

Modeling the strategic interactions in representative democracies with referendums *

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Abstract

It is often argued that direct democracy is the safeguard of politics and allows the citizens to retain power. At the same time critiques of direct democracy point out that the process is dominated by special interests and that these elites use direct democratic institutions to further their own goals. We take these claims and put them in a coherent theoretical framework. We derive testable hypotheses which are evaluated using Swiss data. We illustrate how conventional quantitative tools can be misleading when testing strategic choices such as this. By relying on a methodological innovation (quantal response models for observational data) we can show how to overcome classic problems in social science research pertaining to strategic behavior. The tests are based on original data from Switzerland but the claims generalize in principle to any representative system which offers the citizens the possibility to veto laws. We cannot find systematic evidence for the abuse of direct democracy.

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“For twenty years I preached to the students of Princeton that the Referendum and the Recall was bosh. I have since investigated and I want to apologize to those students. It is the safeguard of politics. It takes the power from the boss and places it in the hands of the people.”

Woodrow Wilson, 1911 (Cronin, 1989, p.38)

1 Introduction

Referendums¹ have been studied under very different theoretical perspectives and from very different empirical viewpoints. Nevertheless, starting with the very early political science work by Rappard (1912, 1923) and Key and Crouch (1939) scholars became aware that the possibility of letting citizens vote on concrete policy proposals in representative democracies opens up intricate strategic interactions among different political actors. In much of the empirical research, however, these strategic interactions and up to a certain point their consequences are black-boxed. For instance much of the recent research on the political consequences of referendum institutions relies on theoretical models that cover strategic interactions among various actors, but the proposed empirical tests do not cover the full set of strategic interactions. More problematic are studies assessing what referendums pass or under what circumstances referendums are called, as these often fail to acknowledge the strategic context and thus are more likely to present biased inferences.

Consequently, in the present paper we propose to assess empirically the strategic interactions among political actors in a representative democracy that allows for referendums. These interactions start with the proposal of a policy leading to its possible adoption in parliament and the decision to launch a referendum to finally arrive at the ultimate stage, namely the vote by citizens.² Consequently, we focus on only one type of referendums, namely those triggered by a non-veto player (Hug and Tsebelis, 2002). At the theoretical level we rely on a model proposed by Hug (2004, 323-326) who draws on a series of previously proposed models (e.g., Romer and Rosenthal, 1978; Romer and Rosenthal, 1979a; Denzau, Mackay, and Weaver, 1981; Steunenberg, 1992; Gerber, 1996; Matsusaka and McCarty, 2001; Hug and Tsebelis, 2002; Kessler, 2005; Besley and Coate, 2008) to model the interaction between a government, an opposition and voters. To assess the relevance of this theoretical model we

¹We employ the term referendum to cover all procedures that allow citizens to vote on policy proposals (see for instance Butler and Ranney, 1994; Lupia and Matsusaka, 2004).

²Depending on whether the judiciary can invalidate policies adopted by citizens an additional stage might be present (e.g., Gerber, Lupia, McCubbins, and Kiewiet, 2000; Miller, 2009). As this does not apply to the empirical case we discuss below, i.e. Switzerland (at the national level), we omit this last stage.

employ a quantal response model as first proposed for experimental settings by McKelvey and Palfrey (1995, 1996, 1998) and extended to observational data by Signorino (1999, 2003). The initial empirical tests presented in this paper rely on so-called parliamentary initiatives, i.e., proposals emanating from members of parliament (MPs) of the Swiss lower house, and motions which request a proposal from the government. We find, in support of the theoretical model, that the extremeness of a proposal decreases the probability of it being passed, but increases the likelihood of a referendum being triggered. The latter decision is also affected by the costs of a referendums, as predicted by theoretical models.

In the next section we first review work on referendums both at the theoretical and empirical level. We show that while some work focusing on specific elements related to referendums, such as the policy consequences, when being informed by theoretical models only offer a partial picture of how referendums work. Other studies, when not taking into account the strategic context, are likely to yield biased insights. For instance, research focusing on particular decisions in this strategic interaction, like the decision to launch a referendum or to submit a bill, is strongly affected by the strategic context induced by the presence of referendum institutions. In section three we present the simplified structure on which our empirical investigation relies. Section four explains our empirical strategy and in section five we illustrate an application. In section six we report our results, while section seven concludes.

2 Referendums and strategic interactions

Looking cross-nationally at referendums one needs to acknowledge that the possibility granted to citizens to decide on policies appears at the national level only as addition in representative democracies. Hence, referendums need to be understood at that level as complement to normal decision-making in representative democracies (e.g., Hug, 2009). Given this, institutions allowing for referendums open up strategic interactions among a series of political actors that are far from easy to fathom.

Early, but unfortunately largely forgotten, work by Rappard (1912, 1923) and Key and Crouch (1939) alerted scholars to fact that due to these strategic interactions, referendums have both direct and indirect effects. Direct effects appear when a proposal passes (resp. fails) in a referendum that would not have (resp. would have) been accepted in the absence of referendums. Indirect effects appear when the representative institutions adopt (resp. fail) to adopt policies because of the possibility of referendum that would not have (resp. would have) been adopted if these institutions did not exist.

The importance of the strategic nature of interactions among political actors due to referendums appeared clearly with a series of game-theoretic studies (e.g., Romer and Rosenthal, 1978; Romer and Rosenthal, 1979*a*; Denzau, Mackay, and Weaver, 1981; Steunenberg, 1992; Gerber, 1996; Matsusaka and McCarty, 2001; Hug and Tsebelis, 2002; Hug, 2004; Kessler, 2005; Besley and Coate, 2008). All these studies, modelling the interactions among various political actors, highlight that to assess the effect of referendums one needs to take into account the strategic nature of these interactions.

At the empirical level, these theoretical models have mostly informed studies on the political consequences of referendums (e.g., Gerber, 1996; Kirchgässner, Feld, and Savioz, 1999; Matsusaka, 2004; Hug, 2010 (forthcoming)). Hence, they relied mostly on comparative statics analyses of the theoretical models mentioned above to compare policy outcomes between units with and without referendums. Given the focus on the final policy outcome, proceeding like this is not problematic, but it implies black-boxing what has happened during the strategic interactions leading to the policy outcome.

Studies dealing at the empirical level with particular decisions, e.g., the decision to launch a referendums (e.g., Trechsel and Sciarini, 1998; Closa, 2008)³ or the decision by voters (e.g., Gamble, 1997; Frey and Goette, 1998; Donovan and Bowler, 1998), are hampered, however, when they fail to take into account the strategic context. For instance, for the latter studies Gerber (1999) show that focusing on passage rates of particular referendums cannot inform us about the policy consequences of referendums, simply because such studies neglect the strategic context.

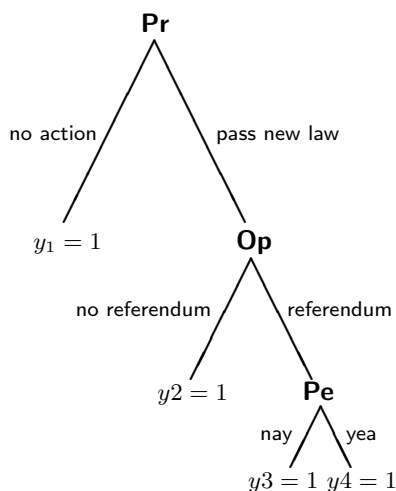
Consequently, to understand the full implications of referendum institutions one needs on the one hand theoretically informed models and on the other hand empirical models that reflect the strategic interactions. In what follows we propose such an empirical model relying on a theoretical model covering different types of referendum institutions. This will allow us to assess what factors influence the decisions at the various stages of decision-making leading, possibly, to a referendum, while taking into account the strategic nature of the interactions.

³Finke and König's (2009) study is a notable exception, since they adopt a quantal response model to address the question which countries decided to launch a referendum on the European Union's constitutional treaty.

3 The Structure – Optional Referendum

Any law which is passed by the legislative bodies is subject to an optional referendum. The optional referendum allows for popular votes after the law has been passed. The assumed theoretical structure rests on a model proposed by Hug (2004, 323-326) that models the interactions among three players. The first player (henceforth proposer) decides to adopt a certain law or not to adopt it. Should the law be adopted the second player (henceforth opposition) decides whether to call for a referendum or not. If the second player does not trigger a referendum the new law becomes effective. Should player 2 trigger a referendum, the third player (henceforth people) will be asked in a referendum if she wants the new law or if she does not want it.

Figure 1: Underlying Formal Theoretical Model



Notes: Game tree of the theoretical model. **Pr** is the proposing party, **Op** is the opposing party, and **Pe** are the people. There are four possible outcomes, denoted by 1, 2, 3, and 4

The structure of the game is displayed in Figure 1. Player 1 in this model resembles a governmental coalition which coalesces for a specific law. The opposition (player 2) is in the Swiss case not a well-established group of parties or interest groups but rather a coalition of parties and interest groups that are opposed to a specific bill and have to decide if they want to fight it or not. Player 3 are the people.

3.1 Utilities of the Players

Each of the three players is assumed to have an utility function, which is based on two elements: Policy-related utility and non-policy-related utility. A party can advocate for or against a law because they receive a policy-payoff if the law is associated with an outcome closer to their own ideal point. But a party may also support or oppose a certain bill because this provides them with an electoral advantage - this second potential source of utility is independent of the expected policy outcome.

$$\begin{aligned} \text{Utility} &= \text{policy-related utility} + \text{non-policy-related utility} \\ U_{\text{Pr},ij} &= f(p_i^*, x_j, sq; b_{ij}, c_j), \\ U_{\text{Op},ij} &= f(p_i^*, x_j, sq; b_{ij}, c_j), \\ U_{\text{Pe},i} &= f(p_i^*), \end{aligned}$$

whereas $j \in \{\text{GPS}, \text{SP}, \text{CVP}, \text{FDP}, \text{SVP}\}$

It is assumed that the policy-related utility for each player is a function of the policy-outcome (p_i^*), the player's preferred policy (x_j), and the status quo (sq). The non-policy-related utility is the sum of benefits (b_{ij}) and costs which vary over laws by player and role (c_j).

It is assumed that the people (**Pe**) are only policy motivated. For the other two players we assume that the benefits are different depending on the role of the player (proposing, opposing) as well as which party is proposing and opposing. Finally, not every law lends itself that easily to the public debate and therefore the benefit's parameter also varies over laws. At the same time we assume that the costs of a referendum only vary over the function (defending a law or opposing a law) but not over parties since the collection of signatures imposes an equal burden on all parties.

3.2 When Do We Observe Referendums?

In a full information game without non-policy-related payoffs, we never observe a referendum in equilibrium (Hug, 2004: 329). Since this does not coincide with our observations, there are three changes that allow the theoretical model to have referendums in equilibrium. First, one can drop the full information assumption and under incomplete information there are equilibria in which a referendum occurs (see e.g. Moser, 1996 or Matsusaka and McCarthy, 2001). Second, one can extend the formal game and not only look at one shot games. Based

on the folk theorem (Rubinstein, 1979) there will be equilibria in which a referendum occurs. Finally, one can incorporate benefits that the players may enjoy for triggering referendums.

In this paper we pursue this last path. We ask whether certain policy areas provide parties with higher payoffs and therefore these parties are far more prone to trigger referenda in those cases than others. We also ask whether there are any temporal effects or cycles, such as parties being far more inclined to trigger a referendum before elections than right after elections.

4 Empirical Strategy

In part 3 we presented the formal model that is the foundation of this paper. A party or a group of parties decides to propose a new law. If the law is adopted the opponents decide whether to trigger a referendum and if so, the people eventually decide whether the proposed law is enacted or not.

There are three actors, the proposing coalition (**Pr**), the opposition (**Op**), and the people (**Pe**). We assume that these players will choose the action that yields the highest utility to them. Hence, the opposers will choose to trigger a referendum if the true utility (U^*) of this is higher than from not triggering a referendum. Formally, this means that $U_{Op}^*(\text{no referendum}) < U_{Op}^*(\text{referendum})$. The decision of each player is either 0 (proposing no law; not calling for a referendum; saying no to the law) or 1 (proposing new law; calling for a referendum; saying yes to the law):

$$y_{Pr} = \begin{cases} 0 & \text{if } U_{Pr}^*(\text{no action}) \geq U_{Pr}^*(\text{new law}) \\ 1 & \text{if } U_{Pr}^*(\text{no action}) < U_{Pr}^*(\text{new law}) \end{cases}$$

$$y_{Op} = \begin{cases} 0 & \text{if } U_{Op}^*(\text{no referendum}) \geq U_{Op}^*(\text{referendum}) \\ 1 & \text{if } U_{Op}^*(\text{no referendum}) < U_{Op}^*(\text{referendum}) \end{cases}$$

$$y_{Pe} = \begin{cases} 0 & \text{if } U_{Pe}^*(\text{vote no}) \geq U_{Pe}^*(\text{vote yes}) \\ 1 & \text{if } U_{Pe}^*(\text{vote no}) < U_{Pe}^*(\text{vote yes}) \end{cases}$$

An observation where $y_{Pr} = 1$, $y_{Op} = 1$, and $y_{Pe} = 0$ is a case in which a new law was introduced, the opposing group(s) called for a referendum, and the people eventually rejected the new law. This corresponds to outcome 3 in the game tree (see graph 1). Since we will employ variables in the empirical part, which are observed by all players, we assume that the random part enters through actors who err. This assumption implies that the errors, the

difference in the observed and the true utility, are only due to *errors* of the player who is taking a action. This corresponds with the notion of *agent error*.⁴ This is a sensible assumption in this legislative application as the explanatory variables are known to all actors and we do not think that there is any relevant source of variation which we can not measure and model.⁵

4.1 Quantal Response Equilibria

This framework was first developed to analyze experimental data (McKelvey and Palfrey, 1995, 1996, 1998). A myriad of experiments had been carried out in which participants were asked to play specific games (e.g. divide the dollar). The theoretical prediction is that everyone should play such that her actions maximize her utility. Often scholars did, however, not observe results perfectly in line with predictions based on the Nash equilibrium. This resulted in an empirical puzzle.

The notion of *bounded rationality* informed many of the proposed solutions to this puzzle. If an actor faces a non-rational opponent, playing the game as informed by Nash's (1950, 1951) best response correspondence might not be the best strategy. These two motivations led McKelvey and Palfrey (1995) to develop an equilibrium refinement that allows for deviations from the strict Nash equilibrium predictions, the *quantal response equilibrium*.

The traditional prediction is that a player will always pick action a over action b if the utility of a is greater than the utility of b ($U_a \geq U_b$). McKelvey and Palfrey (1995) instead predict that if $U_a \geq U_b$, the player has a higher likelihood of choosing a than b . The y -axis displays the predicted probability of a player choosing action a . The x -axis displays the utility for a player from action a . The different curves in the lower plot represent different error variances. Note that since the data stems from experimental research in McKelvey and Palfrey's (1995) work, the utility (or, more precisely, the payoff) is known to the analyst. The probability is a function of the difference of the two utilities. The quantal response equilibrium (QRE) allows for players making mistakes, players misperceiving the incentives and for not completely rational behavior. As one would expect, this model is to a far greater extent able to account for experimental results (McKelvey and Palfrey, 1998*a*, 20).

McKelvey and Palfrey (1995, 1996, 1998) assume that players make small mistakes more often than large mistakes. Depending on the assumption of the error, one can derive a solution

⁴A comprehensive account for the choice of the error structure and its consequences is presented by Signorino (2003, 322).

⁵This assumption is less relevant than one expects. It can be shown that alternative specifications of the source of error lead eventually identical statistical results (see Signorino, 2003).

concept, which resembles common econometric models (random utility models).

If a player can choose among two actions (a , b) and makes mistakes resembling a standard logistic function, the player's probability of choosing a is $(1 + e^{\lambda(-U_a+U_b)})^{-1}$. This is the logit quantal response model.⁶

The graph shows the difference of the two equilibrium predictions. The upper plot is the classic Nash equilibrium prediction where the player chooses a with certainty or does not choose a . The bottom plot shows the predictions of the LQRE where the probability of choosing a is a smooth function which increases in $U(a)$. Each curve represents a different size of error on the part of the decision maker. The steepest curve (dashed dark purple line) is for a situation in which the error is small compared to the utility.⁷

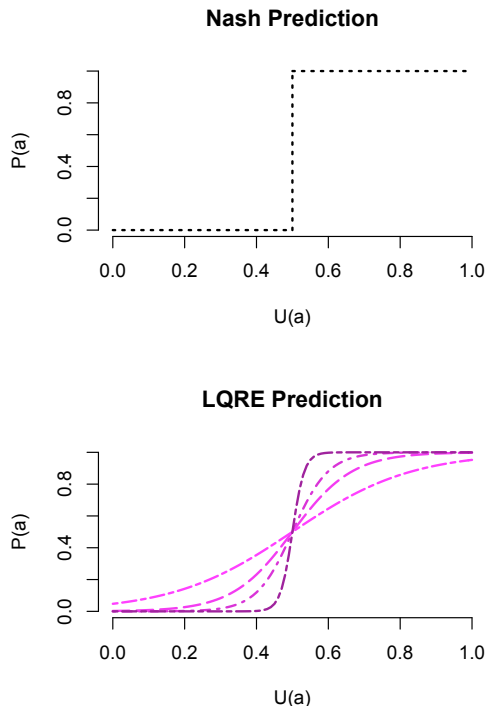


Figure 2: Illustration Quantal Response Models

Observational Data and LQRE

Signorino (1999) used this framework to analyze formal theories of international relations and thereby first employed it to analyze observational data. Contrary to experimental settings where the payoffs are known (since the researcher assigns, for example, a monetary incentive), we do not observe the utility of a player. Rather, the utility is assumed to be a function of observed variables, and the contribution to the utility function has to be estimated.

Signorino (1999, 2003) showed how appropriate statistical models can be derived to test

⁶The strategic element enters when one assumes an extensive form game. In such a situation, player 1 moves first and then player 2 moves. Player 1 will take player 2's expected actions into account. This means, that player one's utility from picking action a will be a function of player two's probability to choose A or B . In the above expression, U_a is then the expected utility which will be a function of the probability of player two choosing A and the probability of choosing B .

⁷In the QRE this corresponds to a high λ which is a high degree of rationality. λ is in experimental settings the parameter which researchers seek to estimate.

formal theoretical models. This approach allows scholars to test if certain variables contribute to an actor’s utility or not. This is similar to any decision model and follows closely the random utility framework. The contribution of Signorino (1999, 2003) lies in the way he provides tools for analysts to incorporate the strategic data generating process. Common statistical models are ill-suited to answer the substantive questions at hand (Hall, 2003). But this direct approach is well suited to test the empirical implications of theoretical models.

We derive a specific statistical model to test whether certain variables contribute to the utility of the players in our formal model. In the next paragraph we present the exact econometric derivation.⁸

4.1.1 Deriving the Likelihood Function

The probability that the people will vote *yes* on a new law is q and since there are only two possible actions, the probability of a *no* vote is $1 - q$. We will assume that errors are normally distributed, and therefore the probability can be defined as:

$$q = \Phi \left[\frac{U_{Pe}(y) - U_{Pe}(n)}{\sqrt{2}} \right] \quad (1)$$

where $\Phi[\cdot]$ denotes the cumulative standard normal distribution. The utility to the people from accepting a new law is $U_{Pe}(y)$, and the utility from rejecting the law is $U_{Pe}(n)$. We do not observe the true utility U_{Pe}^* but only U_{Pe} . Further, we assume that the error has a normal distribution.⁹ So far, this is nothing else than an ordinary probit model.

The opposition will trigger a referendum if they expect higher utility than if they accept the new law. The expected utility of the opposition is a function of their expectation of the people’s action. The expected utility that the opposition obtains from triggering a referendum (r) is:

$$E[U_{Op}(r)] = q \cdot U_{Op}(r|y) + (1 - q) \cdot U_{Op}(r|n) \quad (2)$$

The inclusion of the people’s actions makes this a strategic interaction. In the same way the

⁸Models were coded in R and maximization was carried out with the `optim()` function. Code and specifics are available upon request.

⁹Note, that by assuming that the error has a standard normal distribution, we have also assumed that its variance is 1. This assumption is necessary, because otherwise the parameters would not be identified.

expected utility of accepting a new law – not triggering a referendum – is:

$$E[U_{Op}(nr)] = U_{Op}(nr|\cdot) \left\{ = q \cdot U_{Op}(nr|\cdot) + (1 - q) \cdot U_{Op}(nr|\cdot) \right\} \quad (3)$$

It is now possible to make a statement about the probability of observing a referendum (p) - the probability that the opposition will trigger a referendum:

$$p = \Phi \left[\frac{q \cdot U_{Op}(r|y) + (1 - q) \cdot U_{Op}(r|n) - U_{Op}(nr|\cdot)}{\sqrt{2}} \right] \quad (4)$$

In a final step we can make a statement about the probability that the proposing party introduces a new law. The proposing coalition will introduce a new law if it expects a higher utility from this action than from not proposing a new law. The expected utility of proposing a new law is:

$$\begin{aligned} E[U_{Pr}(\ell)] &= p \cdot q \cdot U_{Pr}(\ell|r, y) + p \cdot (1 - q) \cdot U_{Pr}(\ell|r, n) \\ &\quad + (1 - p)U_{Pr}(\ell|nr, \cdot) \end{aligned} \quad (5)$$

We denote the probability that a new law is proposed by g . This probability can be expressed as a function of p , q , $U_{Pr}(\cdot|nr, \cdot)$, $U_{Pr}(\cdot|r, y)$, and $U_{Pr}(\cdot|r, n)$. The utility of not proposing a new law is the utility obtained from the status quo. In terms of expected utilities one can determine that

$$g = \Phi \left[E[U_{Pr}(\ell)] - E[U_{Pr}(sq)] \right] \quad (6)$$

Since the expected utilities of \mathbf{Pr} are a function of p and q , and since these two probabilities are functions of $E[U_{Op}]$ and U_{Pe} , the decision to propose a law or not is based on the entire game tree. Since we will eventually parameterize the utility functions and use data to estimate the utility, we can write:

$$g = \Phi \left[\frac{p \cdot q \cdot U_{Pr}(\ell|r, y) + p \cdot (1 - q) \cdot U_{Pr}(\ell|r, n) + (1 - p) \cdot U_{Pr}(\ell|nr) - U_{Pr}(sq|\cdot)}{\sqrt{2}} \right] \quad (7)$$

As p and q are also based on utilities that we will parametrize, we can express g as a function of \mathbf{x}_{Pr} , \mathbf{x}_{Op} , \mathbf{x}_{Pe} , β_{Pr} , β_{Op} , and β_{Pe} .

We first defined the three different actions that lead to the four possible outcomes (y_{Pr} ,

y_{Op}, y_{Pe}). In a second step we derived the probabilities of the individual actions as a function of utilities and expected utilities. In the final step, we parameterize the utility as in any other random utility model. The difference in the people's utility ($U_{Pe}(y) - U_{Pe}(n)$) will be parametrized with $\mathbf{x}_{Pe}\beta_{Pe}$. Note, that the parameters β_{Pe} are not only determined by the data of the last node, but by the entire dataset. This point will prove to be crucial later. The same derivation can be carried out for the other two probabilities leading to similar insights.

It is now a simple matter of defining the likelihood function and the log-likelihood for this statistical model as follows:

$$\mathcal{L} = \prod_{i=1}^n \underbrace{[1-g]^{(1-y_{Pr})}}_{Outcome1} \times \underbrace{[g \cdot (1-p)]^{y_{Pr}(1-y_{Op})}}_{Outcome2} \times \underbrace{[g \cdot p \cdot (1-q)]^{y_{Pr}y_{Op}(1-y_{Pe})}}_{Outcome3} \times \underbrace{[g \cdot p \cdot q]^{y_{Pr}y_{Op}y_{Pe}}}_{Outcome4} \quad (8)$$

$$\begin{aligned} \ell\ell = \sum_{i=1}^n & (1-y_{Pr}) \ln[1-g] + y_{Pr}(1-y_{Op}) \ln[g \cdot (1-p)] + \\ & + y_{Pr}y_{Op}(1-y_{Pe}) \ln[g \cdot p \cdot (1-q)] + y_{Pr}y_{Op}y_{Pe} \ln[g \cdot p \cdot q] \end{aligned} \quad (9)$$

We denoted which part of the likelihood corresponds to which outcome in the game tree to show the close connection of the statistical model and the formal model. Equation 9 can be maximized and thereby the probabilities are estimated. By estimating the probabilities one also estimate the relative utilities. This allows to identify which variables contribute to the relative utilities. Technically, we can now estimate the coefficients β_{Pr} , β_{Op} , and β_{Pe} . This allows us to make statements whether observed variables contribute to the utility of a specific actor or not.

5 An Application: Can the Dog Also Walk the Owner?

Direct Democracy can be understood as an additional element which enriches representative systems. Whether in the Swiss cantons or in the American states, direct democratic measures were introduced with a clear purpose (Kriesi and Wisler, 1999). Giving the citizen the right to propose laws or to veto legislation should take power from party elites and place it in the people's hands. Goebel argues that "Direct democracy, as it is most commonly defined, marks a reversal in the flow of political power that enables citizens to place propositions on

the ballot” (Goebel, 2002, 3). Taking away power from the legislative branch constrains the ability of parties and party elites. It is no coincidence that one condition likely to explain the introduction of direct democracy in the American states has been weak parties (see e.g. Smith and Fridkin, 2008). *It is in this line when we say, that direct democracy can act as a leash on the legislature and that the citizens are holding this leash.*

The canonical idea behind direct democracy is that citizens have preferences which might diverge from their representatives. Giving citizens the right to propose (initiative) and veto (referendum) legislation generates higher policy congruence. This is also at the heart of both normative (e.g. Rousseau¹⁰) as well as positive models (e.g. Romer and Rosenthal, 1979) of direct democracy. One of the assumptions that unites these concepts is that citizens are assumed to have fixed or given preferences over all issues.¹¹ If this assumption is wrong and parties are able to influence the preference formation, direct democracy may be not more than a ritual obscuring the true nature of power distribution in a society.

It has been argued that direct democracy is taken over by special interests (Broder, 2000; Gerber, 1999; Stratmann, 2005; Stratmann, 2006; Serdült, 2007; de Figueiredo, La, and Kousser, 2010). In this application we set out to test these claims empirically. We use data on Switzerland for a period of ten years. We focus on Switzerland for two reasons: first, no other country has such a long experience with direct democracy and therefore we can observe the interactions without any intervening effects of any underlying learning processes. Second, no other nation state holds that many referendums and this provides us with a rich data set (Butler and Ranney, 1994; Altman, 2011: 63).

To test normatively-fueled claims, we rely on an original data set. We recorded all bills that were debated between 1995 and 2005 in the lower house (*Nationalrat*). We have a number of measures for each bill, such as which parties introduced it, which parties opposed it, its ideological position, the subject topic, and the time till the next elections. A full account of all variables can be found Table 6 and further information on the data set is in the appendix.

Does the direct democracy further the interests of the citizens or not? One argument states that usually parties and their legislators control the legislative process as they are the only actors apart from government which can offer laws. Legislators are constrained by their desire to get re-elected (Mayhew, 1974). Direct democracy can add an additional constraint by allowing citizens to oppose legislated law and force a popular vote on laws

¹⁰Butler and Ranney claim that “Switzerland is, indeed, the only country in Europe that Rousseau would have regarded as genuinely democratic.” (1994: 24).

¹¹Rousseau does not rely on preferences but rather on knowledge of what constitutes the common good.

with which they disagree. Legislators anticipate the potential referendum and this constrains lawmakers in their actions (Neidhart, 1970; Romer and Rosenthal, 1979*a*). This view implies that the optional referendum is an institution that shifts the power balance between citizens and political elites in the favor of the former.

The other argument is more pessimistic and yields an alternative account. It is argued that this institution can actually work the opposite way. Direct democracy is corrupted by organized interest groups and money dominates the campaign process (Broder, 2000; Strattmann, 2006). Parties and organized interests can use direct democracy to further special interests. These are the two different views on direct democracy.

5.1 When the Leash Goes Slack: Parties Using Direct Democracy

That institutions of direct democracy may not only constrain parties but rather enable them to garner support has been noted earlier in the scholarly literature. Nicholson (2005) highlights the influence of ballot issues on presidential vote choice. Nicholson argues that ballot propositions prime voters and affect the way they assess candidates. Donovan et al. (2008) investigate Nicholson's claim further and show that voters in American states where there was a same-sex marriage ballot are on the one hand more likely to rate that issue as important and, on the other hand, voters who rate that issue as important were more likely to vote for Bush.

Meredith (2009) shows that school boards strategically schedule the referendums to achieve their desired outcome. This works because initiatives and referendums attract different parts of the citizenry than ordinary elections (Donovan and Smith, 2009). Smith and Tolbert (2004) argue that there are three principle goals a party may pursue. First, a party can support a ballot proposal to increase voter turnout. Second, a party can support an issue if it is a wedge issue for the other parties, and finally, a party can support a ballot measure to attract financial support from organized interests.

One can now adapt these arguments for the Swiss case. The first motivation, which is in line with Meredith (2009), only exists where elections and referendums are held on the same day.¹² This is not the case in Switzerland, thus the second and third motivation are of greater importance for this paper. We will focus especially on the second motivation, using referendums to increase salience on wedge issues.

¹²In Switzerland, there are two elections in four years (cantonal and national), but there are four referendum elections every year. Apart from replacement elections, referendums and initiatives are not voted on on the same day as the elections take place.

5.2 Referendum on Wedge Issues

Following ideas of Nicholson (2005) and Donovan et al. (2008) we want to test whether such wedge issues are used in referendums. The idea is that a party is more likely to trigger a referendum if it touches on an issue on which its base is very cohesive and if the issue is a wedge issue for other parties. Referendums usually attract a lot of public attention, media coverage is extensive (Kriesi and Trechsel, 2008: 82) which in turn makes it an appealing feature to political parties (Linder, 2004).

To determine such issues, we rely on survey data from 2007 ([SELECTS](#)) to identify the most important topics for each partisan base. One item asks respondents to name the most important problem; we use these answers and generate a ranking for each party:

Table 1: Answer Frequencies by Party

Issue	GPS	SP	CVP	FDP	SVP
Social Security	9.4	15.8	13.1	11.9	8.9
Immigration	7.1	8.2	12.1	11.5	26.3
European Integration	7.8	4.0	7.5	8.0	5.6
Right Wing Success	12.6	19.6	9.9	8.7	2.5
Environment	28.6	13.8	9.2	6.4	9.1
Other topics	34.5	38.6	48.2	53.5	47.6

When is a party more likely to trigger a referendum? We offer the following conditions: first, the party is opposed to the bill under consideration; second, the party is very cohesive on the question concerned; third, the question forces competing parties to take a position which is not supported by all of the other party’s followers. Finally, the bill is on a salient and preferably non-technical issue, over which people will have clearer preferences. The latter two parts ensure that there will be an electoral advantage from forcing a vote on that particular issue.

Based on Table 1 we identify four potential wedge issues; social security¹³, immigration¹⁴, European integration, and environmental issues¹⁵. Immigration has caught some scholarly

¹³We included the following answers into this category: pension, social inequality, unemployment, guarantee of social security, and poverty.

¹⁴We included the following answers into this category: foreigners, asylum seekers, crime by foreigners, islam, Swiss identity, overpopulation, and national cohesion.

¹⁵We included the following answers into this category: climate, environment, landuse planning, and consum society.

attention before.¹⁶ Three of them are warranted by the survey results. The fourth one, European integration, is added because it was one of the dominating issues during the period from 1995-2005 although its importance faded out and in 2007 it is not among the top issues.

We expect these four issues to be the most likely to attract a referendum since they promise political gains for the opposing party. For example, an environmental issue which is supported by the three center and right parties would be ideally suited for the GPS (Green Party) to force a popular vote on. We systematically test for such issue effects in the next section (see Table 5).

5.3 Electoral Cycles and Opposition Effects

Here we focus on two additional effects. A first argument is that we expect the more extreme parties to be more likely of provoking a referendum. It is important to note that the Swiss government is consociational and is reelected by the legislature every four years and is highly sheltered from electoral pressures (Lijphart, 1999; Steiner, 1974). The legislature hardly ever changes the partisan make up of the government.¹⁷ The responsiveness might be rather found in the coalitional patterns in legislative bargaining. We therefore control for the three rather non-centric parties when they are opposed to a bill. We expect that referendums are more likely when one of the three parties, GPS, SP, and SVP, are united in opposition to a bill.

The second argument is based on the electoral gains a party can achieve by triggering a referendum. Since ballot propositions generate media coverage, parties have an incentive to engage in direct democracy. This effect should be strongest the closer the next elections are. Apart from the issue area, we expect that parties are more likely to trigger referendums in the run-up to an election. Note, while this is similar to Meredith's (2009) claim, the underlying mechanism is different. Meredith argues that ballots attract different types of voters and so scheduling a vote at the same time as an election, will change the likely median voter and therefore the outcome. We argue that scheduling votes in the run-up to elections allows parties to take positions and send a costly signal to their constituents that they *fight* for their interests.¹⁸ Triggering a referendum also brings a lot of public attention and extensive media

¹⁶For a fuller account of the tension between minority rights and direct democracy see also (Gamble, 1997; Donovan and Bowler, 1998; Hajnal and Louch, 2002; Christmann, 2010).

¹⁷In over 150 years, the legislative body only twice did not re-elect a federal minister (Klöti, 2004; Linder, 1999).

¹⁸To trigger a referendum a party needs to collect 50,000 signatures in 100 days. This first step is already costly, but the main cost factor is the campaign the party has to run. Members of the legislature are expected to appear in town hall meetings (*Podiumsdiskussionen*) which forces them to contribute a lot of time to the campaign. These two elements make it clear that such a signal is costly.

coverage. Since political advertising is prohibited on TV or radio, this is one way to access mass-media. We therefore would expect, that *ceteris paribus*, referendums are more likely closer to elections.

To facilitate the arguments presented, we list the different hypotheses which are tested in section 6.

H1: Potential opposition parties are more likely to trigger a referendum if they are unified.

H2: The closer upcoming elections are, the higher is the expected electoral payoff for parties to trigger a referendum.

H3: Specific issues are far more likely to attract referendums. Laws on social issues, the European Union, and immigration attract more referendums.

In the next section we confront these hypotheses with data. Based on the original data set and the derived statistical model (section 4) we can test these critiques of direct democratic practice.

6 Results

6.1 Basic Model

In a first step, we estimate a baseline model. The base model includes in the first stage (parliament, player 1) dummies for five parties and laws from committees and the government forms the base category. We also include the ideological distance measure and expect to see a negative relationship between distance and propensity to pass. At the second node, the opposition, we include a dummy to control for laws coming from the government and the ideological distance measure. Finally, at the last stage, the people, we only use the distance measure.

The predictions from the classic formal models (e.g. Romer and Rosenthal 1979) is that ideological distance should decrease the probability of passage, but increase the probability of a referendum if it passes. Finally, more extreme bills are less likely to pass if put up for a referendum.

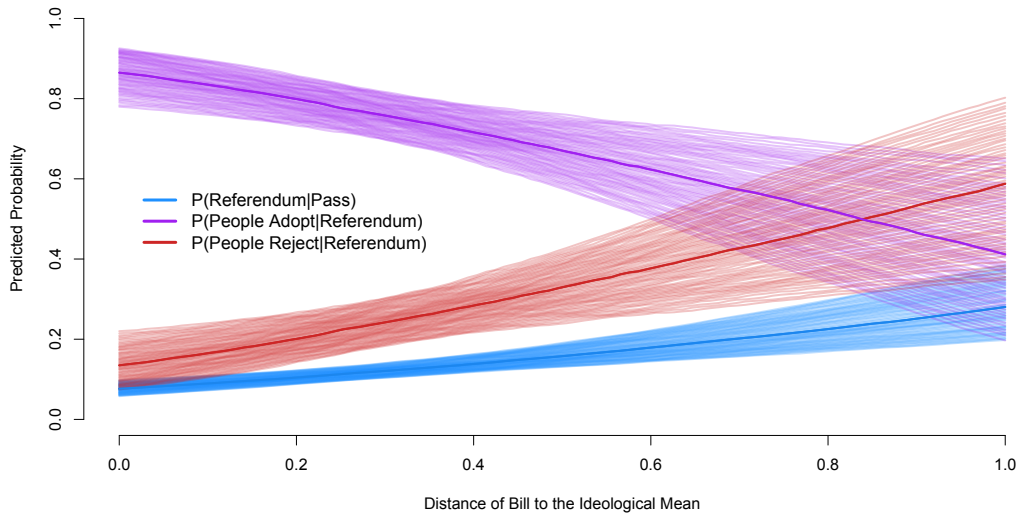
In Table 2, we see the estimation results for the basic model along with the standard errors and p-values. At the proposing stage, one finds a significant effect for ideological distance; the more extreme a bill is, the less likely it is to pass. Most importantly, we find a relationship

Table 2: Estimation Results Basic Model

	Coefficient	StdErrs	p-Value
constant_{pr}	2.9	3.99	0.47
GPS	0.53	0.64	0.41
SP	1.57	0.45	0.00
CVP	1.23	0.40	0.00
FDP	2.11	0.44	0.00
SVP	1.87	0.47	0.00
Distance	-13.54	5.82	0.02
constant_{op}	2.06	0.23	0.00
Distance	1.19	0.56	0.03
Government	0.47	0.32	0.14
constant_{pe}	1.59	0.47	0.00
Distance	-1.95	0.78	0.01
ll= -264.42	AIC= 554.84	BIC= 607.55	N= 426

between ideological distance and actions on all three levels as theoretically expected. More extreme laws are less likely to pass the legislative stage; if they pass, they are more likely to provoke a referendum; and, if the law is put to vote, it is less likely to pass.

Figure 3: Simulation Based Probabilities



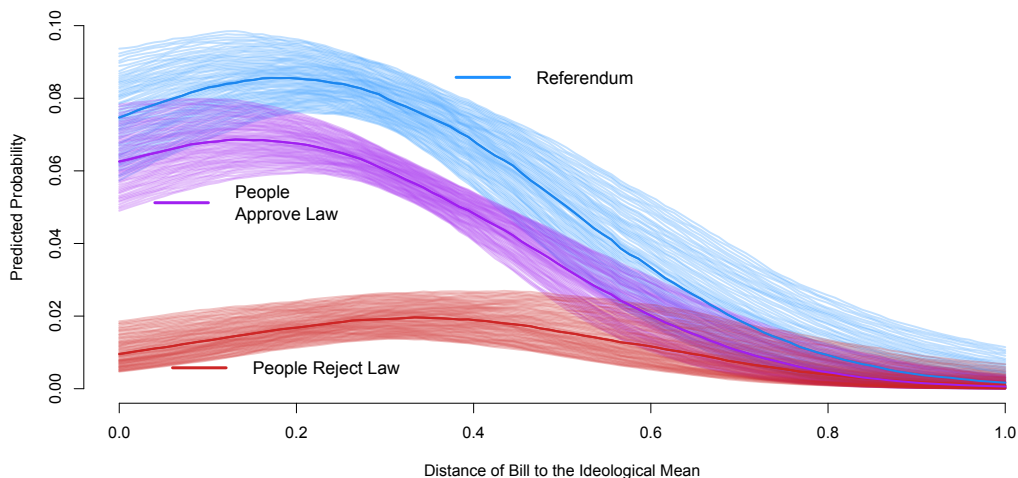
The party dummies on the first stage allow us to compare relative passage chances for parties. Interestingly, when controlling for ideological distance, laws originating from the government are less likely to pass. At the opposition stage, we do not find any significant

effect for governmental involvement in drafting a bill once one controls for ideological distance. At the final node, the people, we find that more extreme bills are more likely to be rejected.

In Figure 3 we illustrate the relationship between different probabilities and the ideological distance of a bill to the two-dimensional mean. Larger values on the x -axis indicate more extreme bills. In this figure, we present conditional statements. If a bill passes the legislative stage, one can see that the probability of a referendum is strictly increasing in distance (**blue**). Given that a bill passes and a referendum is triggered, we can illustrate the probability that the people accept (**purple**) or reject it (**red**). To illustrate the uncertainty, we also plot 60 additional prediction functions.¹⁹ To generate these predicted probabilities it was assumed that the bill was introduced by the social democrats (SP).

In Figure 4 we show *unconditional* statements. Again, we are looking at predicted probabilities for a bill, where we assume that it was introduced by the social democrats. Note how low the probability of a referendum is in general. This can already be seen in the raw data, where only 33 out of 426 laws faced a referendum.

Figure 4: Simulation Based Probabilities



The probability of a referendum (**blue**) is a non-monotonic function in distance. That is because there are two contrary forces at work; the more extreme a bill is, the less likely to pass. But if it passes, it is more likely to be subject to a referendum. This explains why

¹⁹These 60 lines do not represent a 95% confidence interval as they are representing the 60% of draws which are closest to the mean effects. Rather they give a sense of uncertainty in the estimates.

one finds a non-monotonic relationship between ideological distance and the probability of a referendum.

The **purple** line illustrates the relationship between ideological distance and the probability that the citizens will vote yes on a new law and accept it. The **red** line shows the probability that a law will fail in a referendum vote. For low values of ideological distance this is an increasing function, as it becomes more extreme, it is more likely to be rejected in a vote. But for large values of ideological distance the relationship becomes negative. The more extreme the bill, the less likely that it will pass in a popular vote. The reason is not that the people are more likely to say yes, but that such a bill is less likely to ever pass the floor.

6.2 Partisan Patterns

Are certain parties more likely to trigger referenda? From the ideological positions of the parties one would expect to find either the far right party (SVP) in opposition to a law or the social democrats (SP) together with the greens (GPS). The former should be laws that are divisive on the second dimension (cultural dimension) and the latter should be divisive on the economic dimension.

Table 3: Party Effects

	Coefficient	SE	p-Value
constant_{pr}	12.22	2.10	0.00
GPS	0.34	0.69	0.62
SP	1.57	0.51	0.00
CVP	0.88	0.45	0.05
FDP	2.21	0.49	0.00
SVP	2.39	0.56	0.00
Distance	-13.64	6.91	0.05
constant_{op}	1.75	0.12	0.00
Distance	0.28	0.45	0.53
Opposition SP	0.06	0.04	0.18
Opposition GPS	0.09	0.04	0.04
Opposition SVP	0.13	0.04	0.00
constant_{pe}	0.87	0.38	0.02
Distance	0.54	0.77	0.49
Government	0.40	0.12	0.00
ll= -253.51	AIC= 539.02	BIC= 603.89	N= 426

To see if these three parties are in any way more likely to impose a referendum vote on a new bill, we add partisan indicators to the second node in the model. We use the model from Table 2, but remove the variable for government origin since we now focus on the opposition.

Table 3 shows the estimation results. Comparing the first node estimation results from Table 3 with the results from Table 2 there are hardly any differences. The coefficient for ideological distance is almost exactly the same and there is only a change in the coefficient for CVP, which decreases by half while its standard error remains unchanged.

At the second node there are four explanatory variables: the ideological distance and three party dummies indicating whether the parties are in opposition to a bill or not. Once controlling for the three potential oppositional groups, ideological distance itself loses its significant effect. This null finding is not stable and depends on the specification of the model.²⁰ We refrain from claiming that the ideological position does not matter.

We find significant effects for SVP and GPS which means that, if the Green Party or the far right are overwhelmingly opposed to a bill, that increases the propensity that there will be a referendum. We do not find a significant effect for the Social Democratic Party (SP). Note however, that the Green Party (GPS) and the Social Democratic Party (SP) have a similar ideological position and often vote together. If one collapses the two dummies to generate a general indicator for left opposition, there is a clear effect (see appendix, Table 7).

Finally, turning our attention to the last node, one can look at the decision of the voters whether to accept or reject a new law. Here, a variable for the governmental effect to control for the government's advantage in the public deliberation phase is included. We find that while ideological distance loses its significant impact, laws that were drafted by the government and enjoy its full support, are significantly more likely to be accepted by the citizens.

6.3 Temporal Effects and Hot Issues

To test whether there is any general temporal effect, we include a variable that measures time. There are two measures; dummies for the year in the four-year cycle in which the final vote takes place. The second is the number of months from the final vote till the next election. Table 4 shows the results for a model in which one uses time to the next elections measured in months.

While the effects that we find in Tables 2 & 3 do hold up in this specification, the standard errors increase. Especially at the second node where an additional explanatory variable (**Time till Election**) is included the p -values go from 0.04 to 0.13 and from 0.00 to 0.07. The relevant point here is that one does not find any significant temporal effect.

²⁰This seems especially true for the final stage and whether one includes the government dummy or not. Also, it has to be taken into account that the oppositional dummies are based on the same final votes as the measure for ideological distance, e.g. the variables `distance` and `op_svp` have a correlation coefficient of 0.59.

Table 4: Time Effects

	Coefficient	StdErrs	p-Value
<code>constant_{pr}</code>	6.49	5.22	0.21
<code>GPS</code>	0.32	0.69	0.64
<code>SP</code>	1.52	0.51	0.00
<code>CVP</code>	0.86	0.44	0.05
<code>FDP</code>	2.16	0.49	0.00
<code>SVP</code>	2.34	0.55	0.00
<code>distance</code>	-9.95	6.19	0.11
<code>constant_{op}</code>	1.70	0.16	0.00
<code>Opposition GPS</code>	0.11	0.07	0.13
<code>Opposition SP</code>	0.08	0.06	0.21
<code>Opposition SVP</code>	0.16	0.09	0.07
<code>distance</code>	0.09	0.45	0.85
<code>Time till Election</code>	0.02	0.02	0.34
<code>constant_{op}</code>	0.73	0.45	0.10
<code>distance</code>	-0.44	1.26	0.73
<code>Government</code>	0.71	0.36	0.05
<code>ll= -253.46</code>	<code>AIC= 540.92</code>	<code>BIC= 609.85</code>	<code>N= 426</code>

We also used alternative specification such as including a dummy variable for election years or including time and the squared measure of time to allow for a more flexible functional form (see Tables 8&9 in the appendix). Based on these results one can say that there is no empirical support for any temporal effects. There is no change in propensities for triggering a referendum based on the proximity of the next elections.

The second question pertained to *hot* issues which are more likely to provoke referendums than others. As argued in the theoretical section, given the complexity and the ideological position of parties, there should be a significant impact once laws pertain to immigration, social security, environment, or the relationship to the European Union.

In Table 5, one finds the estimation results which re-iterate all the main findings so far. Here, there is only empirical support for immigration. Bills which touch on immigration issues are more likely to provoke a referendum and there is a clear and significant effect for the far right party (SVP) and the greens.

6.4 Qualifying Remarks

There are three main findings we present here. First, parties matter. When potential opposition parties vote in a very unified manner it is more likely that we will observe a referendum. Second, there is no relationship in this data set between the election date and the probability

Table 5: Hot Topics

	Coefficient	StdErrs	p-Value
constant_{pr}	-1.5	0.78	0.06
GPS	-0.41	0.67	0.54
SP	0.64	0.44	0.14
CVP	0.25	0.40	0.52
FDP	1.41	0.41	0.00
SVP	1.68	0.48	0.00
Distance	-10.29	2.10	0.00
constant_{op}	2.16	0.27	0.00
Opposition GPS	0.46	0.21	0.03
Opposition SP	0.11	0.19	0.56
Opposition SVP	0.53	0.17	0.00
Distance	1.48	1.02	0.15
Immigration	0.71	0.36	0.05
Europe	0.54	0.50	0.28
Social	0.24	0.20	0.24
constant_{pe}	1.25	0.48	0.01
Distance	-1.87	1.17	0.11
Government	0.79	0.35	0.03
ll= -254.59	AIC= 547.18	BIC= 624.21	N= 426

of a referendum. Finally, issue areas matter as immigration issues are more likely to attract a referendum than other topics.

For the first finding: *parties matter*. This result illustrates that it matters which party is in opposition to a bill even when one controls for issue and for the extremity of the bill. There are two ways to read this. One can argue that this shows which parties are using the referendum more often or one can argue that this shows us, that only cohesive parties will be able to use direct democratic measures to further their goals. We side with the former since we only find the effect for the far right populist party (Kriesi et al. 2005).

The second finding is a null-finding. It is possible that parties fully anticipate the electorally induced temptation to trigger a referendum and anticipate this. If this were true, we would expect to see that parties submit less extreme bills. We do find the opposite effect; in election years the introduced bills seem to be statistically significantly more extreme than in non-election years.

Finally, we find that immigration laws are especially likely to provoke a referendum. Given the topic's high salience we expect to see partisan behavior on this issue and that is what we find. But, it is not the case that the populist right wing party uses direct democracy for electoral gains. A close look at the cases under consideration reveals that in all observations

either the green party or a pro-immigration group launched a referendum.²¹ Close followers of Swiss politics might be less surprised as the only direction of policy change in immigration questions during the last two decades has been to tighten laws.

7 Conclusion

We have set out to do two things; first, we test common critiques of direct democracy. We test whether the propensity of referendums is related to three main factors (H1: parties in opposition; H2: the electoral calendar; and H3: specific issue areas). Second, we show how one can successfully analyze data which is based on an overtly strategic data generating process.

The main assumption by proponents of direct democracy, but also by positivist scholars, is that the ideological position of the bill matters. We find that the estimates always have the theoretically expected direction (negative at node 1, positive at node 2, and negative at node 3), but do not always achieve statistical significance on conventional levels due to the low number of cases and correlation among other explanatory factors.

We do not find any temporal effects and only moderate partisan effects. In addition, immigration is a hot button issue in Swiss politics. But contrary to the expectation, it is not that the far right that uses direct democracy. It is possible that the relationship is more complex. If the far right can force the legislature with the referendum threat to accept more stringent immigration laws, one would expect to see left parties triggering referendums on immigration laws. However, the basic critique that parties enjoy heightened media attention and therefore trigger referendums too easily cannot be backed up empirically.

Finally, the significant party effects also provide no evidence for any normative shortcomings. The grand coalition in Switzerland has come under pressure in the nineties and especially among the non-left parties there has been considerable amounts of conflict. This is in line with the finding that the far right triggers referendums since it is often left out of compromises or refuses to compromise.

Despite the many claims of direct democracy being derailed, we do not find evidence for any such pathologies of the practice of direct democracy. The use of the direct democratic referendum institution is not dominated by the the electoral calendar, nor is it the case that parties trigger referendums on moderate bills just to engage in public debate. So far it seems that the owner is still walking the dog.

²¹The five votes are 525, 524, 519, 455, 454, and 417 (official identifier from the federal statistics office).

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8 Appendix

8.1 Data

This paper employs an original data set based on 426 bill proposals and laws. We coded all parliamentary initiatives and motions which could potentially lead to a law.²² We also scanned all bills and traced them back to their origins to ensure that we are not missing any legislative acts. We use as starting point Sciarini and Nicolet's (2005) database of all bills adopted between 1995 and 2005 subject to a non-required referendum. We selected those for which we could identify in the message submitted by the government, that it addressed a particular motion adopted by parliament. This allowed us to link a specific bill with its original motion. In addition, we also included in this dataset all motions which were rejected by parliament. Finally, we added all parliamentary initiatives voted upon between 1995 and 2005. For this (and other variables discussed below) we used a dataset containing roll call votes from the lower house for a period from December 3, 1996 to October 6, 2005 (45th, 46th, and part of the 47th legislative period).

8.1.1 The Variables

For each bill, a number of variables was coded. First, we coded the four possible *outcomes* that can occur; a bill proposal can be rejected on the floor or be pulled back by its drafter (y_1); a bill can be passed by the legislative and become law (y_2); a bill can also be passed and then be subject to a referendum in which it either passes (y_4) or not (y_3). The model, explained in section 3, allows us to predict these four outcomes. A full table with all outcome and predictor variables can be found on the next page (Table 6).

Based on searches of the law data base and the verbatim records one could identify the *proposer*. If the proposal was submitted by an entire committee, we also checked records to see if a single member can be attributed with being the originator. Based on the electronic roll call data one can also record the individual vote behavior.²³ This allows us to code when parties were unified in their *opposition* to a specific bill. If more than three quarters of a party oppose a bill, we coded that party as opposing the bill.

In addition the Smartmonitor data set contains the issue areas as they were categorized by the parliamentary services.²⁴ This variable will prove crucial as it allows one to identify which bills are from policy areas that should provide attractive platforms for various parties as a basis for referendums.

²²Parliamentary initiatives lead to bills elaborated without government intervention and are adopted by the two chambers, while motions, if adopted by both chambers, request from the government a law proposal.

²³See here for roll call data and a description of it (<http://www.smartmonitor-database.ch>).

²⁴According to Smartmonitor the issues for bills from before 2000 were classified using an automated coding procedure by the smartmonitor database operators. This might add some noise to the issue measures.

8.1.2 An Ideology Measure

As will become clear in section 3, we need a measure for the ideological position of a bill. This measure is central to evaluate early positive models of the referendum. The ideological position of a law is measured by taking a weighted average of the *yea*-votes a bill receives. If all Social Democrats and all green MPs vote for a law, but no other MP, we locate the bill exactly in between the position of the Social Democrats and the Greens. If only half of the members of the Green Party support it, we weight the Green ideal point by $\frac{1}{2}$ and the Social Democrat’s ideal point by 1.

We measure ideological distance (how extreme a bill is) as the absolute value of the distance to the spatial mean of the parliament (Leemann, 2009). The ideal points were estimated based on roll-call votes from the 47th legislative period, Bayesian ideal point estimation was used (Clinton, Jackman and Rivers, 2004). This measure is crucial since it is necessary for a basic model in which legislators only have policy-related goals.

Formally, we denote the ideal point of the parties as θ_i , where $i \in (\text{GPS}, \text{SPS}, \text{CVP}, \text{FDP}, \text{SVP})$. Note, θ_i is a vector with two elements denoting the ideal point’s x -coordinate and y -coordinate. The degree of approval of a certain party is A_i , where this is nothing else than the number of *yea* votes divided by the number of all votes. The ideological position of a the j^{th} bill – δ_j – is then:

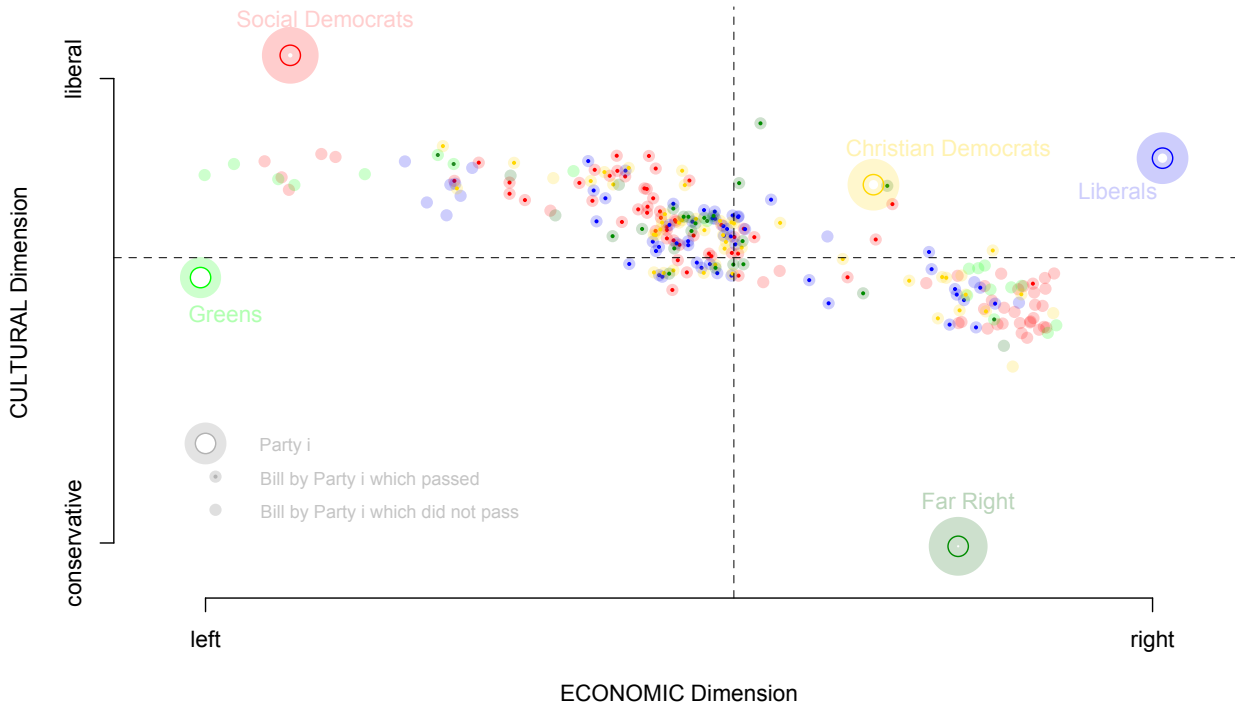
$$\delta_j = \frac{\sum_i \theta_i \cdot A_i}{\sum_i A_i} \quad (10)$$

Squaring the two elements of δ_j and tacking the square root of the sum gives the distance of the j^{th} law to the mean ideological point in the policy space. The larger the distance, the more extreme a bill. For any given bill there are several votes. The content of a PI changes during the voting process due to the possibility of amendments. We therefore took the final vote (*Gesamtabstimmung* or *Schlussabstimmung*).

The next figure illustrates the location of the five major parties as well as the location of all bills in the data set. The dark dots indicate those bills which passed the lower house.

The next plot shows the bills which attracted a referendum vote and also which laws were rejected by the citizenry. The grey dots are laws that either did not pass or did not provoke a referendum. The purple dots are bills which face a referendum vote. The dark dots indicate those bills where the people objected to a new law.

Figure 5: Ideal Points of the Five Big Parties and the Estimated Bill Locations



Note: The size of the party icon is roughly proportional to its size. The dots with a dark center represent laws that passed.

8.1.3 Imperfect Measure

This measure is meant to capture how extreme a bill is and therefore we average by party position, weighted by in-party vote share. But this relies on several assumptions. First, the two dimensional structure is adequate and second, votes are cast in a sincere way.

The ideal points of the parties are based on a Bayesian ideal point analysis which requires identifying assumptions. One of these is that the variance of the ideal points in both dimensions is 1. But this means that by assumption the two dimensions are assigned equal weight. That is, the ideological measure is based on the distance and both dimensions, cultural and economic, enter with equal weight which might bias the measure. If for example, the measure over-weights the cultural dimension, we might ascribe too much extremism to bills that are only supported by the far right. However, given the conclusions in this paper we believe that this potential bias does not influence the results.

The second potential bias comes from the sincerity assumption. If legislators are casting sophisti-

Figure 6: Estimated Bill Locations and Outcomes

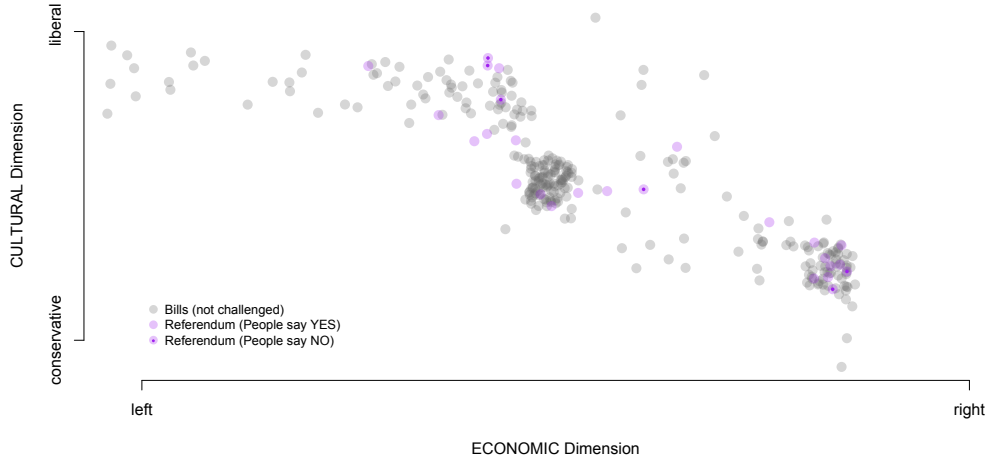


Table 6: Descriptive Statistics

Variable	Description	Type	n	min	max	\bar{x}	modal/sd(x)
y ₁	Law does not pass legisl.	outcome	426	0	1	0.37	0
y ₂	Law passes w/o referendum	outcome	426	0	1	0.55	1
y ₃	Referendum; people say no	outcome	426	0	1	0.02	0
y ₄	Referendum; people say yes	outcome	426	0	1	0.24	0
Distance	D. from mean legislator	predictor	426	0.13	1.06	0.40	0.29
Government	Law proposed by government	predictor	426	0	1	0.19	0
GPS	Law proposed by GPS	predictor	426	0	1	0.06	0
SP	Law proposed by SP	predictor	426	0	1	0.29	0
CVP	Law proposed by CVP	predictor	426	0	1	0.19	0
FDP	Law proposed by FDP	predictor	426	0	1	0.22	0
SVP	Law proposed by SVP	predictor	426	0	1	0.12	0
OP_GPS	GPS opposed to law	predictor	426	0	1	0.20	0
OP_SP	SP opposed to law	predictor	426	0	1	0.18	0
OP_CVP	CVP opposed to law	predictor	426	0	1	0.14	0
OP_FDP	FDP opposed to law	predictor	426	0	1	0.16	0
OP_SVP	SVP opposed to law	predictor	426	0	1	0.26	0
Vvoteyear	Vote in an election year	predictor	426	0	1	0.37	0
Vvoteyear 1	Vote 1 year before election year	predictor	426	0	1	0.26	0
Vvoteyear 2	Vote 2 years before election year	predictor	426	0	1	0.21	0
Vvoteyear 3	Vote 3 years before election year	predictor	426	0	1	0.15	0
Time till Election	Months till next election	predictor	426	0	46	20.08	14.62
Social	Law touches on social issue	predictor	426	0	1	0.19	0
Europe	Law touches on Europe issue	predictor	426	0	1	0.03	0
Immigration	Law touches on immigration issue	predictor	426	0	1	0.05	0

cated votes, we should not be using their voting behavior as an indicator of the ideological preferences. The ideal points were generated by focusing only on final votes since here the sophisticated and the sincere choice should be equivalent (Clinton, 2007). But in the spirit of this paper, we argue that no legislator should have any incentive to misrepresent his or her vote in the final vote because the referendum might constitute the final stage. Note, that sincerity is a standard assumption in many models using legislative votes. There is no incentive to provoke a referendum by voting yes to an opposed bill. That would mean that a legislator would support a law in parliament which she would then critique in the aftermath for her electoral advantage. Votes on bills are public and are usually reported. The other possibility of mis-representation would be that a legislator supports a bill, but votes against it. Again, it is hard to imagine a situation in which such behavior would be beneficial to the legislator. We are therefore less worried about sophisticated voting and its distortions for our measure.

Table 7: Unified Left Opposition

	rna	Coefficient	StdErrs	p-Value
1	Pr: constant	11.48	NaN	NaN
2	gps	0.32	0.69	0.64
3	sp	1.50	0.49	0.00
4	cvp	0.80	0.43	0.06
5	fdp	2.13	0.47	0.00
6	svp	2.32	0.54	0.00
7	distance	-13.26	6.31	0.04
9	Op: constant	1.73	0.08	0.00
10	distance	-0.25	0.46	0.59
11	left	0.08	0.00	0.00
12	op_svp	0.13	0.02	0.00
13	Pe: constant	0.85	0.34	0.01
14	distance	-0.45	0.92	0.63
15	br	0.4	-	-
16	ll= -253.64	AIC= 537.28	BIC= 598.1	N= 426

Table 8: Dummy Years

	rna	Coefficient	StdErrs	p-Value
1	Pr: constant	2.96	2.83	0.29
2	gps	0.18	0.70	0.79
3	sp	1.33	0.52	0.01
4	cvp	0.68	0.44	0.12
5	fdp	1.97	0.48	0.00
6	svp	2.26	0.53	0.00
7	distance	-10.97	3.50	0.00
9	Op: constant	1.70	0.18	0.00
10	op_gps	-0.16	0.10	0.09
11	op_sp	-0.10	0.08	0.19
12	op_svp	-0.24	0.11	0.03
13	distance	0.3	0.59	0.62
14	Vvoteyearin	-0.08	0.07	0.26
15	Vvoteyearin1	0.01	0.07	0.90
16	Pe: constant	0.67	0.47	0.16
17	distance	-0.58	1.24	0.64
18	br	0.87	0.40	0.03
19	ll= -253.92	AIC= 543.84	BIC= 616.82	N= 426

Table 9: Time and Time²

	rna	Coefficient	StdErrs	p-Value
1	Pr: constant	4.93	5.72	0.39
2	gps	0.23	0.70	0.74
3	sp	1.45	0.59	0.01
4	cvp	0.77	0.51	0.14
5	fdp	2.10	0.55	0.00
6	svp	2.30	0.57	0.00
7	distance	-12.88	6.60	0.05
9	Op: constant	1.70	0.20	0.00
10	op_gps	-0.11	0.13	0.37
11	op_sp	-0.07	0.07	0.27
12	op_svp	-0.17	0.16	0.27
13	distance	0.23	0.80	0.77
14	abstL	0.06	0.07	0.43
15	abstL2	-0.01	0.02	0.5
16	Pe: constant	0.66	0.92	0.47
17	distance	-0.03	3.00	0.99
18	br	0.72	0.47	0.12
19	ll= -253.68	AIC= 543.36	BIC= 616.34	N= 426

Figure 7: Ideal Points of Legislators in the Lower Chamber

