

The Trade-off between Deepening and Broadening of Democracy*

Lessons from Youth Enfranchisement

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Abstract: Broadening democracy by lowering the voting age is on the political agenda in many democratic societies. Previous suffrage extensions suggest that there are systematic differences between what parliaments decide and what voters want with respect to enfranchisement of new groups. This paper analyzes a new municipality level dataset of two Swiss federal referendums on lowering the voting age from 20 to 18. We focus on the role of institutional price variations by (i) the depth of democracy proxied by the strength of direct democratic institutions and (ii) the size of the new electorate. Our results provide evidence that the price the current electorate faces – thus their potential influence loss – varies with the strength of direct democracy and affects citizens' willingness to lower the voting age. Moreover, we find systematic price reactions of present voters to the number of new voters.

Keywords: voting age, youth enfranchisement, direct democracy, power loss

JEL: D72, D02, J15, P16

* We are thankful for the valuable work of Lukas Walker who worked on the dataset for his master thesis.

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1. Introduction

Most democratic societies underly one common trend: Over the last two centuries, democracy has been steadily broadened by extending suffrage to all men, all ethnic groups, all gender, and more generally to all adult citizens, and there is a permanent and ongoing public debate on broadening democracy further by enfranchising resident aliens and youngsters. At the same time, there is a debate on deepening democracy by granting the citizens democratic instruments which go beyond the mere election of representatives, for instance by implementing direct democratic instruments (Matsusaka 2005). We analyze if broadening democracy (via suffrage extension) involves a trade-off connected to the depth of democracy. We proxy the depth of democracy by the strength of direct democratic institutions and hypothesize that it affects citizens' willingness to share their political influence with other groups and, thus, their willingness to broaden democracy.

In this paper we concentrate on the trade-off between the depth of democracy and broadening democracy with respect to enfranchising younger people. This is an exciting academic topic for at least two reasons. First, while most people would agree that democracies should give a say to those citizens who are mostly affected by political decisions, some of the big challenges of our societies, that is population ageing and climate change, mostly affect the young generation who has no suffrage. Therefore, the electoral demographic imbalances are a major challenge to the sustainability of democratic systems (see e.g. Seo 2017). Second, in the last fifty years, suffrage has been extended in most Western countries towards the young by lowering voting age from 20 or 21 to 18 and in some countries, such as Austria or Malta, even to 16 (see e.g. Bergh 2013 or Wagner et al. 2012). This was the most significant franchise extension since the enfranchisement of women. Yet, suffrage extensions to the young have not been systematically analyzed. In this paper we try to partially fill this gap by analyzing a unique panel dataset on lowering the voting age in Switzerland.

At first sight, the hindering impact of direct democracy on extending suffrage to the young appears straight forward. Starting in the 1960s, western democracies lowered voting age to 18 (Wagner et al. 2012). First movers were Great Britain (1969) and Canada (1970). In countries where voters - and not the parliament - decided directly about the enfranchisement of new groups, there exist anecdotal instances in which the parliament voted in favor of enlarging suffrage, but the actual electorate rejected the proposal. In line with the late enfranchisement of women, Switzerland was among the last western democracy to rejuvenate the franchise in 1991

and the Swiss electorate rejected the first referendum in 1979.¹ Further examples are the first Danish vote on lowering the voting age to 18 in 1969 (Nielsen 1970) which was rejected by the electorate, or the referenda in 2015 on optional voting rights² for those aged 16 and 17 in Luxembourg, which was even rejected by 81 percent of the electorate (Dumont and Kies 2016).

To analyze how revealed preferences of the current electorate for suffrage extension depend on the depth of democracy and thus the institutional setting, it is informative to look at the Swiss case for four reasons. (i) In Switzerland, extensions of suffrage can only be granted by the current electorate via direct democratic referendums. (ii) Switzerland is known for its high degree of decentralization which also applies to extending voting rights. While voters decide on the cantonal level on the franchise at the level of the 26 cantons and their 2200 municipalities, franchise at the federal level is decided on at the federal level. Thus, lowering the voting age from 20 to 18 was a long process, with a large number of referenda for extending the franchise in specific cantons and two referenda for extending the franchise at the federal level, the first of which was rejected in 1979 and the second accepted in 1991. (iii) The complex sequence of referenda at the cantonal and federal levels allows to identify differences in the cost and benefit of voters when voting about the enfranchisement of the young. (iv) Switzerland provides institutional variation of direct and representative democracy on the local level, which allows to analyze the role of democratic depth.

We hypothesize that the current electorate is more reluctant to share its political power, the larger their political power is and the more they have, thus, to lose. In Switzerland, the resistance against extending suffrage seemed to be larger in municipalities with an especially high degree of direct democracy, that is in municipalities where there is no parliament but where the citizens decide themselves about the most relevant municipal political issues in local town meetings. However, there are alternative interpretations for this observation. A controversial literature attributes a potential to discriminate against outsiders to direct democracy, which has also been referred to as the ‘tyranny of the majority’ (Hamilton et al. 2009). Empirical evidence on this relationship remains ambiguous. Some authors find that the rights of minorities suffer under direct democracy (Gamble 1997 or Hainmueller and Hangartner 2019), whilst others provide evidence that minorities’ rights are not systematically threatened under a direct democratic setting (Frey and Goette 1998, Donovan and Bowler 1998; Koukal and Eichenberger 2017).

¹ Other latecomers are Austria, India, Morocco and Japan.

² The reform would have granted optional voting to the young, contrary to citizens aged over 17, for whom voting is compulsory Dumont and Kies (2016)

These controversial results illustrate the challenge to identify the extent of discriminatory behavior under a direct democratic environment compared to a representative democracy.

This paper sheds light on conditions to extend suffrage to the youth and disentangles pure discriminatory effects of direct democracy from price effects running in the same direction.³ Namely, we exploit and provide a new municipality level dataset on lowering voting age from 20 to 18 in Switzerland. The Swiss electorate voted twice on the federal level (1979 and 1991) on the question of lowering the voting age to 18. The institutional variation in Swiss municipalities and the fact that ten out of 26 cantons introduced the lower voting age between 1979 and 1991 on the local level, allows us to compare (i) municipalities with stronger (town meetings) or weaker (parliaments) direct democratic institutions and (ii) municipalities that introduced the lower voting age on the local level between the first (1979) and the second (1991) referendum or thereafter. Our results provide evidence of a higher price for the current electorate to enfranchise younger voters under direct democracy. Thus, present voters' potential influence loss varies with the strength of direct democracy and affects the willingness to lower the voting age. Moreover, we find systematic price reactions of present voters to the number of new voters: When voters have less power to lose, that is when they live in municipalities with parliaments, the share of the 18- and 19-year-olds positively affects the willingness of the current electorate to share voting rights. With the additional price of direct democracy, that is in municipalities with town meetings, this effect vanishes.

So far, the empirical literature on the conditions of enfranchising the youth is rather scarce and has mostly focused on the composition and ideological orientation of the voters. For the case of Denmark, left parties were strongly in favor of enfranchising younger voters, which Nielsen (1970) and Svensson (1979) explain with a strategic calculus to extend their own electorate. Descriptive statistics by Svensson (1979) further suggest that older voters and more rural areas constituted barriers to extend the suffrage. Furthermore, analyzing data from Danish local elections in 2009 and 2013, Larsen et al. (2016) provide evidence that mock elections for adolescents increase support among the current electorate for lowering the voting age to 16. Using survey data from US high school seniors, which mostly belong to the affected group, Beck and Jennings (1969) explain the initial failure to lower the voting age in specific states by a lack of demand from the affected group.

³ For a closely related analysis of the enfranchisement of women see Koukal and Eichenberger (2017) and for an analysis of the enfranchisement of non-citizens see Koukal et al. (2019).

Current research has also referred to the role of early socialization as a measure to counteract age imbalances in political participation. Using Finish data Gidengil et al. (2016) provide evidence that socialization through parents is a stronger predictor for youth turnout than educational attainment. In other words, to establish a habit of formal political participation may be easier among adolescents still living at home (Wagner et al. 2012). Likewise Stockemer and Sundström (2018) show that the earlier the institutional setting permits to run as a candidate, the younger the resulting representation in parliament is. As an additional channel Zeglovits and Zandonella (2013) analyze a voting age reduction in Austria and provide evidence that lowering the voting age to 16 significantly increases interest in politics for the affected age group. Wagner et al. (2012) examine Austrian data and find that 16 and 17 years old are not systematically less motivated or less able to participate in the political process, which is one of the key criticisms of voting-age-16. Moreover, using data from the US, Bertocchi et al. (2019) find that the political responsiveness to the needs of youth, such as investments in education, increases with their enfranchisement.

The contribution of this paper is threefold: First, as a lowering of the voting age is currently discussed as a potential measure to integrate younger voters sustainably in the electoral system, this paper is the first to systematically shed light on the drivers of their enfranchisement. Second, this paper specifically analyzes the trade-off between deepening and broadening democracy by focusing on the role of direct democracy in the process of power sharing with a younger electorate. Therewith, we also contribute to the debate on whether or not direct democracy is harmful for outsiders. Third, this paper contributes to the internationally debated voting-age-16 by adding a rich panel dataset to study enfranchisement of the young.

The remainder is organized as follows. The next section examines the institutional context and the process of youth enfranchisement in Switzerland. Section 3 describes our data and provides descriptive statistics and Section 4 draws theoretical considerations. Section 5 explains the empirical methodology and results are presented and discussed in Section 6. Section 7 provides a summary of our main results and an outlook to future research.

2. Political Institutions and Youth Enfranchisement

Switzerland has established a direct democracy in which popular referendums regularly enable citizens to influence the work and decisions of the parliament and government. Popular votes frequently take place at all federal levels and complement representative democracy in the

entire universe of policy dimensions (see e.g., Frey 1994, 2005 or Ladner 2012). Therefore, in contrast to most other democratic countries, suffrage extensions are not decreed by the national parliament. Instead, the current electorate decides via popular referendums on concrete proposals for extending the franchise to a younger group of voters. These proposals are either initiated by the parliament or by a group of citizens who start a popular initiative by collecting a certain number of signatures (on the Swiss federal level 100'000 signatures which is about 2 percent of the electorate). All these referendums are conducted as secret ballots. Due to the federal structure, suffrage extensions are instituted at the cantonal and federal level separately. In each canton, the current electorate decides about enfranchising young adults for cantonal and municipal decisions. There were referendums on lowering the voting age only at the cantonal level, only at the municipal level or at both levels (integral), and on delegating the decision to lower the voting age to the municipalities (optional). In all these referendums, the proposal to extend the franchise is accepted if a majority of eligible voters is in favor of the extension.

Youth Enfranchisement

This paper focuses on two federal referendums to lower the voting age from 20 to 18. The first referendum was conducted in 1979 and narrowly rejected with a yes share of 49.2%. The second referendum was held in 1991 and accepted with a clear majority of 72.7%. As a result, starting from 1991 young adults with the age of 18 and 19 could turn out in federal elections and referendums. When compared to the referendums on the cantonal level, a main advantage of the two federal referendums is that the current electorate voted twice on the identical question.

In contrast to the joint implementation of a lower voting age for federal elections and referendums in 1991, the situation on the cantonal level was different. Three cantons (Schwyz, Neuchâtel and Jura) lowered the voting age for cantonal and municipal elections and referendums before the first federal vote in 1979, ten cantons in between the two federal votes (Berne, Uri, Obwald, Glarus, Basel-City, Basel-Country, Schaffhausen, Ticino, Vaud und Geneva), and 13 cantons after the second federal vote (Zurich, Lucerne, Nidwald, Zug, Fribourg, Solothurn, Appenzell Outer Rhodes, Appenzell Inner Rhodes, St. Gal, Grison, Argovia, Thurgovia, Valais).⁴ Interestingly, cantons with strong direct democracy at the cantonal level, such as Appenzell Inner Rhodes, were latecomers to enfranchise the 18- and 19-years-old on the local level. An illustration of the geographical and chronological distribution of youth enfranchisement is provided in Figure 1. Of the 13 cantons that enfranchised the youth

⁴ The information about the enfranchisement on the cantonal level stems from the cantonal archives. Unfortunately, it was not possible to gather detailed information about the exact number of referendum votes in each canton.

only after the second vote, most of them lowered the voting age on the local level directly in 1991. Table A1 in the Appendix provides information on the years of the cantonal enfranchisements of the 18- and 19-years-old.

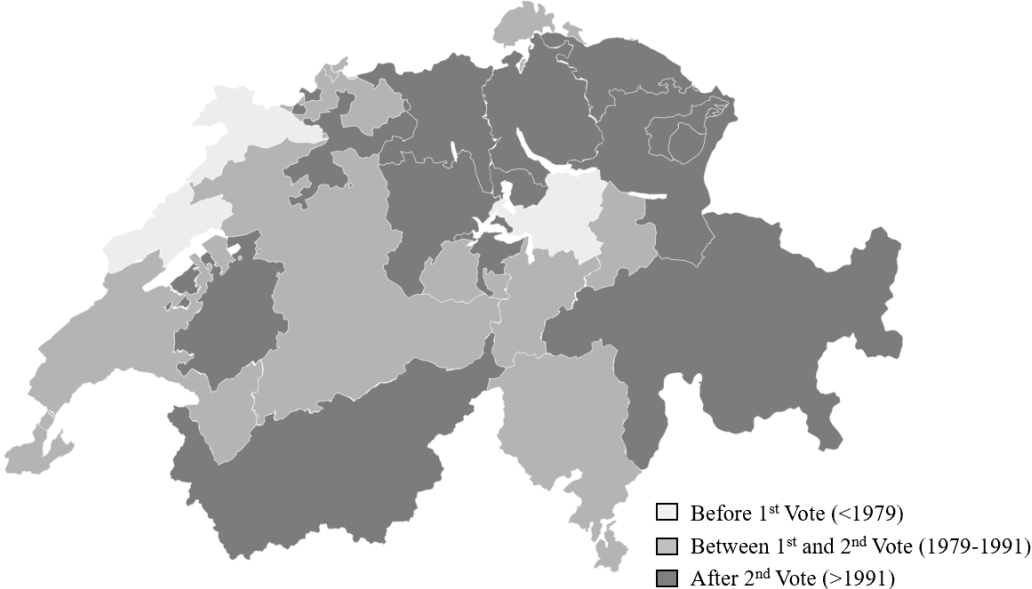


Figure 1: The Geography and Chronology of Youth Enfranchisement

Direct and Representative Democracy at the Local Level

The legislative branch of Swiss municipalities is either organized as a town meeting or as a parliament. In municipalities with a town meeting all eligible voters meet once to four times per year to discuss and decide on the most important municipality issues. In these town meetings participants can participate in the public discourse, articulate the intensity of their preferences, set the agenda by advancing new proposals, and observe both the discussion and voting behavior of other participants. In contrast, in municipalities with local parliaments, voters delegate part of their democratic rights to politicians. In 1988, approximately 17 percent (i.e. 493) of the municipalities organized their legislative with a parliament (Ladner 2008).

3. Data and Variables

The empirical analysis is based on a new municipality-level dataset.⁵ We analyze a panel with the municipal results for the two federal votes conducted in 1979 and 1991. We collect and digitize municipal level voting data provided by the federal or cantonal statistical offices and match it with federal decennial census data as well as data on municipal institutions provided by Ladner (1988). We keep those municipalities in our dataset for which all control variables are observable, which results in a fully balanced panel of 4,122 municipal observations stemming from 2,061 municipalities.⁶ Descriptive statistics of the full list of variables are listed in Table 1.

Table 1: Descriptive Statistics

Variable	N	Mean	SD	Min	Max
yes share	4,122	59.22	17.23	0	100
town meeting	4,122	0.87	0.33	0	1
no suffrage	4,122	0.75	0.43	0	1
population	4,122	2679.31	11506.15	19	369522
youth share (18 & 19)	4,122	2.85	1.04	0	12.93
foreigner share	4,122	8.37	7.52	0	51.20
agriculture share	4,122	16.35	14.96	0	96.88
women share	4,122	49.19	2.52	32.56	63.35
married share	4,122	48.16	4.02	25.64	62.50
unemployment rate	4,122	1.07	1.16	0	21.57
pensioner share	4,122	13.84	4.52	0	39.81
Catholics share	4,122	44.86	32.68	0	100
German speaking	4,122	63.81	40.14	0	100

Dependent Variable

The endogenous variable $yes\ share_{mt}$ denotes the yes share in municipality m at time t in favor of lowering the voting age from 20 to 18. Figure A1 in the Appendix illustrates the intermunicipal and intertemporal variation of the yes shares between the two federal votes in 1979 and 1991 and suggests that for most municipalities in our sample the acceptance to lower the voting age is higher in the second federal vote.

⁵ We are thankful for the valuable work of Lukas Walker who worked on the dataset for his master thesis.

⁶ Without cleaning we would end with a dataset stemming from 2561 municipalities. Most observations are lost because information about the institutional setting are missing. As data quality for the canton of Fribourg was poor, some observations for this canton had to be dropped from the sample. The canton of Ticino had to be dropped entirely from the sample, as data was not available at all.

Explanatory Variables

We use data provided by the municipality survey of Ladner (1988) to operationalize the depth of democracy by the extent of direct democracy at the municipal level. The variable *town meeting_m* indicates whether the legislative branch of a municipality consists of a town meeting or a parliament. In our observation period, the municipal institutional setting has been stable, that is switching from town meeting to parliament or back has been rare and only became more common thereafter. Relying on information provided by Funk and Litschig (2020), we identified 20 municipalities that changed their institutional setting in the observation period, which is too low for a specific switcher analysis. We therefore dropped these observations which makes the variable *town meeting_m* to stay constant over time.

The variable *no local suffrage_{mt}* captures whether the youth is already (no local suffrage = 0) or not yet (no local suffrage = 1) enfranchised in municipality *m* at time *t*. As explained in Section 2, three cantons introduced local suffrage before the first vote in 1979, ten cantons in-between the two federal votes of 1979 and 1991, and the 13 remaining cantons after the second vote.⁷

Our third variable of interest is *youth_{mt}*, which is the share of the 18- and 19-years-old in a municipality *m* at time *t*. This thus captures the relative size of the additional electorate due to lowering voting age; information is provided by the Federal Statistical Office.

Control Variables

We further consider several socioeconomic factors that have been mentioned in the economic and political literature and are available at the municipality level. As noted by Svensson (1979), we consider the degree of rurality (or its mirror image urbanity) by controlling for population size, the share of agriculture and the share of foreigners. Furthermore, we include the pensioner share, as the literature points to a negative correlation between age of the current electorate and the willingness to enfranchise the youth (Svensson 1979; Birch et al. 2015). Besides, we control for further characteristics of the population, such as the share of women or the share of married inhabitants. Moreover, we also control for cultural factors, such as the share of Catholics and the share of German speakers, to proxy for the prevalence of conservative attitudes. The unemployment rate considers the economic situation of a municipality.

⁷ This information has been provided by the cantonal authorities.

A look at the Raw Data

Table 2 provides a first descriptive picture of the $yes\ share_{mt}$ separated for municipalities with a local town meeting or a local parliament. As shown in Table 2, in both federal referendums the willingness to lower the voting age is systematically lower in municipalities with town meetings. Recalling the literature that associates direct democracy with discrimination of minorities (Hamilton et al. 2009; Gamble 1997; Hainmueller and Hangartner 2019) Table 2 suggest a similar picture. However, as discussed in Section 1, it is difficult to disentangle pure discriminatory effects of direct democracy from explanations related to institutional shaped price differences, for which Koukal and Eichenberger (2017) provide evidence in the context of female enfranchisement.

Table 2: Mean Yes Shares of Town Meeting and Parliament Municipalities

$\bar{\emptyset}$ mean yes share	town meeting	parliament
vote 1979	44.68 %	50.19 %
vote 1991	72.61 %	76.09 %

Figure 2 maps the development of the $youth_{mt}$ and the $yes\ share_{mt}$ between the first and second referendum under different institutional contexts.

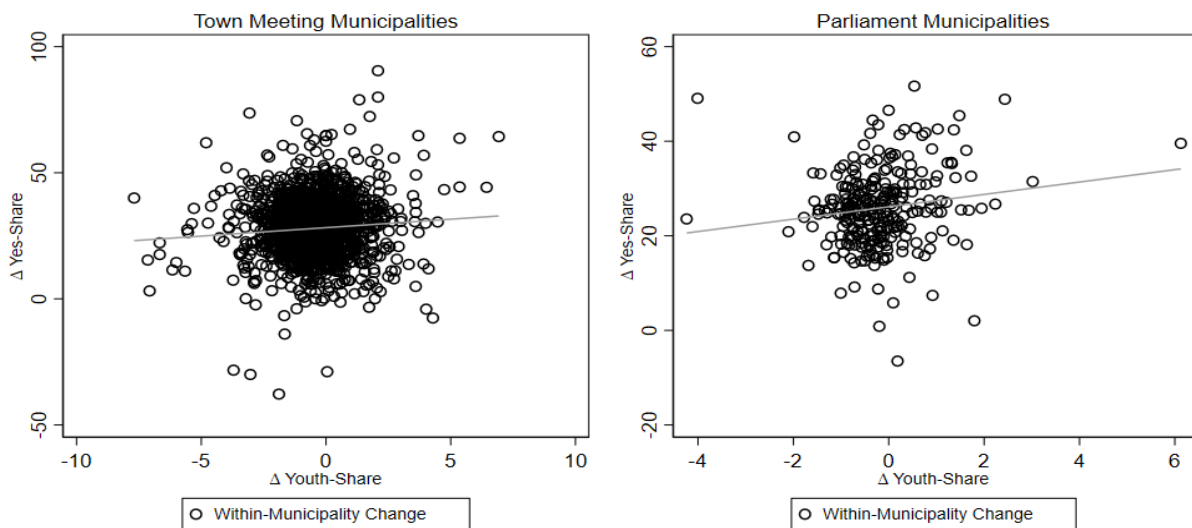


Figure 2: Correlation of Intermunicipal Variation of Yes- and Youth-Shares

Overall, Figure 2 points to a slightly positive relationship: A growing share of the young is associated with a weak growing share of votes in favor of lowering the voting age.⁸ However,

⁸ As will be discussed in Section 4, this rather indicates that in the enfranchisement of the youth their group size does – in contrast to the enfranchisement of females (Braun and Kvasnicka 2013; Koukal and Eichenberger 2017)

this positive relationship seems to be more pronounced in municipalities with weaker direct democracy (parliament) than in municipalities with stronger direct democracy (town meeting).

4. Theoretical Considerations

In the absence of a lower voting age, the electorate consists of Swiss citizens who are at least 20 years old. The electorate decides on politics either via direct democratic institutions or by delegating part of the decision-making power to politicians. Extending the group of voters by lowering the voting age generates both benefits and costs for the current electorate.

Benefits. According to the Condorcet jury theorem, the quality of democratic decisions under uncertainty improves in the number of voters, if their individual errors are independently distributed (Stadelmann et al. 2014). Involving more and different people in the decision-making process may also increase the amount and quality of information available. Moreover, enlarging the franchise increases the legitimacy of political decisions and adds to the sustainability of the democratic system.

Costs. They mainly result from the individual influence on political outcomes, which decreases in the size of the electorate, as the probability of a vote affecting the political outcome decreases. Related empirical evidence for these considerations exists for the enfranchisement of women (Braun and Kvasnicka 2013, Koukal and Eichenberger 2017) or the suffrage extensions to non-citizens (Koukal et al., 2019). However, it remains an open question whether similar mechanisms apply to the lowering of the voting age, as parents or grandparents vote on the rights for their own children and grandchildren. For instance, Doepke and Tertilt (2009) provide a model where fathers have preferences to improve the rights of their own daughters, but not their spouses. Moreover, following Rattsø and Sørensen (2010) or Kamijo et al. (2020), family altruism may also affect the decision of lowering the voting age to the young. Besides, Oswald and Powdthavee (2010) empirically show that the political attitudes of adults may be systematically affected by them having children. Besides, descriptive evidence by Svensson(1979) suggests that the costs of lowering the voting age increase in preference heterogeneity between the new and the old electorate, which is possibly related to the share of pensioners, the prevalence of conservative attitudes, or the rurality of a municipality.⁹

or non-citizens (Koukal et al. (2019) – not show a negative correlation with the willingness of the voters to share the voting rights with them.

⁹ As explained in Section 3, we control for these aspects.

Therefore, predicting the general effect of the size of the young on the currents' electorate willingness to lower the voting age is *ex ante* not possible. However, we assume the price of including additional voters in the political process to vary under different political institutions (with deepness of democracy). According to these considerations, we expect that the willingness to enfranchise additional voters is *ceteris paribus* lower under direct democracy. We expect the price of extending suffrage to increase in the depth of democracy, as measured by strong local direct democracy (town meeting) when compared to lower depth of democracy (representative democracy). Therefore, we suggest a trade-off between deepening and broadening democracy. To disentangle institutional variation of cost and benefits, we make use of our data structure. In the federal referenda, the price to the present voters of enfranchising the young, which is specific to local institutions, depends on whether the canton in which the voters live has already enfranchised the young for municipal matters. This will be further elaborated in the empirical methodology in Section 5.

5. Empirical Methodology

Following our theoretical considerations presented in Section 4, the costs of the current electorate of enfranchising a new group depend on (i) the institutional context and (ii) the size of the new electorate. To shed light on the role of institutions in sharing voting rights with the youth, our analysis focuses on these two elements, which drive the costs, and, thus, the price of enfranchising the young. First, we disentangle the institutional price of lowering the voting age from other potential impacts of local democratic institutions, such as pure discrimination. Second, we examine whether the impact of the size of the new electorate varies with the depth of democracy.

Institutional Price Variation

Our panel dataset allows disentangling institutional price variations, in terms of political power loss on the local level. The main variable of interest is the binary variable *town meeting_m*, which indicates whether the municipality's legislative consists of a town meeting (town meeting = 1) or a parliament (town meeting = 0).¹⁰ As described in Section 2, a municipality exhibiting a parliament refers to a weaker direct democratic environment, while a municipality exhibiting a town meeting to a stronger direct democratic environment, respectively. The second important variable is the binary variable *no local suffrage_{mt}*, which indicates whether local voting

¹⁰ See Section 2 for more information about the municipal legislative institutions in Switzerland.

rights for the 18- and 19-years-old do not yet exist (no local suffrage = 1) or have already been introduced (no local suffrage = 0). The variable *no local suffrage_{mt}* thus allows us to control whether the incremental price connected to the local institutions is relevant (no local suffrage = 1), or whether this specific price variation is not relevant (no local suffrage = 0), as the youth is already enfranchised on the local level.

At the time of the first federal referendum in 1979, three Swiss cantons had already lowered the voting age for politics on the local level.¹¹ To only compare municipalities under similar enfranchisement conditions, we exclude these three pioneer cantons in our main estimations.¹² Therefore *no local suffrage_{mt}* is equal to one for all municipalities in our data set in the first referendum vote. Importantly, the decision of lowering the voting age on the local level is taken on the cantonal level and is therefore exogenous to the individual municipality. Voters in the remaining cantons voted in 1979 on lowering the voting age explicitly on the federal and implicitly on the local levels. Contrarily, at the time of the second federal vote in 1991, ten out of the remaining 23 cantons had introduced the lower voting age on the local level. In these ten cantons, losing power at the local level no longer played a role, that is they had not to pay a price specific to their local institutions. In the remaining 13 cantons, in contrast, the current voters still faced a potential power loss at the local level, as from their perspective the vote affected directly the federal level and indirectly the local level, that is they still had to pay a price specific to their local institutions. Or said differently: When 18 and 19 old citizens already participated in local politics, the incremental price of enfranchising them at the federal level, which is specific to local institutions, becomes irrelevant. Note, that our identification relies on the assumption that the current voter fears the extension of suffrage at the municipal level, when they vote on lowering the voting age at the federal level, as it is not tenable to keep the youth disenfranchised at the local level when their enfranchisement is a reality at the federal level. The fact that most cantons introduced the lower voting age only some months or a few years after the accepted federal vote in 1991 supports this assumption (see Table A1 in the Appendix). This setting thus allows for exploiting the following features:

- (i) Municipalities with town meetings vs. municipalities with parliaments.
- (ii) Municipalities from cantons that lowered the voting age for municipal decisions between the vote 1979 and the vote 1991 vs. those that did not.

¹¹ See Section 2 for details about the enfranchisement process of the youth in Switzerland.

¹² The three cantons were Schwyz, Jura and Neuchâtel.

For a causal interpretation, we would rely on the common trend assumption, meaning that in the absence of the treatment (no local suffrage = 0), the difference in the outcome between the treatment and the control group would remain constant over time. Unfortunately, this assumption cannot be tested as we do not observe the municipalities before the treatment. However, the common trend assumption seems plausible, as municipalities with parliaments and those with town meetings are embedded in the same political, cultural, economic and geographical contexts. Therefore, we are confident, that the willingness to enfranchise the youth does not develop systematically differently in municipalities with different legislative institutions.

Price of Group Size

As explained in Section 4, the current electorate may perceive costs of enfranchising a new group as higher, when they share their voting rights with a larger number of new voters. Empirical evidence for this is provided for the franchise extensions to women (Braun and Kvasnicka 2013) or non-citizens (Koukal et al. 2019). Whether the same applies to the youth, thus the own children and grandchildren of the current voters, remains an empirical question. However, as mentioned in Section 4, we hypothesize the effect of $youth_{mt}$ to vary with the degree of local direct democracy. The size of the new electorate is operationalized as the share of the 18- and 19-year-old in a municipality.

Empirical Model

We thus analyze how the impact of direct democracy on the willingness of the current electorate to enfranchise the youth varies (i) with and without a price at the local level (ii) with the size of the new electorate. We estimate the following model (1) with cantonal- and year-fixed-effects:

$$\begin{aligned}
 yes\ share_{mt} = & \alpha + \beta_1 town\ meeting_m + \beta_2 youth_{mt} + no\ local\ suffrage_{mt} \\
 & + \beta_3 town\ meeting_m * no\ local\ suffrage_{mt} \\
 & + \beta_4 town\ meeting_m * youth_{mt} + \theta X_{mt} + \delta canton + \phi year + \epsilon_{mt} \quad (1)
 \end{aligned}$$

By interacting $town\ meeting_m$ with $no\ local\ suffrage_{mt}$, we disentangle the institutional price from other potential effects of direct democracy on voters' willingness to share voting rights. As elaborated at the beginning of this section, we expect β_3 to be negative, as the price of the higher power loss under a more direct democratic environment plays if the youth is not yet enfranchised on the local level. Moreover, we expect β_4 to be negative, as the additional price related to direct democracy, increases with the size of the new electorate.

As $town\ meeting_m$ is a time-invariant variable, the base effect of town meeting can only be displayed when controlling for cantonal (instead of municipal) fixed effects. As a robustness check we estimate the same model with municipality fixed effects and display the results with several further robustness tests in Table A3 in the Appendix.

6. Results and Discussion

Our estimates are exhibited in Table 3. We first estimate two models including the three variables of interest but without their interactions, without (Specification 1) and with controls (Specification 2). Then we estimate the full model (1) including two interactions of the binary variable $town\ meeting_m$ and the binary variable $no\ local\ suffrage_{mt}$ as well as an interaction with the continuous variable $youth_{mt}$. From specification (3) to (6) we add differing sets of control variables. In all specifications (1) to (6) we include time and cantonal fixed effects.

Interestingly, the negative effect of town meeting, which is clearly visible in the raw data (Table 2) and in Specification (1), shrinks and loses statistical significance when we include the set of controls in (2). But in both Specifications (1) and (2) the variable $no\ local\ suffrage_{mt}$ displays a negative and statistically significant coefficient of approximately four percentage points. Thus, the electorate of municipalities that have not yet enfranchised the youth on the local level is 4.134 percentage points less willing to lower the voting age than the electorate of municipalities where local voting suffrage does already exist. The coefficients of $youth_{mt}$, for the sign of which we have no clear expectation, shrinks to insignificance in specification (2) with controls.

Table 3 report the estimations for model (1), where we introduced the interaction terms $town\ meeting_m * no\ local\ suffrage_{mt}$ and $town\ meeting_m * youth_{mt}$. The base effect of $town\ meeting_m$ reflects the difference in the yes shares between municipalities holding a town meeting compared to municipalities with parliaments, given that the youth-group is enfranchised on the local level (no local suffrage = 0) and there are no 18- or 19-years-old in the municipality (youth = 0). The base effect of $town\ meeting_m$ is positive and statistically significant at the one percent level and remains robust at a size of seven percentage points in specification (3) to (6). Therefore, in the hypothetical case that there are no 18- and 19-year-old in the municipality and the voting age on the local level is already lowered to 18 – that is there is no additional price of local direct democracy – the direct democratic environment

constitutes more of a booster for broadening democracy. Notably, the positive effect of town meeting also prevails if the youth share reaches sample mean, if voting age at the local level is already lowered to 18. This is consistent with the findings for Swiss female enfranchisement (Koukal and Eichenberger 2017).

The coefficient β_3 for the interaction term $town\ meeting_m * youth_{mt}$ in Table 3 displays the change in the coefficient for $town\ meeting_m$ when the treatment $no\ local\ suffrage_{mt}$ is switched to 1. This interaction term disentangles the institutional price from other effects of direct democracy pointing in the same direction. In all Specifications (3) to (6), β_3 is negative and remains robust in terms of size and statistical significance. Given that the voting age is not yet lowered at the local level, voters of municipalities with a town meeting are 3.545 percentage points less willing to enfranchise the youth on the federal level when compared to local parliaments. Hence, as soon as the price of direct democracy plays a role, voters from more direct democratic environments (town meeting = 1) are less willing to enlarge the electorate, relative to those of more representative democratic municipalities (town meeting = 0). This provides evidence that direct democracy results in an additional power loss, which seems to increase the price of broadening democracy for the current voters. The results correspond to the theoretical considerations of Section 4, as the electorate of more direct democratic municipalities has more influence to lose, and is consistent with the findings for women's enfranchisement (Koukal and Eichenberger 2017) and non-citizens (Koukal et al. 2019).

Interestingly, the youth share has a statistically significantly positive effect on the willingness to enfranchise the young in municipalities with parliament. However, for municipalities with town meetings the effect is about zero. The coefficient of the interaction of $town\ meeting_m$ and $youth_{mt}$ in Table 3 is negative and statistically significant throughout all Specifications (3) to (6). Therefore, compared to voters of municipalities with local representative democracy, the electorate of town meeting municipalities shows a 1.615 percentage points lower willingness for lowering the voting age when the youth share grows by

Table 3: OLS-Estimates for the Base Model

VARIABLES	no interactions		with interactions			
	(1) yes share	(2) yes share	(3) yes share	(4) yes share	(5) yes share	(6) yes share
town meeting	-2.485*** (0.515)	0.317 (0.569)	7.368*** (2.574)	7.171*** (2.521)	7.205*** (2.520)	7.400*** (2.348)
no local suffrage	-3.901*** (0.471)	-4.134*** (0.468)	-1.407** (0.690)	-1.440** (0.693)	-1.340* (0.706)	-1.197* (0.688)
youth	0.689*** (0.180)	0.278 (0.188)	2.100** (0.890)	1.964** (0.867)	1.950** (0.866)	1.827** (0.801)
town meeting * no local suffrage			-3.065*** (0.733)	-3.102*** (0.730)	-3.201*** (0.743)	-3.545*** (0.712)
town meeting * youth			-1.749* (0.905)	-1.698* (0.882)	-1.681* (0.880)	-1.615** (0.816)
population		0.042** (0.020)	0.042** (0.018)	0.046** (0.019)	0.045** (0.019)	0.034* (0.018)
population ²		-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
agriculture		-0.137*** (0.021)	-0.162*** (0.016)	-0.140*** (0.020)	-0.140*** (0.020)	-0.136*** (0.021)
foreigner		0.076** (0.030)		0.007 (0.027)	0.004 (0.028)	0.079*** (0.030)
women		0.091 (0.083)		0.094 (0.083)	0.094 (0.083)	0.084 (0.083)
married		0.071 (0.058)		0.019 (0.055)	0.024 (0.056)	0.071 (0.058)
pensioner		-0.138*** (0.048)		-0.171*** (0.048)	-0.173*** (0.048)	-0.137*** (0.048)
unemployed		0.140 (0.197)			0.130 (0.204)	0.186 (0.199)
Catholics		0.006 (0.012)				0.008 (0.012)
German speaking		0.070*** (0.010)				0.071*** (0.010)
Cantonal FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Observations	3,840	3,840	3,840	3,840	3,840	3,840
R-squared	0.753	0.776	0.769	0.770	0.770	0.777

Robust standard errors in parentheses clustered at the municipal level. Population is scaled to 1000 inhabitants.

All other control variables are in shares.

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

one percentage point, which results in a total effect of 0.21 (1.827 – 1.615) and is not statistically significant. We interpret this as further evidence for an incremental price effect of direct democracy (deepening democracy) with respect to the willingness to extend suffrage

(broadening democracy - an increase in n).¹³ We perform a number of robustness tests such as clustering our standard errors at the cantonal level, introducing municipality instead of cantonal fixed effects, including also the three pioneer cantons in the analysis or excluding outlier municipalities in terms of population size. A summary of the robustness checks is presented in Table A3 in the Appendix and the results remained robust.

Moreover, further covariates of the estimations in Table 3 provide interesting insights. The empirical literature on the conditions of enfranchising the youth suggests that more rural areas and older voters constituted barriers to the enfranchisement of the youth (Svensson 1979; Birch et al. 2015). From Specification (3) on in Table 3 we introduced the variable $agriculture_{mt}$, which reflects the share of people working in the agricultural sector and from Specification (4) on, the variable $pensioner_{mt}$, standing for the share of people older than 65 years. Following Svensson (1979), we would thus expect both variables to have a negative effect on the electorates' willingness to lower the voting age. The coefficients of $agriculture_{mt}$ and $pensioner_{mt}$ are indeed negative and significant throughout all specifications in Table 3 and thus go in line with the findings of Svensson (1979). There are several explanations for these relationships. As explained in Section 4, larger preference heterogeneities between the current and new electorate may result in a larger cost of the franchise extension for the current electorate. Therefore, if a large agriculture and pensioner share comes with more conservative attitudes, preferences between the current electorate and the youth may differ stronger and result in a higher price. In terms of size the coefficients seem rather small (for both approximately -0.14), but one needs to put this into perspective with a look at two hypothetical municipalities. *Municipality A* is in both variables one standard deviation below the mean, thus has an agriculture share of 1.39 % and a pensioner share of 9.32 %. For both variables one standard deviation above the means, *Municipality B* exhibits an agriculture share of 31.31 % and a pensioner share of 18.36 %. Therefore, together the share of agriculture and pensioners would attribute an approximately five percentage point higher yes share to *Municipality A* than *Municipality B*.

Our analysis thus provides evidence that the current electorate considers their power loss resulting out of political institutions when deciding on the enfranchisement of a new group. We

¹³ Another interpretation could be that the voters of a more representative democracy perceive larger benefits of the franchise extension, as additional voters could also fill the gap to occupy political positions. The Swiss political system is based on the militia principle, where many politicians hold their office in a part-time and voluntary capacity. Many municipalities, especially small ones, often struggle to find suitable candidates (Ladner and Haus (2019)). Thus, a larger pool of eligible voters and hence potential candidates, might help solving this issue.

would therefore expect that in future, too, extensions of voting rights in stronger direct democratic environments will be more controversial than in more representative democracies. Therefore, stronger direct democratic environments might constitute a barrier to franchise extensions, but not because of discrimination of minorities (Gamble 1997, Hainmueller and Hangartner 2019) but because of the additional institutional power loss, which leads to higher costs (Koukal and Eichenberger 2017, Koukal et al. 2019) Thus, we find a systematic trade-off between deepening and broadening democracy. When looking at the Swiss case, where the first referendum on voting age 18 in 1979 was narrowly rejected with 50.8 % of the votes, the incremental price due to deep democracy mattered for this result.

7. Conclusion

After the enfranchisement of women, lowering the voting age to 18 has been the other major extension of suffrage in the last century. Not only because the young are increasingly using political demonstrations and school protest as a mean to express their preferences (Boulianne et al. 2020), further lowering the voting age from 18 to 16 years is on the political agenda in many countries. This paper is the first to empirically analyze which factors are driving and hindering the actual electorate to share voting rights with the youth. Previous suffrage extensions suggest that there are systematic differences between what parliaments decide and what voters want with respect to enfranchisement of new groups. Therefore, it is interesting to look at the Swiss case, where suffrage extensions can only be granted by the current electorate, thus allowing to observe revealed preferences of the actual electorate.

We investigate how institutional variations impact the willingness to share formal political voting rights with younger voters in Switzerland. By exploiting a new dataset of two federal votes on lowering the voting age from 20 to 18 years in 1979 and 1991, our DiD estimates provide evidence that the strength of direct democracy impacts the costs of lowering the voting age. We discern three effects of direct democracy on youth enfranchisement: First, it increases the price for the current electorate to enfranchise younger people. Second, when this price connected to direct democracy vanishes, direct democracy fosters the willingness to grant voting rights to the youth. Third, we provide evidence that relative to representative democracy, a growing share of young people in a municipality lowers the willingness to enfranchise the youth in direct democracy. Comparing the results of this paper to the enfranchisement of women (Koukal and Eichenberger 2017) or non-citizens (Koukal et al. 2019), they also seem to be transformable to the lowering of the voting age to 16. Additionally, we find the share of

agriculture and the share of pensioners to hinder the enfranchisement of the young, suggesting that the degree of preference heterogeneity between the old and the new electorate impacts the willingness to lower the voting age.

Even though our results imply that direct democracy initially hinders the lowering of the voting age, it does not seem to pose a general threat to the integration of younger people. The late enfranchisement of the young is rather a consequence of the individual resistance to give up influence in the political process, thus pointing to the trade-off of broadening and deepening democracy.

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Appendix

Table A1: Timing of Lowering Voting Age (20 to 18) in Swiss Cantons

Canton	Year
Schwyz	1848
Jura	1979
Neuchâtel	1979
Basel-Country	1980
Geneva	1980
Glarus	1980
Vaud	1980
Obwald	1983
Basel-City	1988
Berne	1989
Uri	1989
Schaffhausen	1990
Ticino	1990
Argovia	1991
Appenzell Outer Rhodes	1991
Fribourg	1991
Grison	1991
Lucerne	1991
Solothurn	1991
Thurgovia	1991
Valais	1991
Zug	1991
Zurich	1991
Appenzell Inner Rhodes	1992
St. Gal	1992
Nidwald	1996

Table A2: Distribution of Municipal Legislatives among Cantons in our Sample

Canton	Parliament	Town Meeting
Appenzell Inner Rhodes	1	3
Appenzell Outer Rhodes	12	5
Argovia	11	183
Basel-City	2	1
Basel-Country	5	70
Berne	17	307
Fribourg	12	161
Geneva	28	0
Glarus	0	27
Grison	7	150
Jura	2	60
Lucerne	6	80
Neuchâtel	52	0
Nidwald	0	11
Obwald	0	7
Schaffhausen	2	28
Schwyz	0	27
Solothurn	1	103
St. Gal	2	74
Thurgovia	4	45
Ticino	-	-
Uri	0	17
Valais	7	113
Vaud	78	171
Zug	1	8
Zurich	11	149

The columns Parliament and Town Meeting report the number of municipalities in the cantons making use of this type of municipal legislative in our full sample. As data for the canton of Ticino was not available, this canton had to be dropped.

Table A3: Robustness Checks for Interaction of Town Meeting and No Local Suffrage

<i>Dependent variable:</i> <i>yes share</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	SE clustered at cantonal level	Without cantonal fixed effects	Incl. First Mover Cantons	Excl. Population Outliers	Excl. First Mover Cantons	Incl. First Mover Cantons	Excl. Population Outliers
town meeting	7.400** (3.044)	4.959** (2.475)	6.412*** (1.832)	5.786*** (1.642)			
no local suffrage	-1.197 (1.162)	-4.461*** (0.739)	-2.043*** (0.669)	-1.394** (0.613)	-0.666 (0.739)	-1.569** (0.711)	-1.276* (0.658)
youth	1.827 (1.111)	1.735** (0.859)	1.356** (0.593)	0.806 (0.526)	1.853*** (0.691)	0.751 (0.587)	1.480** (0.616)
town meeting * no local suffrage	-3.545*** (0.775)	-2.242*** (0.802)	-3.671*** (0.690)	-3.455*** (0.640)	-3.827*** (0.695)	-3.906*** (0.687)	-3.307*** (0.643)
town meeting * youth	-1.615 (1.216)	-1.731** (0.870)	-1.184* (0.614)	-0.997* (0.546)	-1.585** (0.714)	-0.553 (0.621)	-1.266* (0.648)
urbanity	✓	✓	✓	✓	✓	✓	✓
population background	✓	✓	✓	✓	✓	✓	✓
economic situation	✓	✓	✓	✓	✓	✓	✓
culture	✓	✓	✓	✓	✓	✓	✓
Cantonal FE	✓		✓	✓			
Municipal FE					✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓
Observations	3,840	3,840	4,122	3,300	3,840	4,122	3,300
R-squared	0.777	0.724	0.777	0.829	0.893	0.883	0.930
Number of Municipalities					1,920	2,061	1,681

Robust standard errors in parantheses in (1) clustered at the cantonal level and in (2) - (7) at the municipality level. Specifications (3) and (5) include the first mover cantons Schwyz, Neuchâtel and Jura in the sample. In (4) and (7) outliers in terms of population size (< 200 or > 50000) are excluded from the sample.

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

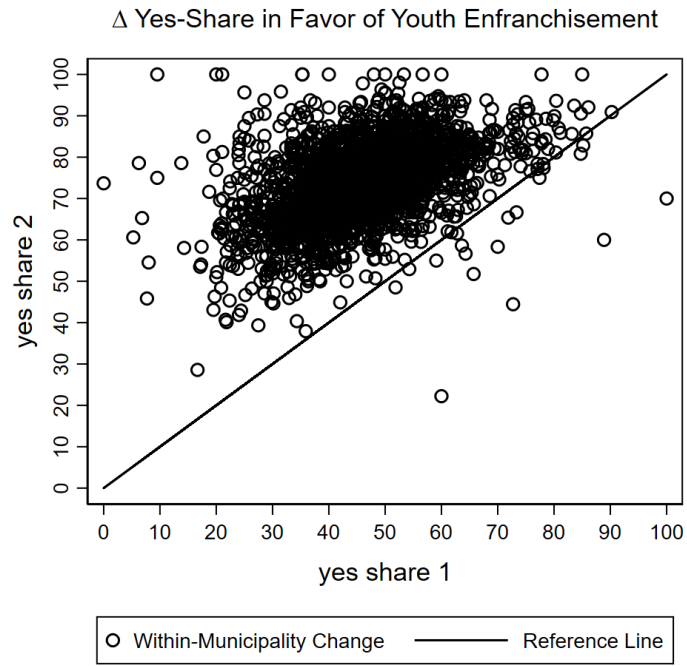


Figure A1: Intermunicipal Variation of Yes Share between First and Second Federal Vote