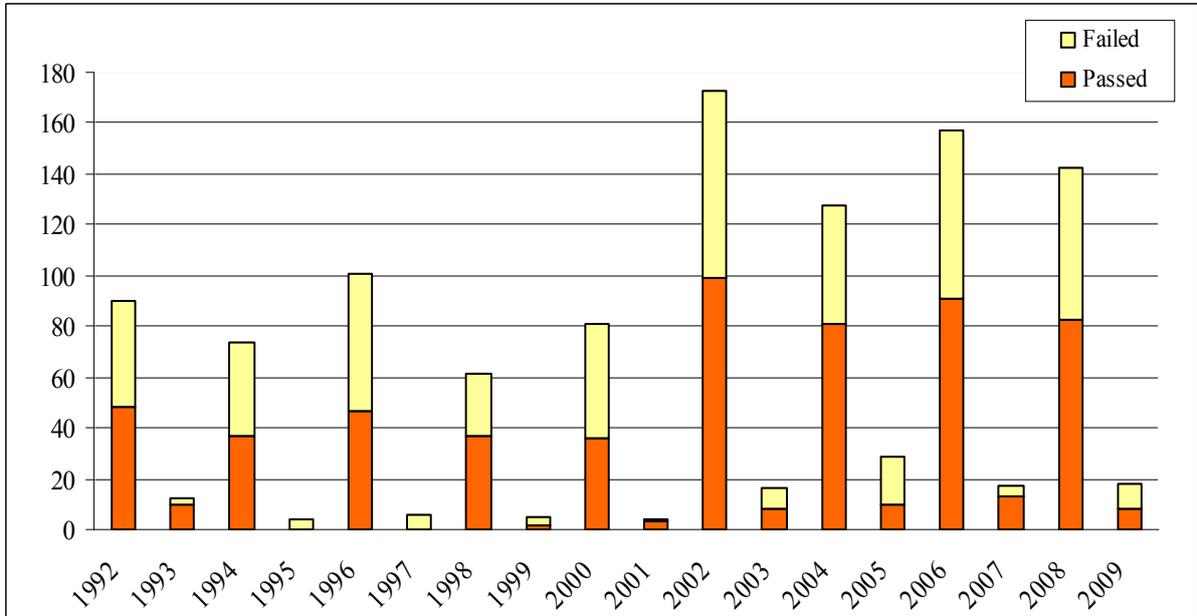
Source: Authors' elaborations on IRI database

Figure 2 - Number of initiatives and popular referendums by State (1992-2009).



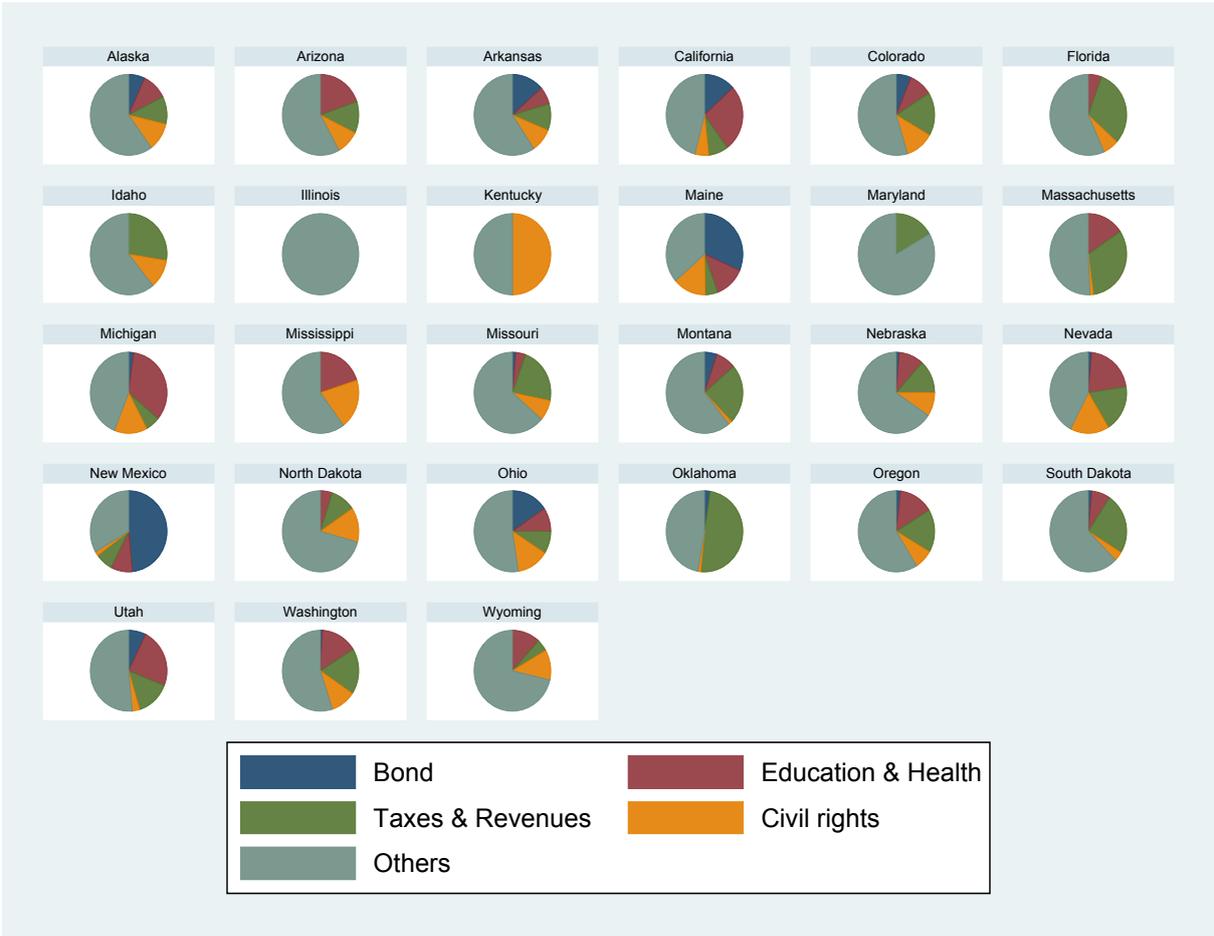
Source: Authors' elaborations

Figure 3 - Number of initiatives and popular referendums by year (all states).



Source: Authors' elaborations

Figure 4 - State-by-State percentage composition of the five topics (1992-2009).



Source: Authors' elaborations

Table 1 - *Summary statistics for explanatory and controls variables.*

<i>Variables</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Income per capita (<i>current \$</i>)	3,173	818	1,745	6,736
Population density (<i>per square mile</i>)	148	188	1	968
Annual growth rate of population (%)	1.09	0.91	-5.99	6.24
Population with total full- and part-time employment by industry (% of total population)	58.72	4.99	43.70	74.73
Intergovernmental revenue per capita (<i>current \$</i>)	1,165	526	405	4,165
Number of years since the date adoption (<i>t - t adoption</i>)	43	44	0	111
Dummy for direct democracy measures	0.25	0.43	0	1
Number of direct initiatives (D)	0.74	2.07	0	18
Number of indirect initiatives (I)	0.47	1.51	0	14
Number of popular referendums (PR)	0.39	0.34	0	7
Number of direct initiatives passed (DP)	0.33	0.96	0	8
Number of indirect initiatives passed (IP)	0.33	1.16	0	10
Number of popular referendums passed (PRP)	0.02	0.22	0	4
Number of direct democracy measures (I, D, PR) by topic:				
<i>Bond</i>	0.11	0.62	0	9
<i>Taxes & Revenues</i>	0.18	0.57	0	5
<i>Education & Health</i>	0.17	0.58	0	5
<i>Civil rights</i>	0.11	0.44	0	5
<i>Others</i>	0.67	1.70	0	14

Note: each row reports summary statistics for 50 states over the period 1992-2009.

Source: *Authors' elaborations*

Table 2 - *Summary statistics for dependent variables* (per capita current dollars).

<i>Variables</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Total revenue	3,432	1,630	-57	20,128
General revenue	2,771	1,364	1,224	19,905
Taxes	1,924	727	713	12,254
Debt	2,517	1,795	192	11,446
Total Expenditure	4,342	1,683	1,908	16,222
Direct Expenditure	3,283	1,437	1,380	13,909
Capital Expenditure	335	181	110	1,782
Current Expenditure	2,263	1,028	920	9,547
Social Expenditure	2,427	829	1,075	6,071

Note: each row reports summary statistics for 50 states over the period 1992-2009.

Source: *Authors' elaborations*

Table 3 - *The usage of direct democracy.*

<i>Dependent variable</i>	<i>Dummy for direct democracy</i>	<i>R-squared</i>	<i>F-statistic</i>
Total Revenue	80.17	0.45	113.2 (***)
General Revenue	90.89	0.44	120.6 (***)
Taxes	30.42	0.50	93.4 (***)
Total Expenditure	36.70 (**)	0.65	235.6 (***)
Direct Expenditure	23.92	0.43	134.1 (***)
Capital Expenditure	-8.48	0.25	30.5 (***)
Current Expenditure	30.81 (**)	0.40	162.4 (***)
Social Expenditure	37.88 (***)	0.59	188.7 (***)

Note: each row is a regression. The dependent variables are reported in the first column and expressed in per capita current dollars. The data are pooled from 1992 to 2009. All regressions were run with year-specific fixed effect; those coefficients are not reported as well as those of the controls. A fixed effects (FE) panel estimator with (White) standard errors is used.

(*) Significant at 10% level; (**) significant at 5% level; (***) significant at 1% level.

Source: *Authors' elaborations*

Table 4 - *The usage of direct democracy by type and result.*

Dependent variable	<i>I</i>	<i>D</i>	<i>PR</i>	<i>IP</i>	<i>DP</i>	<i>PRP</i>	<i>R-squared</i>	<i>F-statistic</i>
Total Revenue	-61.91	65.43 (*)	217.87(***)	47.39	-120.13 (*)	-388.43 (***)	0.46	158.2 (***)
General Revenue	-21.81	46.89	36.49	15.57	-83.25	-128.41	0.45	142.2 (***)
Taxes	-26.56	47.59	-30.62	4.80	-78.32	-12.42	0.50	158.8 (***)
Total Expenditure	-34.74 (**)	12.37	4.85	34.79 (*)	-25.69	8.39	0.66	328.5 (***)
Direct Expenditure	-17.40	9.21	14.97	11.58	-14.19	-33.42	0.44	217.2 (***)
Capital Expenditure	-2.43	3.38	-8.33	-3.07	-2.28	-5.17	0.22	32.9 (***)
Current Expenditure	-6.10	5.93	16.33	8.34	-8.95	-46.45	0.40	220 (***)
Social Expenditure	-21.23 (**)	6.83	-8.33	25.27 (**)	-5.37	2.47	0.60	218.9 (***)

Note: each row is a regression. The dependent variables are reported in the first column and expressed in per capita current dollars. The data are pooled from 1992 to 2009. All regressions were run with year-specific fixed effect; those coefficients are not reported as well as those of the controls. A fixed effects (FE) panel estimator with (White) standard errors is used.

(*) Significant at 10% level; (**) significant at 5% level; (***) significant at 1% level.

Source: *Authors' elaborations*

Table 5 - *The distribution of topics by type of direct democracy (1992-2009).*

Type / Topic	<i>Bond</i>	<i>Education & Health</i>	<i>Taxes & Revenues</i>	<i>Civil rights</i>	<i>Others</i>	<i>Total</i>
<i>I</i>	87	31	64	32	205	419
<i>D</i>	10	111	100	64	379	664
<i>PR</i>	0	7	2	7	19	35
<i>Total</i>	97	149	166	103	603	1118

Source: *Authors' elaborations*

Table 6 - *The usage of direct democracy by topic.*

Dependent variable	<i>Bond</i>	<i>Education & Health</i>	<i>Taxes & Revenue</i>	<i>Civil rights</i>	<i>Others</i>	<i>R-squared</i>	<i>F-statistic</i>
Total Revenue	-41.20	-33.90	8.48	24.91	9.77	0.45	127.4 (***)
General Revenue	-10.90	-11.33	-24.89	-33.92	21.95	0.45	144.3 (***)
Taxes	-2.00	-43.08	-30.39	-9.72	18.95	0.50	94.0 (***)
Total Expenditure	37.01 (***)	-17.03	-43.22 (**)	-16.16	7.20	0.65	494.7 (***)
Direct Expenditure	29.92 (***)	-5.12	-18.84 (*)	-31.59 (**)	3.22	0.43	242.1 (***)
Capital Expenditure	-0.66	-11.10	-1.86	5.44	0.88	0.25	31.1 (***)
Current Expenditure	29.32 (**)	14.24	-16.77 (**)	-26.79 (**)	1.66	0.38	217.1 (***)
Social Expenditure	19.10 (***)	0.53	30.11 (**)	-12.49	8.46 (***)	0.58	292.8 (***)

Note: each row is a regression. The dependent variables are reported in the first column and expressed in per capita current dollars. The data are pooled from 1992 to 2009. All regressions were run with year-specific fixed effect; those coefficients are not reported as well as those of the controls. A fixed effects (FE) panel estimator with (White) standard errors is used.

(*) Significant at 10% level; (**) significant at 5% level; (***) significant at 1% level.

Source: *Authors' elaborations*