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Unequal Representation and Direct Democracy: The Case of Switzerland

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ABSTRACT:

Recent studies of the U.S. and European countries find that policy responsiveness is strongly skewed to the rich and well-educated. The introduction of direct democracy has been proposed as a solution to this problem. To explore whether this could lead to more political equality, this paper analyzes policy responsiveness in Switzerland, the country with the strongest direct democratic institutions worldwide, in the same manner of Gilens (2012) and his followers. The analysis draws on an original dataset linking public opinion to policy with regard to 399 survey items asked between 1987 and 2017. I use this dataset to analyze whose preferences predict change and to compare the responsiveness of direct and representative democratic agenda-setting within the country. The results show that direct democratic agenda-setting is more equally responsive than governmental agenda-setting, but political outcomes in Switzerland are similarly skewed as in predominantly or fully representative democracies.

ACKNOWLEDGEMENTS:

1 Introduction

The last decades have witnessed a rise of populist parties in almost all western democracies. One of the reasons for this development seems to be that more and more people have the feeling that they are not represented by the decisions of the political elites of their countries and that political change happens in complete independence of their interests (Spruyt et al., 2016). Indeed, recent political economy scholarship detects substantial flaws to the functioning of representative democracy. A wide range of studies which analyse both the U.S. and European countries, find that the preferences of rich and well-educated people have a disproportional influence on political outcomes. In contrast, the preferences of middle-class and poor or low-educated citizens do not even seem to affect subsequent policy change if they deviate from the ones of their upper-class compatriots (Bartels, 2008; Flavin, 2012; Gilens, 2012; Persson and Gilljam, 2017; Elsässer et al., 2018; Mathisen, 2019; Schakel, 2019; Schakel and van der Pas, 2020). One solution to the alienation between citizens and elites that is increasingly called for is a stronger implementation of elements of direct democracy into the political systems. The prominence of this claim can for instance be seen in Rose and Weßels' (2020) finding that citizens who perceive their government to be less responsive tend to be more favourable towards referenda as a way of making decisions. Yet, it is not clear whether direct democracy indeed serves to reduce the upper-class bias in representation. While there are arguments to assume that, by giving voters a direct say in politics, direct democracy leads to a higher responsiveness to all citizens, the high costs of participation could also make it an elite instrument which even has the opposite effect.

To my knowledge, the question whether direct democracy leads to more equally responsive policies than representative democracy has so far only been directly addressed by Flavin (2015) who analyses the effect of the existence and frequency in usage of direct democracy instruments on the affluence bias in representation across American states. He finds no effect of the possibility to use direct democracy but detects that a higher frequency in the usage of the instruments reduces political inequality. However, no study has examined differences in the equality of responsiveness between direct and representative democracy at the national level, where the most salient and influential decisions for citizens' lives are made.

Therefore, I study policy responsiveness in the country in which direct democracy is most likely to have a substantive effect on policy outcomes on the national level, namely Switzerland. Switzerland is the most likely case, as it is the country with by far the highest number of national-level referenda worldwide (Kriesi and Trechsel, 2008) and "unlike anywhere else, the Swiss institutions of direct democracy embody a truly system-formative device, greatly impacting on party competition, government, Parliament, the legislative process and policy making at all levels of the federal state" (ibid., 49). Although the Swiss political system also has strong elements of representative democracy, it can be expected that even the actions of elected policymakers are indirectly affected by the direct democratic institutions since politicians know that their decisions can always be vetoed by the public (Hug, 2004). Hence, if direct democracy reduces the inequality in political representation, the Swiss system as a whole should produce more equally responsive outcomes than other mainly or entirely representative democracies.

Despite the strong interconnectedness between the institutions, the Swiss case also offers the opportunity to compare the responsiveness of direct and representative democratic decision-making. To exploit this possibility, I analyse the stage of representation by elected politicians which is least likely to be affected by the indirect effect of direct democracy, namely the agenda-setting. Agenda-setting plays a crucial role in the responsiveness of the entire political system, acting as a gateway for deciding whose interests receive political attention. Yet, if the government chooses to ignore the issues some groups consider important this cannot directly be vetoed by a referendum. However, the Swiss public has a strong instrument to put issues on the political agenda itself; the popular initiative, through which 100,000 supporters can initiate a national referendum to change the constitution. Even if these referenda are not successful, the issues introduced by popular initiative are often later on addressed in other ways[1]. It is interesting to see whether the existence of this instrument pushes the issues dealt with in the political arena more towards the preferences of average citizens. Therefore, this study analyses the following two research questions: *(1) To what extent are policy outcomes in Switzerland equally responsive to the preferences of citizens in different income and education groups?* and *(2) To what extent is direct democratic agenda-setting in Switzerland more equally responsive to the preferences of all citizens than representative democratic agenda-setting?*

To put the results into context, my analysis follows the same approach as other studies that examined the responsiveness to different societal groups in the U.S. (Gilens, 2012; Gilens and Page, 2014), the Netherlands (Schakel, 2019; Schakel and van der Pas, 2020), Germany (Elsässer et al., 2018), Sweden (Persson and Gilljam, 2017) and Norway (Mathisen, 2019). To that end, I create a novel data set containing 399 survey items from over 60 surveys that comprehensively cover the timespan from 1987 to 2017 and ask respondents for their opinion on potential policy changes. For each question I check whether the policy change was executed within the subsequent years and analyse whose preferences can predict this change. All the studies mentioned above find a strong upper-class bias in political representation. As Switzerland lies between the countries where these studies were performed on a range of variables that have been hypothesised to affect political inequality but has substantially stronger direct democratic institutions, the detection of a similar upper-class bias as found in these countries would clearly contradict the assumption that direct democracy reduces the inequality in representation, while finding no such bias would strongly support it. To answer the second research question and analyse whether direct democratic agenda-setting is more or less egalitarian than representative democratic agenda-setting, I compare the responsiveness of the issues put to a vote by the public via popular initiatives and the government through government bills.

The results of this analysis show that while the overall responsiveness to public opinion is relatively high in Switzerland, also here, it is strongly skewed towards rich and well-educated citizens. The preferences of other income and education groups do not even seem to have any independent effect on subsequent policy change. Nevertheless, the issues put on the agenda via popular initiatives are more responsive to the median voter than to the preferences of the upper class, whereas the agenda-setting done by the government strongly reflects the preferences of

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[1]Therefore, only those issues that are addressed by the government before they were addressed by a popular initiative are considered as governmental agenda-setting in this paper.

the affluent and well-educated. So, although the strong possibility of direct democratic agenda-setting introduces more issues that are important to lower societal strata into the political arena, the Swiss political system as a whole does not produce more equal political outcomes than other democratic countries, despite its outstanding direct democratic institutions. These findings imply that the introduction of more elements of direct democracy into the political systems around the globe could lead to some improvements for the representation of all citizens, but they take away much of the hope that this would ultimately solve the problem of unequal political representation.

2 Theory and Hypotheses

2.1 (Unequal) policy responsiveness

An important feature of normative theories of democracy is that policy change reflects public opinion (Dahl, 1971). Theoretically, citizens' preferences and public policy are linked by two mechanism in representative democracies: through the pathway of electoral outcomes that are affected by preferences and, in turn, affect policy change and through the anticipation of electoral defeat by policy makers which urges them to alter their behaviour into the direction of the electorate's opinion (Stimson et al., 1995). Besides that, citizens' preferences can translate into policy through the influence of organized interests such as unions, non-governmental organizations, or employer organizations (Rasmussen et al., 2014). Empirically, a wide range of studies finds support for the assumption that aggregate public preferences tend to translate into policy (e.g. Burstein, 2003; Soroka and Wlezien, 2009; Hakhverdian, 2010; Canes-Wrone, 2015). However, this notion is not universally accepted. For instance, Achen and Bartels (2017) formulate theoretical and empirical scepticism about a causal relationship between citizens' preferences and policy change.

Turning to the question to whose preferences exactly policy change is responsive, the assumption of equal influence of all citizens implies the outcome of the seminal "median voter theorem" (Downs, 1957). This model assumes that if policy preferences are ordered along the income distribution, the preference of the voter who has the median income is decisive for policy change, since no majorities can be formed against this position. However, a recent body of literature analyses the question which societal strata have the strongest influence on political decisions more elaborately. The most prominent investigation of this question is arguably the seminal study by Martin Gilens (2012) who uses 1,800 survey questions to determine the policy preferences of different income groups on a wide range of issues and compares them with political decisions made within four years after the questions were asked. He finds - in line with several other scholars who study similar questions in the U.S. and elsewhere (e.g. Bartels, 2008; Giger et al., 2012; Flavin, 2012; Schakel et al., 2020) - that rich citizens have a disproportional influence on policy outcomes. His findings have been contested by critics who highlight that the preferences of the rich and other groups are often very similar (Branham et al., 2017; Enns, 2015), yet Gilens (2015) counters this critique by claiming that, although the middle-class and the poor sometimes get what they want by coincidence, their preferences do not have any

independent effect on subsequent policy change of their own.

Inspired by Martin Gilens' analysis of unequal representation in the United States, several studies using the same empirical approach in European countries have emerged to investigate whether his findings replicate in the Netherlands (Schakel, 2019), Germany (Elsässer et al., 2018), Sweden (Persson and Gilljam, 2017) and Norway (Mathisen, 2019). Furthermore, Schakel and van der Pas (2020) apply the approach to the education rather than the income of Dutch citizen to see whether the upper-class bias is also present for another variable that defines the socio-economic status of a person. The studies also implicitly or explicitly test whether public policy is responsive to the aggregate public opinion and deliver mixed results. While policy change is clearly more probable to take place if a majority of citizens favours it in the U.S., the Netherlands and Norway and slightly more probable in Germany, this is not the case in Sweden. Yet, with respect to the main question of the studies, namely whether policy change is equally responsive to all societal groups, all studies have the same conclusion: The rich and well-educated have a disproportional influence on policy outcomes while the preferences of the middle class and poor or low-educated citizens do not have an independent effect on public policy.

The universality of this finding is striking in the light of the difference between these countries with respect to a range of factors that have been hypothesised to affect political inequality. Gilens mainly traces his results back to the role of money in U.S. politics, however, there are much higher party finance regulations in the four European countries than in the U.S. and, consequently, much less private money is involved in their national political campaigns. Furthermore, the levels of income inequality differ widely between Norway, Sweden and the Netherlands on the one hand and the U.S. on the other. The same is true for union density, which can be seen as an indicator of the power of organized worker interests that could potentially balance out the disproportional influence of the upper-class. Finally, the studies have been conducted in countries with both proportional and majoritarian electoral systems.

2.2 Policy responsiveness in Switzerland - the influence of direct democracy

So, why should we expect any altering results in Switzerland? With respect to the discussed variables Switzerland can generally be placed between the extreme cases. Its level of income inequality is slightly higher than in Norway, Sweden and the Netherlands, but lower than in Germany and, especially, the U.S. (Word Inequality Database). Furthermore, in terms of trade union density it ranks a little bit below Germany and the Netherlands, which have a much lower density than in the Scandinavian countries but a substantially higher one than in the United States (OECD.Stat). With its proportional electoral system Switzerland is on the side of the other four European countries, while in terms of party finance regulations it aligns with the United States, since it does not have strict regulations at the national level (Falguera et al., 2015). So, as Switzerland is not an extreme case for either of these features, based on them, we should expect to find a similar upper-class bias as in the five other countries.

Yet, there is a particularity to Swiss politics that makes the country a very interesting case for a study of unequal representation, namely the outstanding influence of its direct democratic

institutions. On the "direct popular vote index" of the "Varieties of Democracy" dataset for 2017, which measures the influence of initiatives, referenda and plebiscites on national politics, Switzerland ranks the highest of all countries and has with 0.679 a substantively higher value than the Netherlands (0.183), Sweden (0.028), Norway (0.015), Germany (0.011) and the U.S. (0). Hence, because of its middle position with respect to other potentially relevant variables and the clearly different role of direct democracy, it is likely that differences in policy responsiveness between Switzerland and these five countries can be traced back to a great extent to the influence of the latter.

There are three instruments of direct democracy that can be and are frequently used in Switzerland: the popular initiative through which 100,000 supporters can initiate a national referendum; the optional referendum, which can be called to veto a bill that was approved in parliament; and the mandatory referendum with which the public needs to approve amendments to the constitution or decisions about the membership in international organizations made by the parliament (Eidgenössisches Departement für auswärtige Angelegenheiten, 2019). These instruments have obvious direct effects on policy making since they enable citizens to put issues on the political agenda themselves - a function that is exclusive to members of parliament or government in representative democracy - and to vote directly on those and other issues (Kriesi and Trechsel, 2008). On top of that, direct democracy is also claimed to have a decisive indirect effect on the decisions that are made through ways of representative democracy in Switzerland: since members of parliament always operate under the assumption that their decisions could be vetoed by the public, they are likely to anticipate the positions of the people voting in a potential referendum and alter their own behaviour into this direction (Neidhart, 1970; Gerber, 1996; Hug, 2004). Hence, according to Lutz (2006, 46) "direct democracy structures and even dominates public political life [in Switzerland] to a great extent."

Having established the influence of direct democracy on political decision making in Switzerland, the question is how this influence affects the level and inequality of policy responsiveness in the country. Looking at the overall level of responsiveness, the direct democratic institutions introduce a strong additional channel through which citizens' preferences and policy change can be linked, as citizens have the chance to directly introduce their own policy proposals and vote on them. This is likely to increase the policy responsiveness of the system (Arceneaux, 2002; Burden, 2005; Caron, 2021). Furthermore, the referenda introduce the public as an additional veto-player into the democratic process (Tsebelis, 2002). As almost every decision made by the parliament can be vetoed by the people, it is likely that proposals that do not have support in the majority of society will not turn into policy. While this probably leads to a relatively strong status-quo bias compared to other countries with less veto-players (Immergut, 1992), it should also increase the correlation between public preferences and policy. An argument against the assumption that public policy is responsive to citizens' preferences is that turnout levels of both elections and referenda are relatively low in Switzerland. Yet, Lutz (2007) only detects a relatively weak effect of the turnout level on the outcome of a referendum. Hence, seeing the policy responsiveness in most of the other studied countries and the more direct link between citizens' preferences and policy in Switzerland, I expect policy change in the country to generally respond to aggregate public opinion.

Hypothesis 1 *The Swiss political system as a whole is responsive to the average preferences of its citizens*

To formulate hypotheses about how direct democracy affects the bias towards rich and well-educated citizens in political representation, it is important to take a look at the main theoretical explanations for this upper-class bias in the literature. The inequality in responsiveness is usually traced back to the disproportionate share of members of these groups in parliaments and governments (i. e. unequal descriptive representation) (Carnes, 2013), their direct financial power which enables them to simply "buy" their influence, for example through campaign contributions or lobbying (Gilens, 2012) and their higher levels of political participation (Flavin, 2012). The first of these mechanism - skewed descriptive representation - is inherent to representative democracy, whereas it is the core element of direct democracy that no representative, who could potentially be descriptively different to the voter, decides in their name. Hence, although unequal descriptive representation is also an issue in the Swiss parliament (Rosset, 2016) the effects of this inequality on policy outcomes can be expected to be neutralized by the strong elements of direct democracy, causing political decisions in Switzerland to be more responsive to the median voter than in countries that lack these instruments. However, it is less clear if the direct democracy mechanisms can also counteract the inequality stemming from the remaining two explanations of financial influence and unequal political participation.

Looking at the role of money in politics, Flavin (2015) argues that direct democracy reduces the disproportionate influence of wealthy citizens on policy outcomes since their advantage in time and resources which are used to constantly influence politicians through lobbying in representative democracies does not have the same weight. However, although in theory everyone has an equal say in a referendum, these decisions can also be highjacked by the economic elite, as a professional campaign ahead of a referendum can be very influential for its outcome (Hertig, 1982). Besides the obvious advantage in resources, it is also easier for the economic elite to organize such a campaign as it is usually a small group with stronger and more particular interests than other societal groups (Winters, 2011). Similar arguments also apply to direct democratic agenda-setting through popular initiatives, since, although in theory open to everyone, starting an initiative requires a lot of time and money.

This directly links to the third explanatory mechanism for unequal representation, namely skewed political participation. The costs of participating in direct democracy are much higher than in representative democracy, due to the high frequency of referenda, which also require preparation time, and the efforts needed to start initiatives and request optional referenda. On top of that, participation in direct democracy is arguably more important for policy outcomes to be responsive to one's interests than in representative democracy. While it is a debated question whether elected representatives also take the interests of non-voters into account as they want to represent the whole society, the preferences of a person who does not start an initiative or refuses to vote in a referendum are not considered by anyone. Due to the indirect effects of direct democracy, this might even drag members of parliament away from representing those people.

It stands to reason to assume that the increased costs of participation especially demobilize

lower class citizens, since they lack the economic and educational resources which markedly facilitate high levels of political participation (Dyck and Seabrook, 2010; Kern and Hooghe, 2018). Freitag and Stadelmann-Steffen (2010) even assume that this demobilization spills over to other forms of participation, such as voting or demonstrating. Yet, several authors counter this argument and claim that direct democracy reduces the upper-class bias in political participation as the feeling to have a direct influence on political outcomes mobilizes those citizens who are alienated in representative democracies (Peters, 2016; Dvořák et al., 2017). The increased mobilization is also argued to enhance citizens' political education and to spill over to other forms of participation (Boehmke, 2002; Lassen, 2005; Biggers, 2012). In line with this argument, Tolbert et al. (2009) show that the existence of direct democratic elements boosts voter turnout among disadvantaged citizens.

These considerations show that there are theoretical arguments for and against the assumption that the strong impact of direct democracy causes policy responsiveness in Switzerland to be more equal than in other countries and, thus, ultimately more responsive to the median voter than to the upper class, and I have no strong theoretical reasons to a-priori expect that the arguments for one site trump those for the other. In this context it is also important to note that Lutz (2006) not only claims that representative democratic decision making in Switzerland is strongly affected by the direct democratic institutions, but that this influence is also apparent the other way around. This is for instance visible in the fact that political parties are the actors that most frequently launch initiatives or referenda. Hence, some of the effects of direct democracy could also be outdone by the logic of representative democracy. In the only empirical analysis of the question whether direct democracy reduces political inequality I know of, Flavin (2015) finds no effect of the existence of direct democratic institutions in an American state, but a positive effect of the frequency in the usage of the instruments. As this does not provide clear expectations for the Swiss case either, I treat the question whether Swiss politics is more equally responsive than predominantly or fully representative democracies as an empirical one and hence test the following two contradicting hypotheses:

Hypothesis 2a *The Swiss political system as a whole is more responsive to the preferences of rich and well-educated citizens than to the preferences of citizens with middle or low levels of income and education*

Hypothesis 2b *The Swiss political system as a whole is more responsive to the preferences of the median voter than to the preferences of rich and well-educated citizens*

The considerations above have shown that due to the strong impact of direct democracy on decision making in Switzerland, positive effects of these instruments on political equality should be observable in the policy outcomes of the whole system. However, if one wants to compare the responsiveness of direct and representative democratic decision-making within the country one easily runs into problems due to the strong interdependence and interaction between the two institutions. Wüest and Lloren (2015) address this challenge by linking post-referendum surveys for issues on which both the parliament and the public had to vote to the outcomes of the referenda and the parliamentary decisions and find that referenda are more responsive to the

median voter than decisions in parliament. Yet, their study has a selection bias with respect to representative democratic decisions, since their approach excludes those parliamentary decisions which apparently had a strong enough support in society that no group had a reason to challenge them by requesting an optional referendum.

However, there is one step in the representation process that arguably happens in greater independence than others, namely the agenda-setting. The question which issues manage to receive political attention plays a crucial role for the responsiveness of a political system and it has been shown that already at this stage - where the government decides which issues to address in a bill - representative democracies are highly unequal (Flavin and Franko, 2017; Traber et al., 2021). However, with the popular initiative, the Swiss public has a strong agenda-setting instrument of its own. Citizens can launch such an initiative to propose a revision of the constitution, either by introducing a completely formulated proposal or by stating a general goal to change the constitution in some way. To submit an initiative 100,000 supporting signature have to be gathered within 18 months. After the submission, the parliament decides whether it recommends the public to accept or reject the initiative and can also formulate a counterproposal. Thereafter, the proposal and the potential counterproposal are voted on in a national referendum. Hence, the popular initiative enables the public to directly launch policy change and although referenda that follow popular initiatives are only very rarely directly successful, they bring policy proposals into the political debate which need to be discussed and are often later on adopted in other ways (Kriesi and Trechsel, 2008).

This last point shows that also the government's decision which bills to launch does not happen in complete independence from the direct democratic institutions in Switzerland and, hence, only those bills that address an issue before it was addressed by a popular initiative should be considered as governmental agenda-setting. Yet, if it is understood in this way, agenda-setting by the Swiss government is most directly comparable to the same act of representation by elected politicians in other countries that lack strong direct democratic institutions for two reasons: first, because agenda-setting happens at the beginning of the representation process it is less dependent on preceding events, and second, while any vote in parliament can be vetoed by the public, and hence it is probable that the policy-makers take this possibility into account, just not addressing an issue does not have any direct consequences. The selection of issues that manage to be addressed in a popular initiative is, of course, not totally independent from representative democracy. As outlined above, direct democracy is also affected by representative institutions, as for instance political parties frequently launch popular initiatives (Lutz, 2006). Yet, an analysis of the question whether issues that were first put on the agenda via a popular initiative are more equally responsive than those first introduced by the government can clearly show whether the existence of the former pushes the issues dealt with in the political arena more towards the preferences of the median voter.

The literature on inequality in political agenda-setting relies on the same general explanations as the one on inequality in overall responsiveness. Hence, the arguments for or against the assumption that direct democratic agenda-setting is more egalitarian than representative democratic agenda-setting are basically the same as the ones outlined above for the responsive-

ness of direct and representative democracy in general: Since everybody can start an initiative, descriptive representation is no issue for direct democratic agenda-setting. However, while the influence of constant lobbying relations with politicians should not play a role either, the financial, temporal and cognitive costs of launching initiatives can still be expected to favour the elite. Yet, the feeling to finally have an opportunity to initiate policy change could also mobilize lower class groups. As I still have no clear a-priori expectation that the arguments for one side outdo those for the other, I test the following two contradicting hypotheses.

Hypothesis 3a *Both direct and representative democratic agenda-setting are more responsive to the preferences of rich and well-educated citizens than to the preferences of citizens with middle or low levels of income and education*

Hypothesis 3b *Only representative democratic agenda-setting is most responsive to the rich and well-educated, while direct democratic agenda-setting is most responsive to the median voter*

3 Data and Methods

To test these hypotheses I create a novel dataset for the measurement of political responsiveness in Switzerland following the approach pioneered by Martin Gilens (2012). The idea of this approach is to collect as many items as possible from existing nationally representative surveys that ask respondents about their preferences for specific policy changes. The issues dealt with in these items can vary across all kinds of policy areas. The only important features the questions need to have in order to be included into the dataset are that the policy proposals dealt with can be addressed at the national level and that they are specific enough to determine whether they have been adopted. Responsiveness can then be assessed by analysing which proposals were put on the agenda and/or became policy within the subsequent years.

The biggest strength of this approach is that it measures responsiveness directly by analysing concrete preferences and concrete subsequent policy change. Other approaches that use overarching ideological scales to measure voters' interests face the problem that different groups have different understandings of these scales or highlight very different aspects of them (Bauer et al., 2017). Furthermore, they would not be easily applicable to the measurement of responsiveness in direct democratic settings since no clear counterpart to the ideological position of the electorate (such as the ideological position of the members of parliament in representative democracy) is present. Other studies, which compare the outcomes of referenda and parliamentary decision to public opinion voiced in post-referendum surveys, such as Wüest and Lloren (2013, 2015) only consider issues that managed to reach this stage and thus have a very limited perspective on responsiveness. Furthermore, since post-referendum preferences can be affected by parliamentary decisions, the outcomes of referenda or the preceding campaigns, they face a high risk of reverse causality. However, there are also downsides to the approach. As it gives the same weight to every survey item, it ignores potentially important characteristics of them, such as their salience. Furthermore, as the selection of policy issues is not random but based on the questions that were asked by the survey organisations, there might be a selection bias in place. While I try to

account for these issues in the robustness checks of my analyses, I cannot completely rule out the possibility that they bias the results in either direction.

My dataset contains 399 survey items from over 60 surveys and comprehensively covers the timespan from 1987 to 2017, with a few additional items from earlier years going back to 1972. If a similar question was asked in several surveys in the same year, the item that has the most specific formulation is used. A list of all survey organizations and the wording of all used survey items can be found in Appendix A. While all used surveys contain some information about the respondent's education level, this is not the case for their household income. Hence, the models that use the preferences of different income groups as independent variables only contain 277 observations. The used items cover policy issues from a wide range of policy fields. However, issues that rather belong to the cultural dimension are overrepresented compared to socio-economic issues. In contrast to Gilens (2012), but similar to Schakel (2019) the majority of surveys in my sample are academic as opposed to commercial ones. This follows from the restricted data availability in Switzerland. The main difference between these types of surveys is that the commercial surveys are more likely to refer to current political events and thus on average cover more salient issues (Schakel, 2019). While this will probably lead to a lower level of measured overall responsiveness, it is favourable for the analysis of the agenda-setting mechanisms of direct and representative democracy, since this mechanism is more important for initially less salient issues than for issues which are already very present in the political discourse.

3.1 Independent variable: attitudes of different societal groups

The responses to each survey question are recoded to binary variables measuring whether the respondent favours policy change into this direction or not. Since the surveys have different numbers of income and education categories, they cannot be directly compared. Hence, in order to assess the preferences of different income groups, I follow the approach by Gilens which is to regress the preferences for change on a respondent's household income[2,3] and its square term and take the predicted scores at different positions of the income distribution as a measure for the preferences at this point. Thus, the resulting independent variables for the main analysis are continuous variables that can be interpreted as the percentage of respondents at a specific point of the distribution that favour a policy change. As done in previous research, the baseline model takes the preferences at the 10th income percentile as a measure for the position of low-income citizens and the preferences at the 90th percentile as operationalization for the position of high-income citizens, while the preference at the 50th percentile represent the position of the median voter. As education is not a continuous variable, this approach is not applicable. Thus,

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[2]Most surveys contain a measure for household income, however, in the few cases in which only the respondent's individual income is levied this is used to assess their relative economic position.

[3]The income value assigned to a respondent is the percentile midpoint of their income group in the survey based on the survey's income distribution. Hence, the income measures are recoded to quasi-continuous variables which enables the imputation of the preferences at for instance the decile level even if the survey has less than ten income categories (for a more detailed explanation of the approach see Gilens (2012, 61-62)). Yet, this imputation does not work for very low numbers of income categories which is why I follow Schakel (2019) and only use surveys which have at least five income groups.

I follow Schakel and van der Pas (2020) and calculate educational quintiles separately in each survey. The positions of each group are then operationalized as the percentage of respondents that favour the policy change in the 1st, the 3rd and the 5th quintile, respectively. Hence both income and education are measured in relative terms and thus do not relate to any specific level of the respective variable.

3.2 Dependent variables: political outcomes

The dependent variable for the test of policy responsiveness of the political system is a dichotomous variable measuring whether the proposed policy change was enacted within the subsequent years or not. If a survey item was about policy change into one direction and the policy actually changed into the other direction, the dependent variable is coded as "no change adopted". The standard timespan used in the literature in which the policy should be enacted in order for the system to be considered responsive to citizens' preferences is four years. This follows from the standard term of office in representative democracies. In order for my results to be as comparable to prior results from other countries as possible I also use a four years timespan in my basic models. However, since it is theoretically unclear whether this is also the appropriate interval for the measurement of responsiveness in a more direct democratic setting, I also test for the robustness of the results if other timespans are applied.

The variable used to compare the responsiveness of direct and representative democratic agenda-setting within Switzerland contains the following three outcomes: (1) the proposed policy change was not addressed at all ("no agenda-setting"), (2) the proposed change was first addressed in a popular initiative ("direct democratic agenda-setting"), and (3) the proposed change was first addressed in a government bill ("representative democratic agenda-setting"). Government bills, popular initiatives and policy changes were coded with the help of the Leg-Pro database, which contains all legislative processes in Switzerland between 1987 and 2015, official Swiss documents, such as the federal gazette, and supplementary sources like news articles. Table B1 in the Appendix shows descriptive statistics for all dependent and independent variables.

To test the hypotheses, the dependent variables are regressed on the preferences for change among the different income and education groups in separate (multinomial) logistic regression models, in order to see whose preferences can predict the different outcomes. The unit of analysis of these models are the policy proposals as formulated in the 399 survey items.

4 Results

4.1 Responsiveness of policy change

To get a first idea of both the variation of public opinion between income and education groups and the responsiveness to them, Figure 1 shows the preferences of the groups at the bottom and the top of the respective distribution on all policy issues. The darker dots represent policy
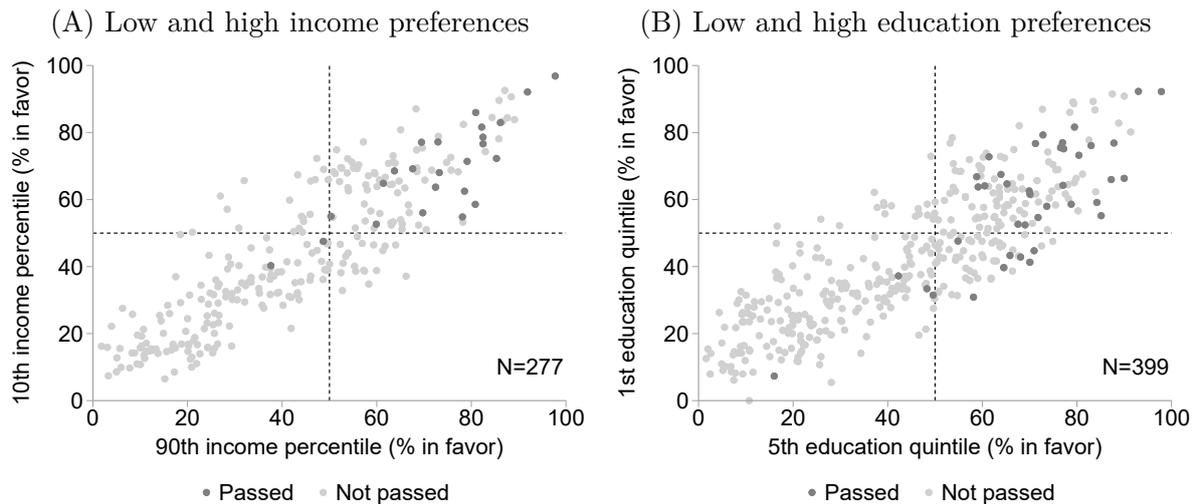
Figure 1: Responsiveness to different groups

changes that were enacted within four years after the question was asked, whereas the lighter dots are proposed policy changes that did not pass. These graphs already unveil a range of interesting patterns. First, as also found in other countries (Branham et al., 2017; Mathisen, 2019; Schakel, 2019; Soroka and Wlezien, 2008), the preferences of the different groups are highly correlated. The correlation coefficient for the 10th and the 90th income percentile is 0.88 and the preferences of the first and fifths education quantile have a correlation of 0.83. Nevertheless, there are clear differences between the income and education groups, since the average absolute difference between the highest and lowest groups amount to 9 and 10 percentage points, for income and education groups respectively. Hence, there is a clear possibility for policy responsiveness to be skewed to either of the two sides.

Second, the overall share of enacted policy changes is very low. Only 10 percent of all policy proposals in the dataset were actually passed within the subsequent four years. This number is the lowest compared to the levels of implementation found in comparable studies in other countries (DE: 59%, US: 32%, NL: 27%, NO: 26%, SE: 13%). However, as mentioned above, some of these studies (predominantly) use commercial surveys which cover issues that are much more salient in the current political debates of the respective countries. Furthermore, even the studies that also use academic surveys are, of course, not directly comparable since also here the selection of questions can differ widely. Yet, the low percentage of passed policy changes in Switzerland could also be a consequence of the strong direct democratic influence which introduces the public as an additional veto player.

This interpretation is all the more plausible if we look at the most striking feature of Figure 1, namely that almost all dark-gray dots are located in the upper-right quadrant of the respective diagram. This means that the great majority of policy changes that take place in Switzerland are supported by more than 50 percent of the people who belong to the lowest and highest income and education groups and thus have a solid support in the whole society. This strongly supports the assumptions that unpopular policy changes are more often vetoed in Switzerland than in other countries and that the Swiss system is responsive to the average policy preferences of its citizens.

The figures, however, also show a tendency with respect to the responsiveness to different groups. Especially when looking at panel (B), we see that a range of the policy proposals that were supported by the majority of high-educated citizens and opposed by the majority of their low-educated compatriots (lower-right quadrant) were enacted, while none of the potential changes for which the opposite was true (upper-left quadrant) turned into policy. Although this is not the case for the income groups, also panel (A) reveals that most passed issues were more strongly supported by the rich than by the poor and issues that had stronger support among the lower income strata were hardly ever enacted.

Table 1: Logistic regression models on dummy variable for policy change

	(1) All	Income			Education		
		(2) P10	(3) P50	(4) P90	(5) Q1	(6) Q3	(7) Q5
Odds ratio	1.064***	1.071***	1.064***	1.096***	1.050***	1.055***	1.081***
	(0.0115)	(0.0151)	(0.0139)	(0.0186)	(0.00999)	(0.0100)	(0.0139)
N	399	277	277	277	399	399	399
Pseudo R^2	0.176	0.215	0.201	0.317	0.119	0.154	0.240

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

To get a more elaborate understanding of the effect of public preferences on policy change, Table 1 shows the results to logistic regression models with policy change within four years as the dependent variable. Model 1 uses the average preferences of all respondents within the respective survey as independent variable and detects a strong positive and significant effect. If 20 percent of all citizens favour a policy change, the probability for it to be enacted within the subsequent four years only amounts to 0.7 percent, while policy proposals favoured by 80 percent of the population have a 36 percent chance to be passed. This confirms what was already visible in Figure 1, namely the strong status-quo bias of the Swiss system, since even among the policy proposals that have a very strong support only about a third is actually enacted, and the high level of overall responsiveness, as average support for a policy change is clearly positively correlated with its probability to be enacted. Thus, the analysis delivers strong support for Hypothesis 1.

Models 2, 3 and 4 use the preferences of at the 10th, the 50th and the 90th income percentile as independent variables. These reveal that all three income groups have a positive and significant effect on subsequent policy change, however, the effect of the preferences of the richest group is much stronger than those of the other two groups. The preferences of the middle income group even have the weakest effect. Models 5, 6 and 7 paint a similar picture for education, although here the middle group is a bit more influential than the lowest group. Figure 2 illustrates these effects by mapping the predicted probability for policy change at different levels of support among the different groups. This shows again that only if a clear majority of citizens favours a policy proposal it is likely to pass but the probability for change rises the steepest if the rich and well-educated strongly support it. For instance, if 90 percent of the richest income
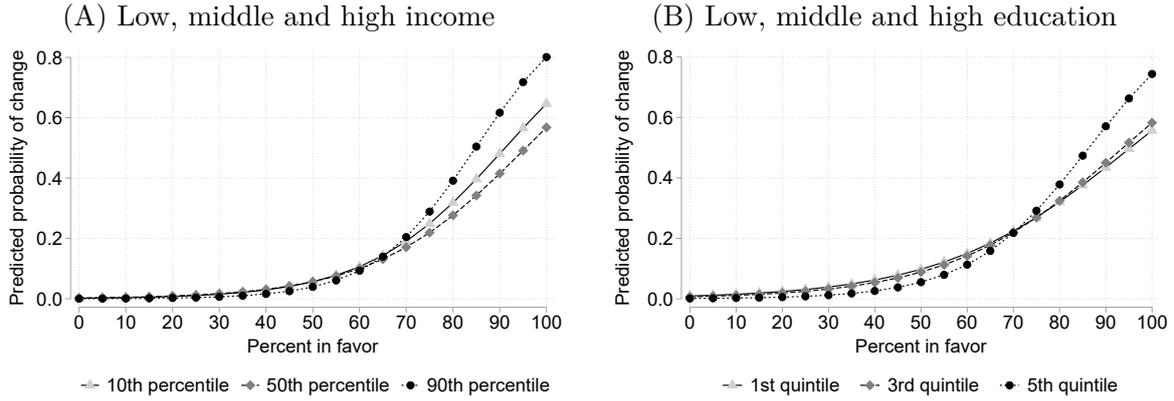
Figure 2: Predicted probability of policy change by income and education groups

group favour a change, the predicted probability for it to be enacted amounts to 62 percent, while a 90 percent support within the middle income group only leads to a policy change in 41 percent of the cases.

These results show that there is some inequality in political representation in Switzerland, but they also imply that political decisions in the country are clearly responsive to the preferences of all income and education groups. However, due to the high correlation between the preferences of the different groups, it is not clear whether each group indeed has an independent effect or whether some groups only sometimes get what they want by coincidence because they agree with the influential group. Therefore, Table 2 contains models in which the preferences of different groups are controlled for each other. It is striking that the effects of the highest income and education groups stay positive and significant and even become slightly stronger if the preferences of other groups are controlled for, while the effects of all other groups become negative. For the middle income group, the negative effect is even significant at the 10 percent level.

Table 2: Logistic regression models controlling for other preferences

	Income		Education	
	(8)	(9)	(10)	(11)
	P10 & P90	P50 & P90	Q1 & Q5	Q3 & Q5
Low	0.989		0.974	
	(0.0242)		(0.0166)	
Middle		0.938*		0.977
		(0.0326)		(0.0187)
High	1.106***	1.166***	1.105***	1.106***
	(0.0307)	(0.0460)	(0.0220)	(0.0248)
N	277	277	399	399
Pseudo R^2	0.318	0.341	0.249	0.246

Standard errors in parentheses; Coefficients are odds ratios

$*$ $p < 0.1$, $**$ $p < 0.05$, $***$ $p < 0.01$

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Figure 3 visualizes these results for the models that include the middle and top groups of both variables. The graphs for the upper class look very similar to before. If less than 50 percent of the highest income or education group support a policy change, while the preferences of the respective middle group are held constant, the predicted probability for it to take place within the subsequent four years is lower than 10 percent, yet after this threshold the lines rise steeply. If 80 percent of the rich support a change the probability for it to be enacted is almost 80 percent, while for a support rate of 80 percent among the most highly educated the probability is slightly below 60 percent. On the other hand, the lines for the middle income and education groups are very flat and even slightly decreasing, which implies that if the preferences of the upper class are held constant, a higher support among these groups even reduces the probability for change. As we see in Table 2, the same is true for the lowest income and education groups. So, only the rich and well-educated citizens seem to have an independent effect on policy change in Switzerland while the other societal groups only get what they want if they agree with the upper class.

(A) Middle and high income	(B) Middle and high education
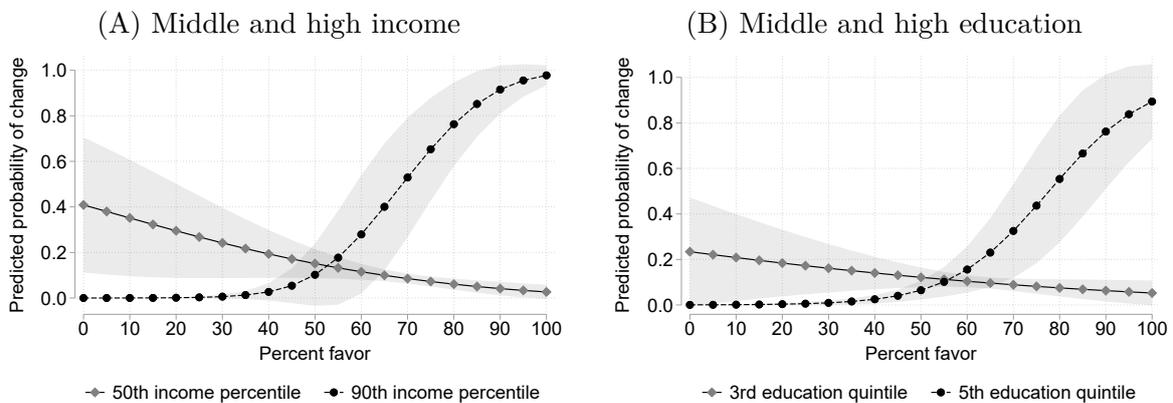
Figure 3: Predicted probability of policy change controlling for preferences of other groups

Due to the high correlation between the preferences of the different groups reported above, models 8 to 11 might, however, suffer from collinearity problems. Therefore, in Table 3 I run a final set of models to test the upper class bias in representation that follows the approach of Schakel et al. (2020). For these models, I calculate the difference between the preferences of groups. So, for instance the independent variable in model 12 is the preferences of the rich for a specific policy change minus the preferences of the poor on that specific change. All models control for the average preferences of all citizens. If the preferences of the rich and well-educated have a stronger effect than the ones of the respective other groups, an increase in the difference measure should lead to a higher probability of policy change when average support is held constant. Exactly this can be seen in Table 3. All four coefficients are positive and significant. So, the results deliver clear support for Hypothesis 2a and reject Hypothesis 2b as the findings from other countries that rich and well-educated citizens have a much stronger impact on policy outcomes than other societal groups does replicate in Switzerland, despite the country's strong direct democratic institutions.

These results are robust to a wide range of robustness checks which can be found in Appendix C. As mentioned above, the four-year window to assess responsiveness is used to follow the other

Table 3: Logistic regression models for difference in preferences

	Income		Education	
	(12) P90-P10	(13) P90-P50	(14) Q5-Q1	(15) Q5-Q3
Odds ratio	1.062** (0.0256)	1.145*** (0.0443)	1.068*** (0.0186)	1.079*** (0.0220)
Average pref.	1.085*** (0.0176)	1.098*** (0.0192)	1.071*** (0.0133)	1.078*** (0.0140)
N	277	277	399	399
Pseudo R^2	0.286	0.351	0.238	0.235

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

studies as closely as possible. Yet, due to the strong influence of direct democracy in Switzerland, it is unclear whether this timespan is indeed theoretically appropriate. Hence, I also ran the models using all timespans between 2 and 7 years and the results presented above replicate in all of them (Tables C1-C10). Furthermore, the 10th and 90th percentile of the income distribution are rather arbitrary measures for the preferences of poor and rich citizens, thus the models have also been run with the preferences at the 5th, the 20th, the 30th, 70th, the 80th and the 95th income percentile (Table C11). The effects of the preferences at all percentiles that lie above the median are bigger than the one of the median and all percentiles below it, while some estimates for the low income group lead to a slightly stronger and some to a slightly weaker estimated effects compared to the median voter. For education, the effect of the 2nd and the 4th quintile lie between the others, so that going up the education latter political influence increases steadily (Table C12).

The approach of this study has the weakness that the selection of issues is not random but based on the questions that have been asked in existing surveys. To rule out the possibility that my results are only driven by the kinds of questions asked by a certain survey organization, I reran the models controlling for the survey series to which the item belongs (Tables C13-C14). Furthermore, I ran the models with year dummies, to see whether the results are driven by the questions asked in a specific year or by the political situation of one year (Tables C15-C16). Neither of these specifications affects the results substantially.

Another problem with the approach is that it ignores the salience of the survey questions and hence the results could potentially be driven by some issues that are not very important to the electorate. There is no straight-forward way to account for this, as I cannot easily measure the salience of the issues at the point in time when they were asked. However, I also ran the bivariate models separately for four subsets of issues allocated to broad policy areas. Figure 4 shows the odds ratios for these models. The results shown here should not be overinterpreted since due to the lack of statistical power several of these effects are not statically significant. Yet, we see that for income the top group always has the strongest influence. The difference with the other groups is even the largest for the usually very salient economy/welfare issues.

The highest education group only has the second strongest impact for the issues falling into the economy/welfare area, but is most influential in the three other policy areas. This shows that the results are not solely driven by survey items that deal with a specific policy field, but the the finding of unequal representation is more universal.
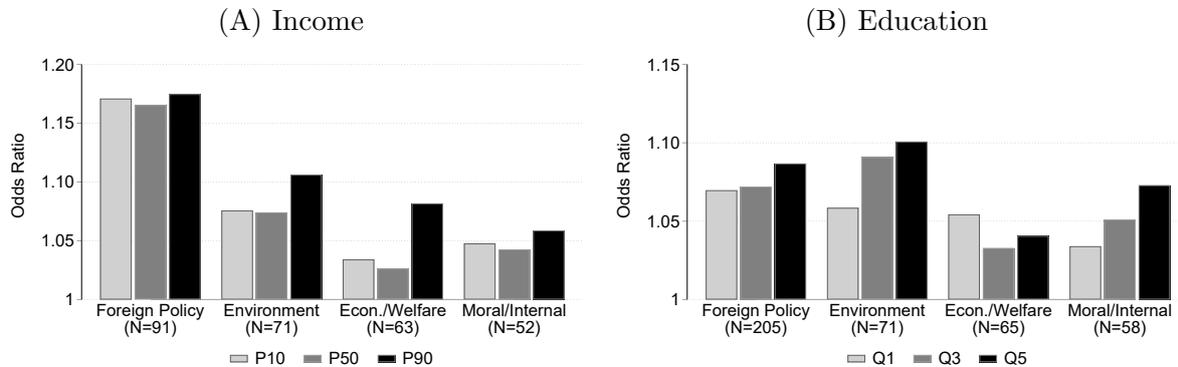
Figure 4: Policy responsiveness by social class and policy area

Some of the questions in my dataset are asked almost every year. In order to reduce their potential disproportional impact on the results, I also ran models that only include items if the same (or a very similar) question has not been asked in the two years prior to the survey (Tables C17-C18). This does not alter the results. On the other hand, the dataset also contains a range of questions about an increase or decrease of public spending in a certain field. These items have been excluded in the main analysis, since they do not deal with preferences on specific policy changes and it is questionable whether changes in actual public spending are a good estimator for responsiveness to the underlying preferences expressed by them, since a wide range of developments other than the governmental generosity in a specific field are reflected in these numbers (Schakel et al., 2020). On top of that, one of the recurring surveys I used in my data collection contains a range of items that all start in the following way: "For our security it is important, that...". As it is unclear whether agreeing or disagreeing to such a statement clearly indicates policy preferences, these items have been excluded from the main analysis, as well. However, I also ran models including these two groups of items (Tables C19-C20). This strongly increases the sample size to 424 for the income models and 599 for the education models and while the overall effect sizes are reduced, particularly, because of the inclusion of the budget questions, the upper class bias stays in place, yet the differences between the effects lose statistical significance.

Another estimation strategy to test the upper-class bias that is frequently used in the literature is to only include the items on which two groups disagree by more than 10 percentage points, in order to assess whether the lower income and education groups have an influence on policy change if they disagree with the upper class. I also ran such models and found that the rich and well-educated have a much stronger effect on policy change for issues on which they strongly disagree with other groups, while the influence of these groups is also positive but substantially weaker and often insignificant (Tables C21-C22). Finally, I ran the models with clustered and robust standard errors and also come to the same results as reported above (Tables C24-C26).

So far, income and education have been used as two separate measures for social class, but although they are highly correlated, unequal responsiveness with respect to either of them has different policy implications. Therefore, it is interesting to see whether they both have an independent effect on inequality in representation and, if so, which of the two effects is stronger. To that end, I interact the two variables to receive measures for the preference of for instance high-educated citizens with a low income. Of course, this can only be done with the 277 cases for which income measures are available. For purposes of comparability, I also ignore for a moment that education is not a continuous variable and calculate the preferences of the education groups in the same way as done for the income groups. That way, I receive nine estimates for different group preferences.

Table 4 shows the effects of these preferences on policy change, which result from separate logistic regressions. The estimates reveal that the education effect is stronger than the income effect, since going up the level of education, while holding the income level constant the odds ratio increases more strongly than it does for higher income levels within one education group. In the lowest education group the effect of high income citizens is even weaker than the one of the middle and low income groups, yet in the two columns that represent the middle and high education groups the level of responsiveness also rises with income. This implies that both variables are independently important, but that the level of education is the more relevant variable to determine a person's effect on policy outcomes in Switzerland. Yet, this difference could also be a consequence of the selection of items in my dataset in which issues that belong to the cultural dimension are overrepresented in comparison to socio-economic questions. As cultural issues are usually rather associated with education than with income (van de Werfhorst and de Graaf, 2004; Schakel and van der Pas, 2020) and Figure 4 also shows that income plays a bigger role for the responsiveness of economic issues while the education level seems to be more important in the other polic fields, this selection bias could lead to an overestimation of the education effect and and underestimation of the income effect.

Table 4: Effects of education and income on policy change

	Education (P10)	Education (P50)	Education (P90)
Income (P10)	1.0518***	1.0632***	1.0657***
Income (P50)	1.0521***	1.0731***	1.0915***
Income (P90)	1.0471***	1.0756***	1.0951***

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; Coefficients are odds ratios

4.2 Responsiveness of agenda-setting

The results presented above clearly show that the Swiss political system has a similar upper class bias in policy responsiveness as other democratic countries. Hence, the assumption that the strong direct democratic institutions abolish this bias and move policy changes more closely to the preferences of the median voter has been disconfirmed. However, it is still interesting to see whether there is variation in the responsiveness of direct and representative democratic institutions within Switzerland, especially, at the stage where they take place with the highest

level of independence between one another; the agenda-setting. Therefore, Table 5 presents results for multinomial logistic regression models that test the responsiveness of direct and representative democratic agenda-setting in Switzerland. The dependent variable of these models has three outcomes that consider the period of four years after the question was asked: issue not addressed at all (baseline), issue first addressed by a government bill (Representative) and issue first addressed in a popular initiative (Direct). The independent variables are, as above, the preferences of the different groups. The number of observations is slightly reduced, since for some items in the dataset agenda-setting had already taken place prior to the survey period[4].

Table 5: Multinomial logistic regression models on direct and representative dem. agenda-setting

	Income			Education		
	(16) P10	(17) P50	(18) P90	(19) Q1	(20) Q3	(21) Q5
Representative	1.035***	1.035***	1.056***	1.030***	1.038***	1.063***
	(0.0129)	(0.0124)	(0.0151)	(0.0107)	(0.0105)	(0.0135)
Direct	1.022**	1.027***	1.019*	1.022**	1.029***	1.028***
	(0.0103)	(0.00995)	(0.0102)	(0.00972)	(0.00930)	(0.00943)
N	245	245	245	361	361	361
Pseudo R^2	0.043	0.057	0.074	0.031	0.058	0.097

Standard errors in parentheses; Coefficients are relative risk ratios

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The results for representative democratic agenda-setting are very similar to the ones for actual policy change. If the preferences of other groups are not controlled for, the support for policy change within each group has a positive effect on the probability that it will be addressed by the government, but the influence of the rich and well-educated is much stronger than the one of the other groups. However, for direct democratic agenda-setting, the picture looks different. While also here all groups have a positive yet weaker influence, both for income and education the middle group is the most influential. For education, however, the difference between the middle and the top group is very small. So, the results basically show that both groups have almost the same influence on which issues are addressed in popular initiatives. For income, on the other hand, the difference between the middle and the top group is much larger and the richest group even has a weaker effect on direct democratic agenda-setting than the poor.

The difference in the responsiveness of the two types of agenda-setting to the middle and the high income group is illustrated in Figure 5. Panel (A) shows the preferences of both groups on all issues that were either addressed by the government (dark dots) or the public (light dots). Issues for which no agenda-setting took place are not shown. What stands out is that there is also a range of issues addressed by popular initiatives that have low support rates in both groups. This explains the generally lower effect sizes for direct democratic agenda-setting in Table 5 and shows that popular initiatives are also used to introduce minority positions into the political

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[4]This means that a government bill or a popular initiative were launched before the survey period ended but the decisions on them had not taken place yet.

discourse. What is, however, more interesting for our purpose is to see which of the two groups more strongly supports a policy change. All issues that lie on the 45-degree line have equal levels of support among both groups, while those above this line are more strongly supported by the middle class and those below have a higher support rate among the rich. What catches the eye is that all dark-grey dots are very close to or below the line, while the great majority of light-grey dots is located above the line. Hence, issues that have more support among the rich are more likely to be addressed in government bills and those that have a higher support among the middle class are more often addressed in popular initiatives.
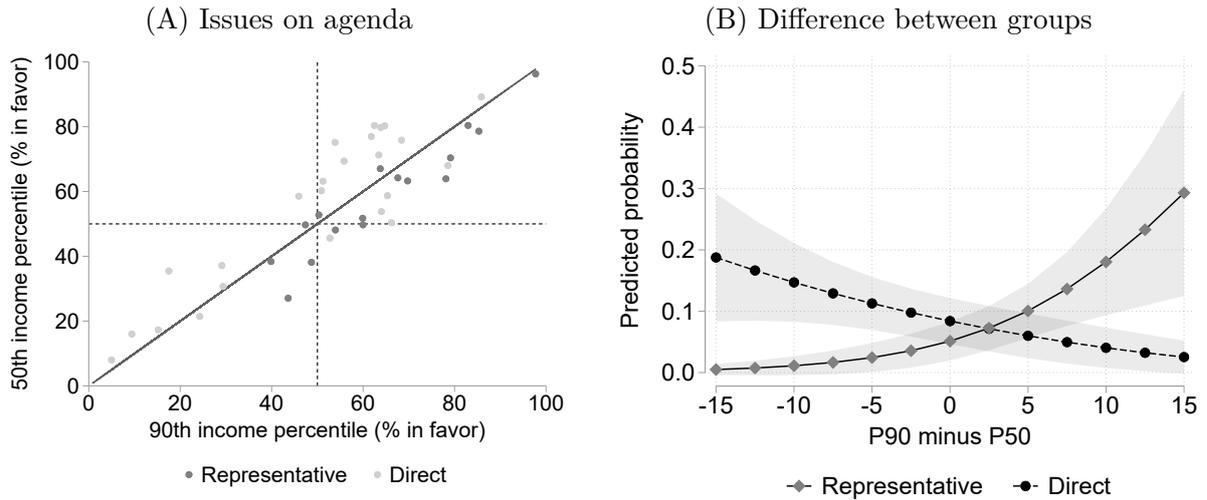
Figure 5: Responsiveness of agenda-setting to 50th vs. 90th income percentile

Panel (B) supports this notion. The underlying model for this graph, which can be found in the appendix (Table D1), is a multinomial logistic regression model which uses the difference in the support rate between the rich and the middle class as the independent variable and controls for the average preferences of all citizens[5]. The effects are quite clear: if the support rate for a policy change in the middle-income group is 10 percentage points higher than in the high-income group, there is only a 1 percent chance that the issue is addressed by the government, while there is a 14 percent chance that it is addressed in a popular initiative. When, on the other hand, the rich have a 10 percentage point higher support rate, the probability of representative democratic agenda-setting amounts to 18 percent and the probability of direct democratic agenda-setting only amounts to 4 percent. Both of theses effects are statistically significant. So, while direct democratic agenda-setting is at least equally responsive to high- and mid-level educated citizens in Switzerland, it clearly pushes the political agenda more towards the preferences of the median-income voter and thereby, at least to some extent, compensates the clear upper-class bias in representative democratic agenda-setting. Hence, the results deliver support for Hypothesis 3b that direct democratic agenda-setting is more equally responsive than representative democratic agenda-setting and thus reject Hypothesis 3a, which denied this effect.

Table D1 in the Appendix also contains a multinomial logistic regression model in which both, the preferences of the rich and of the middle income group are used as independent

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[5]These are the same independent variables as used in model 13 in Table 3.

variables. This model supports the findings reported above, since the preferences of the rich have a positive and significant effect on representative democratic agenda-setting, but a negative effect of direct democratic agenda-setting if the preferences of the middle-class are controlled for, while the opposite is true for the preferences of the median voter. For the income models, the results presented in this subsection are also very robust to the usages of different timespans (Tables D2-D6), different percentiles (Table D7), and the in- and exclusion of the items discussed above for the robustness checks of the models testing the responsiveness of policy change (Tables D9-D10). For education, this is generally the case as well, yet, when longer timespans are used the difference in the effect between the middle and the top education groups on direct democratic agenda-setting becomes much stronger, while the inclusion of the "For our security" items leads to a slightly stronger effect of the well-educated compared to the middle group (Tables D2-D10).

5 Discussion and conclusion

This article analyses the level and inequality of policy responsiveness in Switzerland with a focus on the influence of its direct democratic institutions. It finds that public policy in Switzerland is clearly responsive to the aggregate preferences of its citizens. In comparison to studies in other countries without strong direct democratic institutions, it is particularly striking that policy changes which are not supported by the majority of citizens are very rarely enacted within the subsequent years. This can probably be traced back to the existence of referenda, as they introduce the public as an additional veto player. However, when looking more closely at the question whose preferences can predict policy change, the analysis shows that, similar to the findings in other countries, rich and well-educated citizens have a disproportional influence on policy outcomes while the poor or low-educated only get what they want if they agree with the upper-class. Hence, despite the strong influence of direct democracy on Swiss policy making, political outcomes in the country are highly unequal. Nonetheless, the comparison between the responsiveness of direct and representative democratic agenda-setting - the stage of policy-making where both institutions arguably operate with the strongest independence between one another - paints a more positive picture for the influence of direct democracy. While representative democratic agenda-setting is clearly more responsive to the preferences voiced by the upper-class, the issues first introduced by popular initiatives respond most strongly to the preferences of the median voter. Thus, direct democratic agenda-setting in Switzerland is more egalitarian than agenda-setting by the government.

With respect to the general aim of the paper, namely to determine whether direct democracy has the potential to reduce or even eliminate the apparent political inequality detected in a wide range of countries, these findings are not entirely conclusive. The remaining question is, why we see a positive effect of direct democratic agenda-setting on political equality, but still political outcomes in Switzerland are highly unequal, although the direct democratic institutions should affect these outcomes more strongly than in any other country in the world. One potential answer to this question is that even in Switzerland direct democracy is still too weak to abolish the upper-class bias in representation. Also here, the majority of decisions are made via the classical representative democratic way and it is possible that the indirect effect of direct democracy is

not as strong as assumed by me and others. This would imply that, in order to get more political equality, even Switzerland would need to further strengthen its direct democratic institutions.

Another potential explanation for the results of this study is that only the agenda-setting, but not the decision-making function of direct democracy is more egalitarian than the same functions of representative democracy. One could assume that the upper-class uses its influence mainly for campaigning ahead of referenda and less for launching initiatives, since the issues that are important to them are already taken up by the government anyway. This would imply that the elite predominantly has a strong veto-role, and hence direct democratic agenda-setting is not crucial for its members. However, the results from Wüest and Lloren (2015), who show that, at least for the parliamentary decisions that provoked referenda, the outcomes of the latter are more aligned with the median voter preferences than the former, challenge this interpretation.

One explanation for the general finding of unequal representation that downplays the problem, is that members of the upper-class are on average more informed and thus have more realistic policy preferences (Elkjær, 2020). This explanation implies that a study like mine should find a much weaker political inequality in direct democracy than in representative democracy, since even if middle- and lower-class voters hold less "rational" policy preferences these preferences should win if the people can directly decide on policy change. However, the approach I use in this paper measures policy preferences at the beginning of the policy cycle. If lower-class voters are less informed on average but start to become informed when an issue is put on the agenda, they may have changed their minds more than upper-class citizens at the time of the referendum. This would explain why their pre-agenda-setting preferences affect the direct democratic agenda-setting but not the policy outcomes. To shed more light on the validity of this explanation and of the explanation of a strong elite impact on pre-referendum campaigns, it would be interesting to investigate whose specific policy positions vary the most during the policy cycle and what affects this variation.

Of course, there are also possible explanations for the results that are not only related to direct democracy. My analysis of the responsiveness of the whole political system in Switzerland does not have a true counterfactual. Switzerland lies between the countries in which comparable studies have been performed on the variables the authors of these studies consider important for their case selection and all of these studies find an upper-class bias in political representation. Hence, if I had not found evidence for unequal representation in Switzerland, it would have been improbable that the higher political equality stemmed from one of these factors. Yet, it is possible that a combination of conditions is necessary for policy to respond more strongly to the median voter than to the upper-class. For instance, one could assume that in a country which has the low levels of income inequality, the high union density and the party regulations of Sweden or Norway, direct democratic institutions of the strength of the Swiss ones would strongly reduce political inequality, while the less favourable conditions on these variables in Switzerland outdo the positive impact of direct democracy. On top of that, despite the strong robustness of the results to the in- and exclusion of groups of survey items and different control variables, it cannot be completely ruled out that the non-random selection of issues in the dataset biased the results of the analysis of either the responsiveness of the whole system or the

responsiveness of the two forms of agenda-setting.

In spite of these limitations, the results of the analysis show that instruments of direct democracy can help to reduce the problem of unequal representation, since the possibility that the people put issues on the political agenda has shown to make this agenda more equally responsive to all income and education groups. This already has the potential to diminish the alienation between politics and groups of society since the issues important to these groups are at least more frequently discussed than in fully representative democracies. However, the finding that even in Switzerland - the country that has by far the strongest direct democratic institutions on the national level worldwide - the responsiveness of policy outcomes is strongly skewed towards rich and well-educated citizens takes away much of the hope that direct democracy alone has the potential to solve the problems of political inequality.

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Online Appendix

Appendix A: Surveys and Questions

Table A1: Data sources for the survey questions, sorted by frequency

Survey	Year(s)	N
Sicherheit (ETH Zürich)	1995-2017	163
Swiss Household Panel	1999-2017	61
Schweizer Umweltsurvey	1993, 2007	26
MOSAiCH	2005-2017	23
Selects	1995-2015	23
Energie-Enquete	2016, 2017	18
Eurobarometer (Swiss adaptations)	1999-2003	17
European Social Survey	2002, 2016	11
Citizenship, Involvement and Democracy	2000	11
Trendstudie zum Konsum von Alkohol, Tabak, Medikamenten und illegalen Drogen	1987	9
Eurobarometer 73.1	2010	6
Monitoring rechtsextremer Einstellungen	2004	6
Swiss Voting Study	1972	5
Public Opinion on Education in Switzerland	2007	4
Attitudes Politique	1975	3
Biotechnology and the European public	1997	3
International Social Survey Programme	1987	3
World Value Survey	1996, 2007	3
Readers Digest	1990	2
DemGovCit National Survey	2015	1
European Value Studies	2008	1

A2: Question List

Sicherheit (ETH Zürich)

- A federal popular initiative demands that defense spending be halved and that one third of the money saved be used for international peace policy (i.e., development cooperation, conflict prevention, etc.). - How would you yourself vote if this popular initiative were to be put to the vote next Sunday? (2)

- As you are well aware, with SWISSCOY Switzerland is contributing to peacebuilding in Kosovo. At the moment there are about 200 Swiss soldiers stationed in Kosovo. Do you think this number is (about right/ too high / too low / no soldiers should be sent)?

- At the moment Swiss nationals are deployed outside the country's borders and are involved in peacekeeping or the peaceful resolution of conflicts, e.g. as observers or medical

personnel for the UN, as representatives of the Red Cross or as yellow caps in the former Yugoslavia, etc. Should Switzerland in the future rather increase its participation in such missions, maintain it at its current level or rather reduce it?

- Do you agree that Swiss soldiers who volunteer are deployed outside the country? (8)

- Do you believe that the militia army, as we have it in Switzerland, can continue to ensure our national defense in the future, or would a professional army be better for us in your opinion? (13)

- Everyone should be free to choose whether they want to do military or civilian service.

- General conscription should be abolished and military service should become voluntary. (11)

- In 1994 the Swiss electorate said no to a Swiss UN blue helmet battalion. The 1994 proposal provided that Switzerland could have provided the UN with a battalion for peacekeeping operations. Only volunteers would have taken part, no one would have been sent abroad against his will. Light armament was planned for self-protection. - How would you yourself vote today if the bill were put to the vote next Sunday? (3)

- In the Swiss militia army today, members of the army perform their service after the recruit school up to the age of 42 in several refresher courses. Together, the minimum service period is 10 months. It has now been suggested that members of the army should complete their service in a period of about 10 months and then be finished with their service. What do you think? -The military service with refresher courses, as it is today, should be maintained for all -All members of the army should do their military service in one piece in the future -All young members of the army should be able to choose whether they want to do their service as it is today or in one piece

- Switzerland has a general compulsory military service for men. This means that every fit young Swiss citizen must do military service. However, it would also be conceivable that Switzerland abolishes compulsory military service and only takes those Swiss men and women into the military who want to do voluntary service. Which system do you personally very much or rather agree with? The system of compulsory military service or the system of voluntary military service? Or does it not matter to you?

- Switzerland should reduce the size of the army and shorten the length of service of the military men.

- Switzerland should abolish compulsory military service and leave military service to volunteers. (3)

- Switzerland should abolish general conscription and introduce a voluntary army. (3)

- Switzerland should actively participate in European integration and join the EU without reservations (6)

- Switzerland should also introduce compulsory military service for women. (3)

- Switzerland should also introduce military service for foreigners. (2)

- Switzerland should change the current compulsory military service into a compulsory service ONLY for men, whereby men could freely choose whether they do military service or civilian service or social service.

- Switzerland should convert the current compulsory military service into a compulsory service obligation ONLY for men, whereby men would be free to choose between military service or civilian service or social service (2)

- Switzerland should introduce a civil service that lasts longer than military service.

- Switzerland should introduce compulsory military service for men AND women, whereby men and women would be free to choose between military service or civil service or social service. (2)

- Switzerland should introduce compulsory service for men AND women, whereby men and women would be free to choose whether to do military service or civilian service or social service.

- Switzerland should introduce compulsory service only in the civil service or social service for foreigners.

- Switzerland should join NATO. (23)

- Switzerland should join the EEA, but not the EU (8)

- Switzerland should join the UNO (6)

- Switzerland should participate in armed peacekeeping operations.

- Switzerland should provide the UN with Swiss peacekeeping troops. (23)

- Switzerland should reduce the size of the army (14)

- Switzerland should strive for a seat on the Security Council, the UN's governing body. (13)

- The Swiss soldiers in Kosovo are unarmed. Due to the difficult situation in Kosovo, however, they are under the protection of armed Austrian troops. What is your opinion? Is it correct that the Swiss troop contingent is unarmed or do you think that Swiss soldiers should be armed for self-protection? (2)

- There is much talk today about Swiss banking secrecy. What do you think about banking secrecy in our country: - It should be maintained as it is today - It should be maintained in principle, but more restricted - It should be abolished

Swiss Household Panel

- And if you could choose between continuing the bilateral way and terminating the bilateral agreements, which solution would you choose? (3)

- And if you could choose between Switzerland having a professional army, Switzerland having an army as it is today or Switzerland without an army, what would you prefer?

- Are you for a Switzerland with a strong army or for a Switzerland without an army? (13)

- Are you in favor of a Switzerland with or without nuclear energy? (13)

- Are you in favor of increasing or reducing taxes on high incomes? (13)

- Are you in favor of Switzerland joining the EU or not joining? (5)

- Are you in favour of Switzerland joining the European Union or are you in favour of Switzerland staying outside of the European Union?

Schweizer Umweltsurvey

- Are you with the following animal species for or against the tolerance? Bear

- Are you with the following animal species for or against the tolerance? Lynx

- Are you with the following animal species for or against the tolerance? Wolf

- Guest workers should be banned from all political activity in Switzerland

- If food produced abroad is safe, it should have free access to the Swiss market.

- In order to protect the environment, the amount of energy each household is entitled to should be limited or rationed to encourage people to save energy

- In order to protect the environment, the permitted quantities and the type of packaging material for products should be specified, even if this would be disadvantageous for consumers (e.g. more inconvenient, more expensive, etc.).

- Please tell me for each possibility I name, whether you strongly disagree, tend to disagree, are undecided, tend to support or strongly encourage this possibility: Construction of further nuclear power plants

- Please tell me for each possibility I name, whether you strongly disagree, tend to disagree, are undecided, tend to support or strongly encourage this possibility: Introduction of an energy tax while reducing other taxes

- The Swiss state should protect domestic agriculture more strongly against imports from abroad

- To protect the environment, energy taxes should be increased every year for the next ten years to encourage people to use less energy

- To protect the environment, fuel taxes should be increased every year for the next ten years to encourage people to drive less

- To protect the environment, special environmental taxes should be levied on private cars, and the money should be used to improve public transport

- To protect the environment, taxes on environmentally harmful items should be increased every year for the next 10 years to discourage people from buying or using them

- To protect the environment, the amount of fuel that can be bought should be limited or rationed to encourage people to drive less

- What do you think about the introduction of a heavy vehicle tax, which depends on the weight and the driven kilometers of the trucks?

- What do you think about the introduction of such a CO2 tax? (For gasoline, a levy of 10 centimes per liter is being discussed. The revenue from this tax would be refunded to the population: This means that each taxpayer would get back about 60 Fr. per year)

- What do you think of a gradual increase in the price of petrol to 2 Fr. by the year 2000?

- What do you think of the following measures? Limiting the maximum speed on freeways to 100 kilometers per hour. (2)

- What do you think of the following measures? Mandatory tax on petrol and diesel to reduce greenhouse gases. The revenues will be used to promote renewable energies (e.g. hydropower, biofuels, solar energy) in Switzerland.

- What do you think of the following measures? No expansion of existing nuclear power plants and no commissioning of new facilities for the generation of nuclear energy (nuclear moratorium).

- What do you think of the following measures? Particle filter obligation for new cars with diesel engines

- What do you think of the following measures? Road tolls at the entrance to the city center or certain districts in the largest Swiss cities (-road pricing - for city centers, city tolls).

- What do you think of the following measures? Temporary reduction of the speed limit to 80 kilometers per hour on freeways to reduce fine dust in winter.

- What do you think of the following measures? Temporary reduction of the speed limit to 80 kilometers per hour on freeways to reduce ozone pollution in summer.

MOSAiCH

- A new law would be needed to expel foreigners who have committed sexual offences or assaulted people who are unable to defend themselves.

- A new law would be needed to grant voting and electoral rights at the municipal level to foreigners who have lived in Switzerland for at least ten years, for all municipalities.

- A new law would be needed to guarantee significant financial support to all students from financially disadvantaged families by increasing taxes for those with high incomes.

- A new law would be needed to prohibit wearing a veil in public schools to promote equality between men and women.

- A new law would be needed to provide free crèches and after-school care so that women can become more active in their careers.

- A new law would be needed to reduce paid maternity leave for households with sufficient financial resources, thereby relieving the burden on families with modest budgets.

- A new law would be needed to reorganize the holidays so that the celebrations of the most important religious minorities could be taken into account.

- Are you for or against government funding of HIV/AIDS treatment?

- Are you for or against government funding of obesity prevention programs?

- Are you for or against government funding of preventive medical checkups?

- Are you for or against state funding of organ transplants?

- Are you more in favor of bilateral treaties or more in favor of restricting immigration?

- Imagine a couple where both work full-time and who are now having a child. One of them stops working for a certain time to take care of the child. Do you think that there should be paid leave? (second question: and if so, for how long?) (2)

- It would need a new law that would abolish social welfare payments for parents if their underage children committed racist crimes.

- Should people who have prejudices against any race or ethnic group be allowed to hold public meetings?

- Should people who want to overthrow the government by force be allowed to hold public meetings?

- Should religious extremists be allowed to hold public meetings?

- Suppose we had to vote again next Sunday on this initiative against mass immigration: How would you vote?

- Suppose you are entitled to vote and we would have to vote next Sunday on Switzerland's accession to the EU; how would you vote? (2)

- The differences in the tax burden between the cantons should be reduced.

- The value-added tax should be increased so that income and wealth tax can be reduced.

Selects

- Are you "very much for", "rather for", "rather against" or "very much against" shortening working hours to fight unemployment?

- Are you "very much in favor", "rather in favor", "rather against" or "very much against" increasing VAT to secure AHV financing?

- Are you in favor of a Switzerland with nuclear energy or a Switzerland without nuclear energy (3)

- Are you in favor of increasing taxes on high income or are you in favor of reducing taxes on high income? (3)

- Are you in favor of Switzerland joining the European Union or of Switzerland going it alone? (3)

- Do you advocate an increase in the retirement age for women and men (e.g. to 67 years)?

- Do you think it is right that the Confederation should provide financial support for extra-familial childcare?

- In the ASYLUMPOLICY, there are discussions about tightening the admission criteria

for asylum seekers. What do you think? Are you "very much for", "rather for", "rather against" or "very much against" tightening the admission criteria?

- In view of the renovation of the Gotthard road tunnel, parliament has decided to build a second tube. Do you support this?

- On June 13, the new law on MOTHERSHIP INSURANCE will be voted. What is your position on this law. Are you "very much for", "rather for", "rather against" or "very much against"?

- Should domestic banking secrecy be lifted by the Swiss tax authorities?

- Should Switzerland take in more refugee groups directly from crisis areas for which the United Nations High Commissioner for Refugees (UNHCR) is seeking host countries (so-called quota refugees)?

- Should the naturalization of third-generation foreigners be made easier?

- The decisions of the European Court of Human Rights (ECHR) are binding for Switzerland. Do you think this is correct?

Energie-Enquete

- In its Energy Strategy 2050, the Federal Council proposes an exit from nuclear energy. What is your position on this proposal?

- In order to ensure the Swiss current supply in the future Geothermal plants are to be built.

- In order to guarantee Switzerland's electricity supply in the future, large hydroelectric power plants, i.e. river works or reservoirs, are to be upgraded or expanded.

- In order to guarantee Switzerland's electricity supply in the future, medium and small rivers and water bodies are to be equipped with small hydroelectric power plants.

- In order to guarantee the Swiss electricity supply in the future, gas-fired combined cycle power plants are to be built.

- In order to guarantee the Swiss electricity supply in the future, more wind turbines and wind farms are to be built.

- In order to guarantee the Swiss electricity supply in the future, the current nuclear power plants are to be replaced by new ones.

- In order to guarantee the Swiss power supply in the future, more electricity should be imported from abroad.

- In order to guarantee the Swiss power supply in the future, more solar power systems are to be installed.

- In order to guarantee the Swiss electricity supply in the future, more biomass powerplants should be built.

- Please tick all measures you agree to. General ban on electricity products that do not contain renewable electricity

- Please tick all measures you agree to. Increase the price of electricity products that do not contain renewable energies

- Please tick all measures you agree to. Introduction of a minimum share of renewable energies in all electricity products (e.g. 20% or 50%)

- Please tick all measures you agree to. Reduction of the price of green electricity products through a subsidy.

- The CO2 tax on fossil fuels such as heating oil or natural gas provides incentives for economical consumption and increased use of CO2-neutral or low-CO2 energy sources (today 22Rp cents per liter of heating oil). Do you agree in principle with the collection of such a tax? (2)

- Today, as an electricity consumer, you pay a levy per kilowatt hour consumed, which is used for the promotion of renewable energies (1.3Rp/kWh; corresponds on average to approx. 59 Fr. per household per year). Do you agree in principle with the levying of such a tax?

- Today, as an electricity consumer, you pay a levy per kilowatt hour consumed, which is used for the promotion of renewable energies (1.5 Rp./kWh; corresponds on average to approx. 68 Fr. per household and year). Do you agree in principle with the levying of such a tax?

Eurobarometer (Swiss adaptations)

- All illegal immigrants should be sent back to their country of origin without exception.

- All immigrants, whether legal or illegal, and their children, even if they were born in Switzerland, should be sent back to their country of origin.

- Children born abroad should have the right to become Swiss citizens, provided at least one of both parents is a Swiss citizen.

- Children born in Switzerland to foreigners should have the right to become Swiss citizens.

- Employers who employ illegal workers should be punished more severely.

- If we had to vote next Sunday on Switzerland joining the EU, how would you vote? (3)

- If we had to vote next Sunday on whether Switzerland should join the United Nations (UN), how would you vote? (2)

- It should always depend on the examination of personal circumstances whether illegal immigrants are allowed to stay in Switzerland.

- It should be easier to claim the right to asylum in Switzerland.

- Legally recognized immigrants should be sent back to their country of origin if they are unemployed.

- Legally recognized immigrants should be sent back to their country of origin if they have been convicted of serious crimes.

- Legally recognized immigrants should have the right to have close family members come to Switzerland.

- Switzerland should take more stringent measures to expel illegal immigrants.

- There may be a referendum on these bilateral agreements. Assuming you are entitled to vote, if we had to vote on the bilateral treaties with the EU as early as next Sunday, how would you vote?

European Social Survey

- A legal ban on the sale of household appliances with the worst energy efficiency.

- All in all, would you be for or against such a basic income in Switzerland?

- Asylum seekers should be allowed to work in Switzerland during the period in which their asylum application is being examined.

- Asylum seekers should receive financial support from the Swiss government during the period in which their asylum application is being examined.

- Asylum seekers whose applications are approved should be allowed to join their close family members.

- Gay and lesbian couples should have the same rights to adopt children as heterosexual couples.

- Increase in taxes on fossil fuels such as oil, gas and coal.

- Use of public funds to promote renewable energy sources such as wind or solar energy.

- Would you be against or for the fact that only the people with the lowest incomes would receive state social benefits, while people with a medium or high income would be left to fend for themselves?

- Would you be against or in favor of the state introducing additional social benefits to make it easier for working parents to combine work and family life, even if that would mean significantly higher taxes for everyone?

- Would you be against or in favor of the state spending more on the education and training of the unemployed, but paying less unemployment compensation?

Citizens, Involvement and Democracy

- Are there any of these groups that you think should not be allowed to hold public meetings? Christian fundamentalists

- Are there any of these groups that you think should not be allowed to hold public meetings? Drug addicts

- Are there any of these groups that you think should not be allowed to hold public meetings? Homosexuals

- Are there any of these groups that you think should not be allowed to hold public meetings? Immigrants

- Are there any of these groups that you think should not be allowed to hold public meetings? Islamic fundamentalists

- Are there any of these groups that you think should not be allowed to hold public meetings? Left-wing extremists

- Are there any of these groups that you think should not be allowed to hold public meetings? People of a different race

- Are there any of these groups that you think should not be allowed to hold public meetings? People who have AIDS

- Are there any of these groups that you think should not be allowed to hold public meetings? People with a criminal record

- Are there any of these groups that you think should not be allowed to hold public meetings? Racists

- Are there any of these groups that you think should not be allowed to hold public meetings? Right-wing extremists

Trendstudie zum Konsum von Alkohol, Tabak, Medikamenten und illeaglen Drogen

- Another measure would be to reduce the number of taverns and points of sale of alcohol. How strongly would you support or reject such a measure?

- Nowadays people talk a lot about alcohol problems and what you could do about it. One measure would be to raise the price of alcoholic beverages to discourage people from drinking. How strongly would you support or reject such a measure?

- Which of the following measures do you support completely, rather, partially or completely reject? Ban on the production of spray cans

- Which of the following measures do you support completely, rather, partially or completely reject? Car-free Sundays

- Which of the following measures do you support completely, rather, partially or completely reject? Gasoline rationing

- Which of the following measures do you support completely, rather, partially or completely reject? Individual billing of heating costs

- Which of the following measures do you support completely, rather, partially or completely reject? Rationing of heating oil

- Which of the following measures do you support completely, rather, partially or completely reject? Speed limit 100 on freeways

- Which of the following measures do you support completely, rather, partially or completely reject? Strict regulations for economical oil consumption in the industry

Eurobarometer 73.1

- Scientists also work on gene therapy which involves treating inherited diseases by inter-

vening directly in the human genes themselves. Would you say that 1 You fully approve and do not think that special laws are necessary 2 You approve as long as this is regulated by strict laws 3 You do not approve except under very special circumstances 4 You do not approve under any circumstances ?

- Scientists can put human genes into animals that will produce organs and tissues for transplant into humans, such as pigs for transplants or to replace pancreatic cells to cure diabetes. Would you say that 1 You fully approve and do not think that special laws are necessary 2 You approve as long as this is regulated by strict laws 3 You do not approve except under very special circumstances 4 You do not approve under any circumstances ?

- Stem cell research involves taking cells from human embryos that are less than 2 weeks old. They will never be transplanted into a woman's body but are used to grow new cells which then can be used to treat diseases in any part of the body. Would you say that 1 You fully approve and do not think that special laws are necessary 2 You approve as long as this is regulated by strict laws 3 You do not approve except under very special circumstances 4 You do not approve under any circumstances ?

Monitoring rechtsextremer Einstellungen

- All illegal aliens should be returned to their country of origin without exception.

- Employers who employ illegal workers should be punished more severely.

- Foreigners with a residence permit should be sent back to their country of origin if they are convicted of serious criminal offences.

- Foreigners with a residence permit should have the right to have close family members join them in Switzerland.

- It should be easier to claim the right to asylum in Switzerland.

- Marriages between two women or between two men should be allowed.

Swiss Voting Study

- Are you for or against Switzerland's accession to the UN?

- As you know, the federal constitution contains some provisions against Jesuits and against the establishment of new monasteries. What is your opinion, are these provisions still necessary today, or should they be deleted from the Federal Constitution?

- Should all Swiss be required to perform military service or should those who do not wish to serve for reasons of conscience be exempted from compulsory military service?

- Should Switzerland join the EEC or not?

- What would you say if another popular initiative were to come into being calling for a massive reduction of foreign workers in our country? Would you welcome such an initiative or would you regret it?

Public Opinion on Education in Switzerland

- Are you of the opinion that students of universities and universities of applied sciences

should pay for a larger part of their studies themselves?

- Are you of the opinion that the state should also take over the training costs in higher vocational training

- Do you think that the state invests enough in vocational schools?

- Suppose an initiative is put to the vote calling for a general tax reduction of 10% for all, while at the same time reducing all public spending by 10%. If the vote were today, would you vote yes or no?

Attitudes Politique

- Are you for or against Switzerland's accession to the UN?

- In your opinion, should Switzerland become a full member of the EEC, maintain the Free Trade Agreement or cancel it?

Biotechnology and the European Public

- In your opinion, would Switzerland's membership in the European Union, the EU, be ...a good thing/ a bad thing/ neither nor?

- It is not necessary to specifically label genetically modified food

- Only traditional breeding methods should be used and modern biotechnology should not be used to alter the hereditary characteristics of plants and animals.

International Social Survey Programme

- The government should provide a job for everyone who wants one.

- The government should provide everyone with a guaranteed basic income.

- The government should provide more chances for children from poor families to go to university.

World Value Survey

- I would agree to an increase in taxes if the extra money is used to prevent environmental pollution (2)

- Would you be willing to pay higher taxes in order to increase your country's foreign aid to poor countries?

Readers Digest

- Migrant workers should be sent home

- Should Switzerland be a member of the EC

DemGovCit National Survey

- Gay and lesbian couples should be allowed to adopt children

European Value Study

- Homosexual couples should be able to adopt children

Appendix B: Summary statistics

Table B1: Summary statistics

	mean	sd	min	max
Preferences at 10th income percentile	44.56	21.94	6.48	96.84
Preferences at 50th income percentile	44.76	23.58	4.86	96.29
Preferences at 90th income percentile	43.81	22.55	1.81	97.73
Preferences of first education quintile	43.23	19.80	0.00	92.27
Preferences of third education quintile	43.21	21.80	3.36	96.05
Preferences of fifth education quintile	45.39	22.86	1.61	97.85
Policy change passed within 4 years after survey	0.10	0.30	0.00	1.00
Policy change put on the agenda within 4 years after survey[1]	-0.01	0.40	-1.00	1.00
Observations (Income models / Education models)	277	399		

[1] -1 = direct democratic agenda-setting; 0 = no agenda-setting; 1 = representative democratic agenda-setting

Appendix C: Robustness checks for responsiveness of policy change models

Table C1: Logistic regression models of income and education groups with 2 years window

	(1)	(2)	(3)	(4)	(5)	(6)
	Change	Change	Change	Change	Change	Change
	(2 years)	(2 years)	(2 years)	(2 years)	(2 years)	(2 years)
Income						
P10	1.086***					
	(0.0188)					
P50		1.077***				
		(0.0173)				
P90			1.109***			
			(0.0222)			
Education						
Q1				1.058***		
				(0.0118)		
Q3					1.062***	
					(0.0120)	
Q5						1.088***
						(0.0165)
N	277	277	277	399	399	399
pseudo R^2	0.263	0.243	0.351	0.145	0.176	0.251

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C2: Logistic regression models for difference in preferences with 2 years window

	(1) Change (2 years)	(2) Change (2 years)	(3) Change (2 years)	(4) Change (2 years)
Income				
P90-P10	1.055**			
	(0.0281)			
P90-P50		1.127***		
		(0.0464)		
Education				
Q5-Q1			1.057***	
			(0.0206)	
Q5-Q3				1.070***
				(0.0246)
Av. pref.	1.099***	1.110***	1.079***	1.086***
	(0.0214)	(0.0228)	(0.0157)	(0.0166)
N	277	277	399	399
pseudo R^2	0.319	0.371	0.239	0.241

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C3: Logistic regression models of income and education groups with 3 years window

	(1) Change (3 years)	(2) Change (3 years)	(3) Change (3 years)	(4) Change (3 years)	(5) Change (3 years)	(6) Change (3 years)
Income						
P10	1.076***					
	(0.0164)					
P50		1.068***				
		(0.0151)				
P90			1.103***			
			(0.0204)			
Education						
Q1				1.053***		
				(0.0107)		
Q3					1.057***	
					(0.0107)	
Q5						1.085***
						(0.0151)
N	277	277	277	399	399	399
pseudo R^2	0.232	0.213	0.336	0.127	0.159	0.246

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C4: Logistic regression models for difference in preferences with 3 years window

	(1) Change (3 years)	(2) Change (3 years)	(3) Change (3 years)	(4) Change (3 years)
Income				
P90-P10	1.064**			
	(0.0270)			
P90-P50		1.155***		
		(0.0488)		
Education				
Q5-Q1			1.066***	
			(0.0197)	
Q5-Q3				1.081***
				(0.0235)
Av. pref.	1.090***	1.105***	1.074***	1.082***
	(0.0192)	(0.0212)	(0.0144)	(0.0153)
N	277	277	399	399
pseudo R^2	0.301	0.371	0.240	0.242

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C5: Logistic regression models of income and education groups with 5 years window

	(1) Change (5 years)	(2) Change (5 years)	(3) Change (5 years)	(4) Change (5 years)	(5) Change (5 years)	(6) Change (5 years)
Income						
P10	1.071*** (0.0151)					
P50		1.064*** (0.0139)				
P90			1.096*** (0.0186)			
Education						
Q1				1.047*** (0.00949)		
Q3					1.052*** (0.00953)	
Q5						1.076*** (0.0128)
N	277	277	277	399	399	399
pseudo R^2	0.215	0.201	0.317	0.107	0.145	0.224

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C6: Logistic regression models for difference in preferences with 5 years window

	(1) Change (5 years)	(2) Change (5 years)	(3) Change (5 years)	(4) Change (5 years)
Income				
P90-P10	1.062**			
	(0.0256)			
P90-P50		1.145***		
		(0.0443)		
Education				
Q5-Q1			1.067***	
			(0.0179)	
Q5-Q3				1.074***
				(0.0208)
Av. pref.	1.085***	1.098***	1.066***	1.072***
	(0.0176)	(0.0192)	(0.0124)	(0.0129)
N	277	277	399	399
pseudo R^2	0.286	0.351	0.228	0.218

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C7: Logistic regression models of income and education groups with 6 years window

	(1) Change (2 years)	(2) Change (6 years)	(3) Change (6 years)	(4) Change (6 years)	(5) Change (6 years)	(6) Change (6 years)
Income						
P10	1.081***					
	(0.0159)					
P50		1.072***				
		(0.0144)				
P90			1.105***			
			(0.0193)			
Education						
Q1				1.051***		
				(0.00933)		
Q3					1.057***	
					(0.00944)	
Q5						1.080***
						(0.0126)
N	277	277	277	399	399	399
pseudo R^2	0.259	0.239	0.353	0.127	0.169	0.243

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C8: Logistic regression models for difference in preferences with 6 years window

	(1) Change (6 years)	(2) Change (6 years)	(3) Change (6 years)	(4) Change (6 years)
Income				
P90-P10	1.055** (0.0242)			
P90-P50		1.126*** (0.0392)		
Education				
Q5-Q1			1.062*** (0.0168)	
Q5-Q3				1.066*** (0.0196)
Av. pref.	1.094*** (0.0183)	1.107*** (0.0198)	1.070*** (0.0121)	1.076*** (0.0126)
N	277	277	399	399
pseudo R^2	0.319	0.377	0.242	0.232

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C9: Logistic regression models of income and education groups with 7 years window

	(1) Change (7 years)	(2) Change (7 years)	(3) Change (7 years)	(4) Change (7 years)	(5) Change (7 years)	(6) Change (7 years)
Income						
P10	1.081***					
	(0.0159)					
P50		1.072***				
		(0.0144)				
P90			1.105***			
			(0.0193)			
Education						
Q1				1.051***		
				(0.00924)		
Q3					1.057***	
					(0.00936)	
Q5						1.079***
						(0.0125)
N	277	277	277	399	399	399
pseudo R^2	0.259	0.239	0.353	0.126	0.169	0.243

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C10: Logistic regression models for difference in preferences with 7 years window

	(1) Change (7 years)	(2) Change (7 years)	(3) Change (7 years)	(4) Change (7 years)
Income				
P90-P10	1.055**			
	(0.0242)			
P90-P50		1.126***		
		(0.0392)		
Education				
Q5-Q1			1.062***	
			(0.0167)	
Q5-Q3				1.066***
				(0.0194)
Av. pref.	1.094***	1.107***	1.070***	1.076***
	(0.0183)	(0.0198)	(0.0120)	(0.0125)
N	277	277	399	399
pseudo R^2	0.319	0.377	0.242	0.231

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C11: Logistic regression models other income percentiles

	(1) Change	(2) Change	(3) Change	(4) Change	(5) Change	(6) Change
P05	1.074***					
	(0.0154)					
P20		1.065***				
		(0.0142)				
P30			1.062***			
			(0.0137)			
P70				1.077***		
				(0.0161)		
P80					1.087***	
					(0.0177)	
P95						1.099***
						(0.0188)
N	277	277	277	277	277	277
pseudo R^2	0.225	0.200	0.192	0.244	0.279	0.334

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C12: Logistic regression models other education quintiles

	(1)	(2)
	Change	Change
Q2	1.052***	
	(0.00995)	
Q4		1.064***
		(0.0116)
N	399	399
pseudo R^2	0.138	0.178

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C13: Logistic regression models with survey organization dummies

	(1)	(2)	(3)	(4)	(5)	(6)
	Change	Change	Change	Change	Change	Change
Income						
P10	1.101***					
	(0.0229)					
P50		1.098***				
		(0.0222)				
P90			1.137***			
			(0.0324)			
Education						
Q1				1.067***		
				(0.0132)		
Q3					1.078***	
					(0.0143)	
Q5						1.095***
						(0.0172)
Survey dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	184	184	184	306	306	306
pseudo R^2	0.424	0.423	0.506	0.224	0.276	0.335

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C14: Logistic regression models on difference in preferences with survey organization dummies

	(1) Change	(2) Change	(3) Change	(4) Change
Income				
P90-P10	1.064*			
	(0.0371)			
P90-P50		1.216***		
		(0.0893)		
Education				
Q5-Q1			1.066***	
			(0.0214)	
Q5-Q3				1.072***
				(0.0272)
Av.pref.	1.122***	1.153***	1.091***	1.096***
	(0.0285)	(0.0379)	(0.0177)	(0.0180)
Survey dummies	yes	yes	yes	yes
N	184	184	306	306
pseudo R^2	0.480	0.532	0.342	0.329

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C15: Logistic regression models with year dummies

	(1) Change	(2) Change	(3) Change	(4) Change	(5) Change	(6) Change
Income						
P10	1.101***					
	(0.0223)					
P50		1.106***				
		(0.0242)				
P90			1.150***			
			(0.0357)			
Education						
Q1				1.058***		
				(0.0120)		
Q3					1.063***	
					(0.0120)	
Q5						1.092***
						(0.0172)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	170	170	170	285	285	285
pseudo R^2	0.381	0.397	0.498	0.179	0.219	0.307

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C16: Logistic regression models on difference in preferences with year dummies

	(1) Change	(2) Change	(3) Change	(4) Change
Income				
P90-P10	1.068**			
	(0.0346)			
P90-P50		1.146**		
		(0.0615)		
Education				
Q5-Q1			1.070***	
			(0.0209)	
Q5-Q3				1.082***
				(0.0252)
Av. pref.	1.141***	1.152***	1.078***	1.089***
	(0.0342)	(0.0366)	(0.0160)	(0.0176)
Year dummies	yes	yes	yes	yes
N	170	170	285	285
pseudo R^2	0.475	0.509	0.304	0.301

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C17: Logistic regression models without repeated questions

	(1) Change	(2) Change	(3) Change	(4) Change	(5) Change	(6) Change
Income						
P10	1.066***					
	(0.0152)					
P50		1.059***				
		(0.0140)				
P90			1.084***			
			(0.0181)			
Education						
Q1				1.048***		
				(0.0112)		
Q3					1.053***	
					(0.0113)	
Q5						1.078***
						(0.0157)
N	210	210	210	262	262	262
pseudo R^2	0.207	0.191	0.292	0.124	0.163	0.253

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C18: Logistic regression models for difference in preferences without repeated questions

	(1) Change	(2) Change	(3) Change	(4) Change
Income				
P90-P10	1.056**			
	(0.0276)			
P90-P50		1.154***		
		(0.0516)		
Education				
Q5-Q1			1.076***	
			(0.0236)	
Q5-Q3				1.082***
				(0.0269)
Av. pref.	1.073***	1.087***	1.069***	1.074***
	(0.0170)	(0.0194)	(0.0155)	(0.0157)
N	210	210	262	262
pseudo R^2	0.263	0.337	0.260	0.249

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C19: Logistic regression models with budget and 'security' questions

	(1) Change	(2) Change	(3) Change	(4) Change	(5) Change	(6) Change
Income						
P10	1.012**					
	(0.00552)					
P50		1.013**				
		(0.00535)				
P90			1.015***			
			(0.00553)			
Education						
Q1				1.020***		
				(0.00491)		
Q3					1.021***	
					(0.00476)	
Q5						1.022***
						(0.00475)
N	424	424	424	599	599	599
pseudo R^2	0.012	0.014	0.018	0.029	0.033	0.038

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C20: Logistic regression models on difference between preferences with budget and 'security' questions

	(1) Change	(2) Change	(3) Change	(4) Change
Income				
P90-P10	1.014			
	(0.0121)			
P90-P50		1.018		
		(0.0162)		
Education				
Q5-Q1			1.007	
			(0.00783)	
Q5-Q3				1.011
				(0.0104)
Av. pref.	1.014**	1.015***	1.021***	1.022***
	(0.00555)	(0.00562)	(0.00496)	(0.00496)
N	424	424	599	599
pseudo R^2	0.019	0.019	0.036	0.037

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C21: Logistic regression models for issues on which income group preference differ by more than 10 percantage points

	P10 vs. P90		P50 vs. P90	
	(1) Change	(2) Change	(3) Change	(4) Change
P10	1.053*			
	(0.0322)			
P50			1.009	
			(0.0269)	
P90		1.449***		1.181**
		(0.206)		(0.0801)
N	94	94	66	66
pseudo R^2	0.088	0.755	0.004	0.332

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C22: Logistic regression models for issues on which education group preference differ by more than 10 percentage points

| | Q1 vs. Q5 | | Q3 vs. Q5 | |
| | (1) | (2) | (3) | (4) |
	Change	Change	Change	Change
Q1	1.034**			
	(0.0152)			
Q3			1.033**	
			(0.0156)	
Q5		1.091***		1.088***
		(0.0237)		(0.0264)
N	170	170	108	108
pseudo R^2	0.045	0.248	0.050	0.213

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C23: Logistic regression models with clustered standard errors

| | (1) | (2) | (3) | (4) | (5) | (6) |
	Change	Change	Change	Change	Change	Change
Income						
P10	1.071***					
	(0.0142)					
P50		1.064***				
		(0.0115)				
P90			1.096***			
			(0.0138)			
Education						
Q1				1.050***		
				(0.0126)		
Q3					1.055***	
					(0.0126)	
Q5						1.081***
						(0.0131)
N	277	277	277	399	399	399
pseudo R^2	0.215	0.201	0.317	0.119	0.154	0.240

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C24: Logistic regression models on difference in preferences with clustered standard errors

	(1) Change	(2) Change	(3) Change	(4) Change
Income				
P90-P10	1.062**			
	(0.0280)			
P90-P50		1.145***		
		(0.0476)		
Education				
Q5-Q1			1.068***	
			(0.0237)	
Q5-Q3				1.079***
				(0.0307)
Av. pref.	1.085***	1.098***	1.071***	1.078***
	(0.0135)	(0.0132)	(0.0137)	(0.0131)
N	277	277	399	399
pseudo R^2	0.286	0.351	0.238	0.235

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C25: Linear regression models with robust standard errors

| | (1) | (2) | (3) | (4) | (5) | (6) |
	Change	Change	Change	Change	Change	Change
Income						
P10	0.00440***					
	(0.000877)					
P50		0.00393***				
		(0.000800)				
P90			0.00500***			
			(0.000913)			
Education						
Q1				0.00421***		
				(0.000857)		
Q3					0.00427***	
					(0.000768)	
Q5						0.00472***
						(0.000722)
_cons	-0.110***	-0.0894***	-0.132***	-0.0818***	-0.0842***	-0.114***
	(0.0271)	(0.0240)	(0.0282)	(0.0304)	(0.0254)	(0.0233)
N	277	277	277	399	399	399
R^2	0.118	0.108	0.160	0.077	0.096	0.129

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C26: Linear regression models on difference in preferences with robust standard errors

	(1) Change	(2) Change	(3) Change	(4) Change
Income				
P90-P10	0.00318**			
	(0.00126)			
P90-P50		0.00815***		
		(0.00186)		
Education				
Q5-Q1			0.00352***	
			(0.00128)	
Q5-Q3				0.00470***
				(0.00173)
Av. pref.	0.00440***	0.00512***	0.00403***	0.00449***
	(0.000848)	(0.000918)	(0.000799)	(0.000769)
_cons	-0.106***	-0.133***	-0.0853***	-0.108***
	(0.0261)	(0.0283)	(0.0276)	(0.0254)
N	277	277	399	399
R^2	0.142	0.183	0.124	0.126

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Appendix D: Robustness checks for responsiveness of agenda-setting models

Table D1: Multinomial logistic regression models for controlling middle and top income groups

	(1)	(2)
	Agenda	Agenda
Direct democratic agenda-setting		
P90-P50	0.944**	
	(0.0248)	
Av. pref.	1.018	
	(0.0109)	
P50		1.073***
		(0.0264)
P90		0.950*
		(0.0258)
Representative democratic agenda-setting		
P90-P50	1.166***	
	(0.0546)	
Av. pref.	1.055***	
	(0.0160)	
P50		0.894**
		(0.0397)
P90		1.178***
		(0.0561)
Baseline: No agenda-setting		
N	245	245
pseudo R^2	0.138	0.139

Exponentiated coefficients;

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table D2: Multinomial logistic regression models for agenda-setting with 2 years window

	(1)	(2)	(3)	(4)	(5)	(6)
	Agenda	Agenda	Agenda	Agenda	Agenda	Agenda
	(2 years)	(2 years)	(2 years)	(2 years)	(2 years)	(2 years)
Direct democratic agenda-setting						
Income						
P10	1.011					
	(0.0116)					
P50		1.018*				
		(0.0111)				
P90			1.012			
			(0.0116)			
Education						
Q1				1.013		
				(0.0113)		
Q3					1.020*	
					(0.0105)	
Q5						1.021*
						(0.0107)
Representative democratic agenda-setting						
Income						
P10	1.033**					
	(0.0146)					
P50		1.030**				
		(0.0138)				
P90			1.051***			
			(0.0165)			
Education						
Q1				1.029**		
				(0.0123)		
Q3					1.035***	
					(0.0120)	
Q5						1.067***
						(0.0164)
Baseline: No agenda-setting						
N	245	245	245	361	361	361
pseudo R^2	0.028	0.035	0.058	0.021	0.040	0.091

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table D3: Multinomial logistic regression models for agenda-setting with 3 years window

	(1) Agenda (3 years)	(2) Agenda (3 years)	(3) Agenda (3 years)	(4) Agenda (3 years)	(5) Agenda (3 years)	(6) Agenda (3 years)
Direct democratic agenda-setting						
Income						
P10	1.011 (0.0109)					
P50		1.019* (0.0104)				
P90			1.012 (0.0109)			
Education						
Q1				1.013 (0.0105)		
Q3					1.022** (0.00989)	
Q5						1.022** (0.00996)
Representative democratic agenda-setting						
Income						
P10	1.036*** (0.0134)					
P50		1.034*** (0.0128)				
P90			1.055*** (0.0154)			
Education						
Q1				1.030*** (0.0112)		
Q3					1.038*** (0.0110)	
Q5						1.063*** (0.0143)
Baseline: No agenda-setting						
N	245	245	245	361	361	361
pseudo R^2	0.035	0.044	0.069	0.025	0.049	0.091

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table D4: Multinomial logistic regression models for agenda-setting with 5 years window

	(1) Agenda (5 years)	(2) Agenda (5 years)	(3) Agenda (5 years)	(4) Agenda (5 years)	(5) Agenda (5 years)	(6) Agenda (5 years)
Direct democratic agenda-setting						
Income						
P10	1.026***					
	(0.0101)					
P50		1.031***				
		(0.00982)				
P90			1.020**			
			(0.00994)			
Education						
Q1				1.024***		
				(0.00945)		
Q3					1.032***	
					(0.00909)	
Q5						1.030***
						(0.00916)
Representative democratic agenda-setting						
Income						
I10	1.037***					
	(0.0124)					
I50		1.037***				
		(0.0120)				
I90			1.055***			
			(0.0143)			
Education						
Q1				1.032***		
				(0.0101)		
Q3					1.041***	
					(0.0101)	
Q5						1.061***
						(0.0124)
Baseline: No agenda-setting						
N	245	245	245	361	361	361
pseudo R^2	0.053	0.068	0.076	0.036	0.068	0.099

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table D5: Multinomial logistic regression models for agenda-setting with 6 years window

	(1) Agenda (6 years)	(2) Agenda (6 years)	(3) Agenda (6 years)	(4) Agenda (6 years)	(5) Agenda (6 years)	(6) Agenda (6 years)
Direct democratic agenda-setting						
Income						
P10	1.031***					
	(0.00986)					
P50		1.035***				
		(0.00966)				
P90			1.022**			
			(0.00957)			
Education						
Q1				1.028***		
				(0.00913)		
Q3					1.035***	
					(0.00884)	
Q5						1.030***
						(0.00877)
Representative democratic agenda-setting						
Income						
P10	1.038***					
	(0.0122)					
P50		1.037***				
		(0.0117)				
P90			1.053***			
			(0.0137)			
Education						
Q1				1.033***		
				(0.00967)		
Q3					1.041***	
					(0.00955)	
Q5						1.058***
						(0.0115)
Baseline: No agenda-setting						
N	246	246	246	362	362	362
pseudo R^2	0.063	0.078	0.073	0.042	0.073	0.096

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table D6: Multinomial logistic regression models for agenda-setting with 7 years window

	(1) Agenda (7 years)	(2) Agenda (7 years)	(3) Agenda (7 years)	(4) Agenda (7 years)	(5) Agenda (7 years)	(6) Agenda (7 years)
Direct democratic agenda-setting						
Income						
P10	1.034***					
	(0.00975)					
P50		1.038***				
		(0.00959)				
P90			1.023**			
			(0.00936)			
Education						
Q1				1.029***		
				(0.00890)		
Q3					1.036***	
					(0.00864)	
Q5						1.031***
						(0.00853)
Representative democratic agenda-setting						
Income						
P10	1.039***					
	(0.0123)					
P50		1.038***				
		(0.0118)				
P90			1.053***			
			(0.0137)			
Education						
Q1				1.032***		
				(0.00955)		
Q3					1.040***	
					(0.00941)	
Q5						1.058***
						(0.0113)
Baseline: No agenda-setting						
N	246	246	246	362	362	362
pseudo R^2	0.069	0.086	0.075	0.042	0.074	0.096

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table D7: Multinomial logistic regression models for agenda-setting with other income percentiles

	(1) Agenda	(2) Agenda	(3) Agenda	(4) Agenda	(5) Agenda	(6) Agenda
Direct democratic agenda-setting						
P05	1.020*					
	(0.0104)					
P20		1.025**				
		(0.0101)				
P30			1.026***			
			(0.00997)			
P70				1.026***		
				(0.0101)		
P80					1.023**	
					(0.0102)	
P95						1.016
						(0.0102)
Representative democratic agenda-setting						
P05	1.036***					
	(0.0131)					
P20		1.033***				
		(0.0125)				
P30			1.033***			
			(0.0123)			
P70				1.042***		
				(0.0135)		
P80					1.049***	
					(0.0143)	
P95						1.059***
						(0.0153)
Baseline: No agenda-setting						
N	245	245	245	245	245	245
pseudo R^2	0.041	0.047	0.051	0.064	0.069	0.077

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table D8: Multinomial logistic regression models for agenda-setting with other education quintiles

	(1) Agenda	(2) Agenda
Direct dem. agenda-setting		
Q2	1.028***	
	(0.00939)	
Q4		1.032***
		(0.00971)
Rep. dem. agenda-setting		
Q2	1.034***	
	(0.0104)	
Q4		1.049***
		(0.0118)
Baseline: No agenda-setting		
N	361	361
pseudo R^2	0.049	0.078

Exponentiated coefficients;

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table D9: Multinomial logistic regression models for agenda-setting without repeated questions

	(1) Agenda	(2) Agenda	(3) Agenda	(4) Agenda	(5) Agenda	(6) Agenda
Direct democratic agenda-setting						
Income						
P10	1.012					
	(0.0111)					
P50		1.018*				
		(0.0106)				
P90			1.011			
			(0.0107)			
Education						
Q1				1.012		
				(0.0112)		
Q3					1.019*	
					(0.0105)	
Q5						1.014
						(0.0103)
Representative democratic agenda-setting						
Income						
P10	1.031**					
	(0.0135)					
P50		1.031**				
		(0.0130)				
P90			1.048***			
			(0.0151)			
Education						
Q1				1.022*		
				(0.0115)		
Q3					1.030***	
					(0.0113)	
Q5						1.053***
						(0.0142)
Baseline: No agenda-setting						
N	189	189	189	237	237	237
pseudo R^2	0.030	0.039	0.062	0.017	0.039	0.078

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table D10: Multinomial logistic regression models for agenda-setting with 'security' questions

	(1) Agenda	(2) Agenda	(3) Agenda	(4) Agenda	(5) Agenda	(6) Agenda
Direct democratic agenda-setting						
Income						
P10	1.015					
	(0.00968)					
P50		1.023**				
		(0.00970)				
P90			1.015			
			(0.00990)			
Education						
Q1				1.014		
				(0.00879)		
Q3					1.023***	
					(0.00870)	
Q5						1.025***
						(0.00909)
Representative democratic agenda-setting						
Income						
P10	1.035***					
	(0.0107)					
P50		1.035***				
		(0.0104)				
P90			1.047***			
			(0.0119)			
Education						
Q1				1.035***		
				(0.00836)		
Q3					1.039***	
					(0.00846)	
Q5						1.048***
						(0.00956)
Baseline: No agenda-setting						
N	276	276	276	416	416	416
pseudo R^2	0.044	0.054	0.067	0.041	0.060	0.078

Exponentiated coefficients; Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$