Women leaving the playpen:

The emancipating role of female suffrage^{*}

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Abstract

We study how political empowerment affected women's emancipation as reflected in their life choices. The staggered introduction of female suffrage in Swiss states allows us to exploit the variation in the age at which women were exposed to the right to vote to estimate the differences in life choices between women who were socialized in a world with politically empowered women and those who were socialized before. Our empirical findings document that early exposure to female suffrage increased female labor force participation, weakened marital bonds and motivated human capital investment. Our evidence suggests that these consequences are mainly driven by an independent effect of exposure to an environment where women have the right to vote which is reinforced through its impact on men's attitudes towards women's roles in society.

Keywords: female suffrage, voting rights, institutions, norms, female labor force participation, marital choices, voting participation, self-efficacy

JEL classification: J00, D02, D72, J12, J16, J22, J24, Z13

^{*} In the struggle for female suffrage and female emancipation in Switzerland, the book entitled "Frauen im Laufgitter" (in English "Women in the Playpen") by Iris von Roten (1958) was probably the most prominent publication. It was perceived as scandalous and worked as a catalyst in public discourse.

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1 Introduction

The struggle for political equality between women and men was in many countries one of the fundamental social movements of the 20th century. However, so far, little is known about what this constitutive change unleashed on the individual level, i.e., what the consequences of being politically empowered were for women's life choices. We focus on the introduction of female suffrage (FS in what follows) as a historic event, which allows us to learn about the effects of legal rights on attitudes, norms, and, ultimately, individual and household decisions.

We hypothesize that socialization in an environment with FS changes women's lives in terms of their labor force participation, their educational attainment and their marital decisions. This expectation is based on the idea that exposure to FS affects women's emancipation through increasing their self-efficacy and allowing them to depart from traditional gender roles, making employment more attractive, marriage less necessary, and divorce more affordable. Drawing on evidence on personality development over the life course, we further expect that any impact decreases with age of exposure (see, e.g., Olivetti et al., 2020; Roberts et al., 2006; McAdams and Olson, 2010).

Consequences of political empowerment are hard to study in an empirically rigorous way. Suffrage extensions are often part of some general societal change leading to a co-movement of institutional reforms and socio-economic development. In such a context, it is difficult to isolate a specific mechanism, such as empowerment affecting individual behavior.

We concentrate on the experience in a strongly decentralized country, i.e., Switzerland. Here, it took about sixty cantonal and two federal popular votes between 1919 and 1971 to achieve a gradual introduction of FS on the level of states (in Switzerland, cantons) that finally led to uniform political participation rights for women and men at the federal level in 1971. The Swiss case constitutes an exceptional opportunity to learn about any effects of FS on female emancipation. First, the staggered introduction of FS across cantons produces a within-cohort variation in the age of exposure to suffrage that can be exploited for identification. This helps to overcome the obstacle that single FS introduction events across countries do not allow separation of age, cohort and general time effects from any potential effect of women's empowerment. Second, the Swiss case allows isolating the impact of FS from simultaneous policy changes, as no policy effects of its introduction have been found in Switzerland.¹ Third, in contrast to the countries that introduced FS early (i.e., in the 1920s or just after the second world war), the Swiss case provides high quality individual level data on women who experienced suffrage extensions. This allows for a rigorous empirical analysis.

Our basic empirical strategy leverages the fact that women born in the same year and the same country were exposed to FS at different ages, depending on the canton they were born in. In combination with repeated cross-sectional data from the census, the resulting variation allows us to condition our estimates on age, canton-specific year effects, and birth cohort-specific regional labor market effects, taking care of the most obvious potential confounding factors (see, e.g., Malmendier and Nagel (2011), Giuliano and Spilimbergo (2013), Bailey (2006) for related approaches). In particular, this specification only draws on within-cohort variation in the experience of FS of women living in the same labor markets and thus within regions with ample social exchange. The proposed empirical strategy identifies the specified effect under the assumption of parallel cohort trends across cantons, i.e., we rule out that there are canton-cohort specific effects that are correlated with but unrelated to FS.

Our historical analysis and its interpretation suggests two observations that speak to this assumption. First, men's favorable attitudes towards FS evolved rather smoothly over time. Second, there is a certain decoupling between the point in time of the introduction of FS and the development of attitudes towards FS. In particular, women did not get the right to vote as soon as the majority of men would have supported it. This is indicated by the observation that the support for FS when the cantons were first exposed to FS ranges from as low as 30%

¹ In contrast to studies evaluating the effects for the U.S. and the UK, where suffrage was introduced early (see, e.g., Miller 2008; Lott and Kenny 1999; Aidt et al. 2021), studies investigating the fiscal effect of FS for Switzerland find no evidence for a general increase in government size (see Stutzer and Kienast 2005 and Krogstrup and Wälti 2011). Section 8 discusses policy effects as an alternative driver and presents a state-of-the-art re-evaluation of the (non-)effect in the Swiss case.

(when introduced in 1971 at the federal level against a majority in the respective canton) to over 70%. For some cantons, the introduction was thus overdue, and for others premature. In other words, the introduction of FS does not perfectly coincide with changes in male majority preferences, which would be a possible threat to our identification.

We further address the identifying assumption in four more steps. First, we transfer our basic empirical strategy to a border design, only exploiting within-cohort variation within local crosscantonal municipality groups. This step makes sure that we study comparable groups of women across cantons who were not only exposed to the same local labor market conditions, but, by virtue of living in the same border group, were exposed to similar shocks and ex ante attitudes, but different introduction dates of FS. Second, we demonstrate that the outcomes measured for cohorts already too mature to respond evolve in parallel in early and late introducing cantons. Third, we validate that we see no diverging trends in cantonal outcomes before the introduction of FS (otherwise cohorts might have been exposed to differential developments). Fourth, in an event study analysis, we corroborate that there were no discernible policy effects of FS.

We consistently find that Swiss women exposed to FS later, compared to those exposed earlier in life, made systematically less emancipated life choices. In particular, our main estimates exploiting the border variation, show that women who were exposed to FS late in life, i.e., after the age of 35, have an up to 9 percentage point lower probability of being engaged in paid work than women who were exposed already before the age of 17. For those in between, the difference increases with the age of exposure to FS, i.e., any reaction is weaker the older a woman was when FS was introduced. In line with this finding, we further document that women exposed to FS later in life have a higher probability of being a housewife, are more likely to marry and to stay married, and are less likely to achieve any higher education. Finally, consistent with more traditional life choices, in a supplementary analysis of survey data we find that they also tend to marry at a younger age and report higher fertility. In additional analyses, we study the mechanisms behind the documented effect on emancipation. First, we explore men's attitudes as a possible driving force. The balancing exercises in the border design show that men in border municipalities are comparable in their support for FS before exposure. However, men in municipalities exposed to FS earlier experienced a stronger increase in support for FS. It is thus conceivable that the impact of FS on women's life choices is partly driven by an effect of FS on men's attitudes towards women's roles in society. In order to assess this conjecture, we study the effect heterogeneity with respect to the majority position on FS of the male electorate across municipalities. In sum, our results suggest that there might be a reinforcement effect working through men's attitudes. However, we conclude that it is unlikely to be the main driver behind the estimated effects. Second, in additional analyses based on Swiss survey data, we find that women exposed to FS later (i) report a lower level of perceived control over their lives, (ii) report more traditional gender norms, and (iii) are less likely to be politically engaged. These findings are consistent with the proposed mechanism working through increased self-efficacy and its impact on gender norms. Third, a placebo exercise exploiting the Swiss French-German language border does not suggest spillover effects in the diffusion of the impact of FS beyond cantonal borders and thus no potentially downward bias in our estimates.

Finally, we present a set of empirical results validating that our estimates are not sensitive with respect to the definition of a specific age-cutoff, are unlikely to be driven by spatial sorting, and are robust with respect to correcting our inference for a small number of clusters. We further demonstrate the power of our fixed effect strategy to control for spurious correlations.

Our analysis is motivated by and speaks to different streams of research. First, our analysis links to research on how political rights affect individuals' choices and preferences. This includes the notion of political socialization from a life course perspective. It emphasizes that people's personality and political attitudes are formed in young adulthood (see, e.g., Franklin et al., 2004; Plutzer, 2002; Giuliano and Spilimbergo, 2013).² While consequences for individual decisions beyond political participation are included conceptually, they are rarely studied explicitly. We offer such a contribution by evaluating the consequences of exposure to FS for women's life choices. Second, we complement research that studies the long-term determinants and the persistence of gender roles (see, e.g., Fernandez and Fogli, 2009), and traces and identifies their historical roots (see, e.g., Alesina et al. 2013 and Teso 2019, and for a review Giuliano 2017). While this research strikingly documents the persistence of gender norms, our setting allows us to test whether constitutional rights are able to trigger a transformation in these norms in the medium term, i.e., over one to two generations. Third, our evidence complements previous research showing that circumstances that lead to greater bargaining power for women in the economic sphere (like a higher likelihood of working and a higher educational level) increase measures of empowerment in other life domains, for instance, marriage exit options, social independence, and financial autonomy (see, e.g., Bandiera et al., 2020; Robinson and Gottlieb, 2019; Teso, 2019; Tur-Prats, 2019).³ Fourth, from a broader perspective, our contribution adds to the literature studying the drivers of the transformation of women's lives to becoming active decision makers in the household and the labor market (see Goldin, 2006, for an overview). Some important drivers have been found to be the contraceptive pill (Goldin and Katz, 2002), technological change that increased demand in the service sector (Goldin, 2006), and, for example, improved household technology (Greenwood et al., 2005). We add evidence for Switzerland, suggesting that exposure to the political empowerment of women is an additional force contributing to this overall development.

The remainder of our paper is organized as follows: Section 2 relates women's exposure to formal political participation rights to their individual life choices, leading to our main hypotheses. Section 3 explains the institutional context and provides a brief history of the introduction of

² There is significant related evidence that the eligibility to vote in young adulthood has persistent effects on political participation (see, e.g., Coppock and Green, 2016; Meredith, 2009), and political attitudes (Mullainathan and Washington, 2009).

³ Such circumstances have further been found to increase investment in girls' human capital (see, e.g., Ashraf et al., 2016), to reduce violence against women (see, e.g., Alesina et al., 2021), and to lead to generally more egalitarian norms (see, e.g., Tur-Prats, 2019).

FS in Switzerland. The data used in our main analysis is described in Section 4. Section 5 explains the empirical strategy, and Section 6 presents our main results. Section 7 explores the potential mechanisms behind the documented effects, before Section 8 discusses the validity of our main identifying assumption. Section 9 validates the robustness of our estimates. Finally, Section 10 offers some concluding remarks.

2 Theoretical context and hypotheses

Norms and gender roles are to a large extent social constructs, which are formed through interaction or socialization, as well as by the imitation of role models (Olivetti et al., 2020; Bussey and Bandura, 1999). Within an economic framework, they affect people's behavior either as restrictions or preferences. In the latter case, particular norms are internalized and become part of an individual's self-concept or identity (for a conceptualization in economics, see Akerlof and Kranton 2000; Alesina and Giuliano 2015). Importantly, preferences and norms that drive economic agents' behavior are partly shaped and affected by institutions (see, e.g., Bowles 1998).⁴ We argue that this mechanism in social transformation also applies in the case of political participation rights.

We hypothesize that women being granted and exposed to formal political participation rights experience an increase in their perceived self-efficacy and empowerment. Any such effect is expected to materialize in more emancipated life choices. These are choices towards economic independence, choices that deviate from traditional gender roles, and choices that face the risk of social stigma like divorce. We expect that any such impact on emancipation is smaller the later a woman is exposed to FS.

The reasoning in this overall hypothesis is based on two building blocks:

⁴ The relationship is, of course, bidirectional. Social norms are likely to shape formal institutions, but formal institutions also affect social norms. Our empirical design, described below, takes this potential simultaneity into account.

Exposure to FS empowers and increases self-efficacy across life domains – First, there is the idea that the experience with a world in which women are politically empowered also fosters emancipation in other domains of life. It builds on the argument that institutions allowing for the experience of autonomy, competence and relatedness strengthen people's perception of control and causal agency, two important factors in human motivation and action (Deci and Ryan, 2000). Exposure to participation rights and their use, as well as exposure to other politically empowered women, are thus seen as a source of self-efficacy and esteem, changing women's perceptions of appropriate gender behavior, and allowing them to think of more emancipated and self-determined life plans.⁵ This reasoning is rooted in substantial psychological research on mastery, self-determination and self-efficacy (see, e.g., Bandura et al., 2001; Gecas, 1989) and in research on democracy theory (Lane, 1988). It is further supported by Sen (1990), who suggests that "the process of politicization - including a political recognition of the gender issue - can itself bring about sharp changes in these perceptions" (p.7). According to him, the perception of gender roles per se is an important driver of bargaining outcomes, independent of material resources and contributions. FS might thus change social norms, and any positive effect on labor market outcomes could be reinforced by a simultaneous increase in the threat point (or focal point) in household bargaining (see, e.g., Ashraf et al., 2020; Manser and Brown, 1980; Lundberg and Pollak, 1996; Pollak, 1994). Both shifts are expected to result in systematically different life decisions of women who are more empowered, and have become more likely to work outside the home and use their own labor income to decide more freely about marriage and divorce. Any such effect is likely to work through three channels: First, a strong initial symbolic effect, as women who are granted the right to vote feel empowered and make different life plans. Second, a self-reinforcing effect as experience of self-efficacy and financial independence further strengthen agency. Third, contact with peers works as a multiplier when they experience the same empowerment and are exposed to female role models (like mothers) who

⁵ Less traditional gender roles seem to be strongly connected to women's self-efficacy perception and to be of importance for gender development (Bussey and Bandura, 1999). In line with these arguments, for example, Beaman et al. (2012) find that being exposed to female leadership in their village increases girls career aspirations and educational attainment.

express higher self-esteem and behave less traditionally. The impact of FS on emancipation is thus strengthened over time as well as over generations.

Exposure to FS matters more for the young – Second, there is the combination of the previous arguments with the idea that the effect on women's life choices depends on the age at exposure to an environment with FS. The literature on personality development across the human life course overall agrees that attitudes and personality are to a large extent formed during adolescence and early adulthood. However, there are also some perceptions of appropriate gender specific behavior that are partly formed even earlier, during socialization in childhood (Witt, 1997). While there is some discussion in developmental psychology regarding the most influential years of age (reflected in the *impressionable years hypothesis*), it is generally found that personality and attitudes stabilize with increasing age (see, e.g. Krosnick and Alwin 1989; Roberts et al. 2006, and for a review McAdams and Olson 2010). On the basis of these findings, we expect that the impact of the exposure to FS diminishes with age at the time of its introduction, i.e., the longer-term consequences are smaller as individuals' personality and values are already more matured and major life choices have already been made. While a woman experiencing suffrage in her, say, 50s is unlikely to change her norm concepts and is no longer able to change many of her life choices, a stronger effect is expected for a woman who is young when exposed to FS. She grows up seeing other women becoming more emancipated, is raised by a more empowered mother, and has the chance to make many important life choices under the new conditions.

As changes to norms and aspirations affect individuals' decisions over the whole life course, we would not expect any effect to materialize immediately after suffrage extension. We would, rather, expect that the differences in women's life choices accumulate over their life course. The empirical strategy applied below is set up to capture these accumulated effects.

3 Institutional and historical context

In 1950, the Swiss Association for Female Suffrage portrayed Switzerland in a poster campaign as an island in Europe where women do not have the right to vote (see Appendix A Figure A1). Indeed, most Western countries either extended the right to stand and vote in national elections to women during the period of the First World War (e.g., Denmark in 1915, Austria, Canada, Germany and the United Kingdom⁶ in 1918, the Netherlands in 1919 and the United States in 1920) or at the latest at the end of the Second World War (i.e., France in 1944, Italy in 1945 and Belgium in 1949) (Ruiz and Marín, 2012).

In Switzerland, it was only in February 1971 that FS was introduced at the federal level in a mandatory referendum. The legal change to almost uniform political rights for men and women occurred after about sixty cantonal and two federal popular votes. As our empirical strategy relies on the variation resulting from the process of its introduction, we describe this development in some detail in Appendix A drawing on the work of Ruckstuhl (1986), Seitz (2020), Studer and Wyttenbach (2021), and Voegeli (1997). In the following paragraphs, we give a brief summary of the main developments, explain the institutional specifics, and draw some links to our identification strategy.

3.1 The role of referendum democracy and federalism

Political rights in the Swiss federation are legally determined at the federal and cantonal, and partly at the municipal level. Specifically, the introduction of FS required a change in the constitutions of the jurisdictions concerned. In all cantons as well as at the federal level, such reforms accordingly involved a popular vote, and thus the introduction of FS depended on the support of a majority of ordinary male citizens. Unlike in the representative democracies in the other European countries, a majority of elected politicians supporting FS was not sufficient in

⁶ In the UK, FS was first limited to some women and only extended to all of them without preconditions in 1928.

Switzerland. This aspect of the constitutional reforms is probably one major factor in the late adoption of FS in Switzerland (Koukal and Eichenberger, 2017). Besides, there was no window of opportunity for making female suffrage part of a new constitution. The federal constitution had been written in 1848, and fully revised in 1874, but not again until 1999. During the 19th century, when political equality could have been explicitly included as an additional paragraph in the constitution, female suffrage was not on the Swiss political agenda (Seitz, 2020).

3.2 A historic brief of FS expansion in Switzerland

In the late 19th century, the demand for gender equality in the civil law was expanded to political rights. In the canton of Zurich, some women anonymously postulated the active and passive voting right for women, in Geneva, an activist founded the Association internationale des femmes, and several educational and professional associations took a stand for the betterment of women's legal and economic situation, including the right to vote. Moreover, cantonal associations for FS emerged and formed the Swiss Association for Women's Right to Vote (Schweizerischer Verband für Frauenstimmrecht, SVF) in 1909 (Hardmeier, 1997).

During the First World War, members' of women's associations saw their involvement in wartime welfare as rendering a service in advance in exchange for future political rights. However, the Federal Council did not respond to the two motions to consider the introduction of FS in 1918. Most of the motions for FS submitted in the cantons also failed in parliament. All the referendums held between 1919 and 1921 in Neuchâtel, Basel, Zurich, Glarus and St Gallen were clearly rejected.

The defeats curbed parliamentary activities in the cantons, and political sentiment influenced by politically conservative and fascist ideas turned towards women's traditional role in the home. Even after the Second World War, all attempts by women's associations were rejected (1946 in Basel, Basel District, Geneva, and Ticino, 1947 in Zurich, 1948 in Neuchâtel, and Solothurn, and 1951 in Vaud). Moreover, the Federal Council in 1951 declined a further FS postulate, saying that "it would be too early to have a national referendum".

The latter assessment changed during the Cold War, when the Federal Council was confronted with considerable opposition to its own political plans to introduce a compulsory civil defense service that included women without offering them full political rights. As a consequence, it presented parliament with a draft for the introduction of FS in 1958. The proposal passed and was put to a referendum vote on February 1, 1959. The revision of the constitution was clearly rejected by 66.9% of the men voting. However, support differed considerably across cantons and three cantons introduced FS at the cantonal level, either on the same occasion (Vaud) or shortly afterwards (Neuchâtel in 1959 and Geneva in 1960). The general defeat and the first introductory wave at the cantonal level was followed by a pause before, starting with Basel in 1966, step-by-step several other cantons followed, adopting FS on the municipal and/or cantonal level.

The change at the federal level was provoked by another plan of the Federal Council that stirred massive protests by old and new women's associations. In 1968, the Federal Council decided to consider accession to the European Convention on Human Rights (ECHR) with the reservation that FS would be excluded. This step gave new momentum to the movements favoring FS. The development led additional cantons to introduce FS and the Federal Council to prepare once more a proposal for the introduction of FS at the federal level. On February 7, 1971, the constitutional change was approved by 65.7% of the participating male voters and also a majority of 18 out of 25 cantons. Most cantons that had up to then rejected voting rights for women at the cantonal and municipal levels followed suit in 1971 or 1972.⁷

Figure 1 visualizes how over time women in more and more cantons were for the first time exposed to opportunities for formal political participation. The initial opportunity might have been at the municipal, cantonal or federal level, allowing women to participate in corresponding

Only in the canton of Appenzell Outer-Rhodes, did it take until 1989 for the Landsgemeinde to narrowly approve FS, and in the canton of Appenzell Inner-Rhodes it required a decision by the federal court in 1990, stipulating that the term fellow citzens in the constitution also included women.



Figure 1: Share of cantons with exposure to female suffrage either at the municipal, cantonal or federal level over time. The two red lines denote the years in which a federal vote on the introduction of female suffrage took place, i.e., 1959 and 1971. For additional information see Table A2 in the Appendix.

elections and votes. For cantons that adopted FS after its introduction on the federal level, the year of first exposure is set to 1971. Due to the direct democratic system which leads to frequent votes on ballots in addition to elections, it is very likely that women were able to vote in the same year they were enfranchised. Appendix Table A2 lists the introduction dates of FS at the cantonal as well as the municipal level for all cantons.

Despite all its idiosyncracies, the path to women's enfranchisement in Switzerland can be characterized by two waves of introductions that were spurred by two catalytic political developments at the federal level (originally not directly related to the extension of political rights), i.e., the vote on a compulsory civil defense service for men and women alike and the political trickery around the ratification of the ECHR. Because these triggers interacted with cantonal developments, the timing of the introduction of FS does not simply reflect the point when the male majority became favorable to reform. Accordingly, FS was introduced with rather different majorities across cantons. While some cantons introduced it with a narrow margin, other votes

(b) Support over time

(a) Distribution of support in the cantons at first exposure



Figure 2: Support for female suffrage in Swiss cantons. The graph on the left visualizes the distribution of the support for FS in the cantons at the time they were first exposed to FS. If there was more than one vote on FS in the year of first exposure, we use the average support in all votes in the respective canton and year. The graph on the right depicts the development of the support of FS at the cantonal and federal level (1959 and 1971) in cantons with at least four popular votes on the issue. The black dots mark the year of FS exposure. Panel D of Table A1 in the Appendix documents the relevant data sources.

ended with clear verdicts in favor of FS. Due to the independence of federal and cantonal voting rights in Switzerland, women in seven cantons experienced FS introduced at the federal level with only a minority of men in the canton supporting it. Panel (a) in Figure 2 depicts the distribution of the corresponding support for FS at the time of first exposure. It varies between as low as 28.9 percent to 74.65 percent (with an average of 55.6 percent).

Panel (b) in Figure 2 depicts the development of support for FS in certain cantons over time. While data is scarce, support seems to have gradually built up over several decades. This development and the great variation in support at the time of the introduction suggests that the single introductions were not triggered by local shocks occurring once the majority of men were in favor. Of course, there are differences in levels. In early introducing cantons, men were, on average, more in favor of FS throughout the century. From an identification perspective, our empirical approach, presented below, can cope with this issue. In Switzerland the development towards political rights for women has taken a particularly long time. It happened without a revolutionary rupture and there is no evidence of significant policy changes in the aftermath of the institutional change. We will return to this issue in more detail when we discuss potential policy effects of the introduction of FS as an alternative mechanism in Section 8.

4 Data

In our main empirical analysis, we draw on harmonized micro-data from the Swiss census conducted in the years 1980, 1990, 2000, and 2010 originally compiled by the Swiss Federal Statistical Office (SFSO). This data covers basic demographic information for the whole Swiss population up to 2000, and for a large sample of about 5% in 2010.

Our main sample is restricted to Swiss women who, when observed, are still living in the same canton they were born in. This criterion allows us to specify the age at which an individual experienced the introduction of FS.⁸ We further restrict the sample to an age range between 26 and 67 covering the cohorts born between 1913 and 1984.⁹ The highest age at which women in our sample experienced the introduction of FS is 58. Figure A6 in the Appendix visualizes the distribution of the age at which women were enfranchised in the main sample of Swiss women. We define six indicators measuring women's life choices as our main outcomes of interest. These are: working, indicating whether a person is active in the labor force; part-time, indicating

⁸ While the census data does not include information on the canton of birth, it contains an indicator of whether an individual still lives in the canton of birth. About 65% of all individuals born in Switzerland reside in the canton they were born in, when observed. The data restriction could produce a selected sample if women were to select into cantons depending on the time of the introduction of FS. We validate that there is no evidence for such selection in Section 9.

⁹ This restriction is motivated by a common support reasoning between the reference group (introduced in the next section) and the group of women experiencing the introduction of FS at the age of 17 or later. The youngest possible age we can observe of women experiencing the introduction of suffrage after the age of 16 is 26, as the latest introduction took place in 1971 and individuals aged 17 in this year were born in 1954 and thus were 26 in 1980 (our first observed year). The oldest individuals in the reference group to experience FS before the age of 17, are aged 67. Individuals aged 16 in the year of the earliest introduction (1959) were born in 1943 and were 67 in 2010.

(a) Year of exposure to female suffrage

(b) Identifying variation



Figure 3: The graph on the left visualizes the year of women's first exposure to female suffrage in Swiss cantons (at either the municipal, cantonal or national level). The darker bars mark the period after the introduction. The graph on the right exemplifies the identifying variation, i.e., the maximum age range within which women from the same cohort experienced the introduction of the voting right for women (determined by the earliest introduction in 1959 in VD and the latest in 1971, for example, in BE). Table A2 in Appendix C lists the introduction dates of FS at the cantonal as well as the municipal level for all cantons.

whether a person works part-time; **housewife**, indicating whether a person is a homemaker; **ever married**, indicating whether a person was ever married; **divorce**, indicating whether a person is divorced; **any higher education**, indicating that the highest educational attainment is higher secondary or tertiary education. Panel A of Table A1 in Appendix B provides more detailed information on the definition of these variables.

5 Empirical strategy

5.1 Identifying variation

The reform of the electoral law within the federal structure of Switzerland led to a staggered enfranchisement of women across Swiss cantons. Figure 3 a) summarizes the variation in the years in which women in each Swiss canton were for the first time exposed to FS. In total, there are ten cantons, covering about 50 percent of the Swiss population, where women experienced suffrage before 1971.

Due to the staggered introduction, women of the same birth cohort but living in different cantons were exposed to FS at different ages. For instance, while a woman born in the canton of Vaud in 1935 was allowed to vote in 1959, and thus at the age of 24, a woman born in the canton of Bern in the same year could only participate in 1971 at the age of 36. As a consequence, there is variation in the age of first exposure to FS within birth cohorts. This is visualized for two example cantons in Figure 3 b). The maximal age span at exposure by cohort is marked by the two end points, referring to the earliest introduction (Vaud in 1959) and the latest (Bern and 14 other cantons in 1971).

In order to empirically assess the age-dependent long-term impact of FS, i.e., to see whether the life choices of later treated women differ systematically, we define two groups separated by an age threshold. Ideally, the reference group would include women who were fully socialized under FS. However, there is no consensus on the ages at which the period of life's strongest social influences starts and ends. One interesting age threshold is late adolescence, when socialization within the family becomes less important and before the so-called formative years begin. We therefore define the reference group (or the early exposed) as including those women who were exposed to FS (as well as to politically empowered mothers and role models) before they turned 17.¹⁰ In contrast to this reference group, there are women who were mainly socialized in an environment without politically empowered women. In our empirical specification, we will differentiate between four groups for the women exposed to FS after the age of 17.¹¹

¹⁰ While the age of 17 has in our view some appeal as a cut-off point for separating women largely socialized under a regime with FS from those who were at least partly socialized without, the decision, of course, leaves some discretion. One could well argue for setting this cut-off at a slightly higher or lower age. In the interest of readability, we stick to one age cut-off for the definition of the reference group. We check that our results are not driven by the choice of this particular threshold in Section 9.

¹¹ Appendix Figure A3 presents descriptive evidence for our main dependent variables on how women who experienced enfranchisement before the age of 17 differ from those who experienced it later in life. The raw differences suggest more traditional life choices for women in the latter group. However, the observation may also arise because the group experiencing FS late in the data is, on average, composed of older cohorts and of older women who might just make different choices independent of FS.

5.2 Estimation model

Our empirical model aims to measure how women who were first exposed to FS at the age of 17 or later are characterized relative to the women in the reference group, who experienced the existence or the introduction of FS before they turned 17. This idea is captured in our baseline specification summarized in equation 1. We estimate the following linear probability model

$$Y_{ict} = \alpha_0 + \sum_{k=1}^{B} (\tau_k \mathbb{1}_k) + \upsilon_{age\ x\ c} + \mu_{rlm\ x\ cohort} + \eta_{c\ x\ t} + \beta X_{it} + \gamma_m + \epsilon_{ict}$$
(1)

where Y is our dependent variable, measuring some outcome for individual *i* in canton *c* registered in the census at time *t*. As we expect the differences in attitudes and life choices of those who experienced FS later to increase, we define *B* groups for the age at which a woman is exposed to FS in her canton of birth. $\mathbb{1}_i$ is an indicator variable set to one if a woman's age at which she was first exposed to FS falls into group *k*, and τ_k is the estimate of the difference in the outcome variable compared to the reference group. We define four groups according to their age of exposure $(age_{l-h}, between \ l \ and \ h)$ as follows: $\mathbb{1}_1 = \mathbb{1}_{(age_vote_i \ge 17 \ \& \ age_vote_i \le 20)}; \ \mathbb{1}_2 =$ $\mathbb{1}_{(age_vote_i \ge 20 \ \& \ age_vote_i \le 25)}; \ \mathbb{1}_3 = \mathbb{1}_{(age_vote_i \ge 25 \ \& \ age_vote_i \le 35)}; \ \mathbb{1}_4 = \mathbb{1}_{(age_vote_i > 35)}. \ age_vote_i \ is$ fixed per individual and depends on the year the person was born in the respective canton. The group of women who were younger than 17 when exposed to FS thus serves as the reference group and the coefficients of primary interest τ_k indicate the extent to which women who are exposed to FS later in life differ in their outcomes compared to this reference group.

Given the theoretical considerations, we expect the results to indicate that women exposed to FS later in life make less emancipated, or more traditional, life choices. All the outcomes are observed several years after 1971, i.e., the last introduction date. Our estimates thus capture the accumulated effect of women's life choices over their life course. The decisions leading to these outcomes were made given the situation during socialization and might have been taken before or after the introduction of FS.

Control strategy – In order to isolate the effect of exposure to FS from other cantonal, time-, cohort-, or age-specific factors that might themselves be correlated with our outcomes, we include a restrictive set of fixed effects in our model. Specifically, the staggered introduction of FS together with the repeated cross-sectional data allow us to control for cohort as well as age effects, two potential major confounds of any estimated differential. That is, we have withincohort variation in the age of exposure and observe different cohorts at the same age and in different treatment status.¹²

We consider these age and cohort effects in a rather flexible form. For the former, we include $v_{age \ x \ c}$, which is a vector of **canton-specific age effects**. These age effects allow us to factor out life-cycle effects; for instance, older women being more likely to be divorced or less likely to work. We further allow these life-cycle effects to differ across cantons. This might be relevant if the age effects were to systematically differ across cantons that introduced FS earlier or later. For the cohorts, we include **labor market region-specific birth-cohort effects**. This takes account of any cohort specific effects such as, for instance, that older cohorts, on average, are less likely to participate in the labor force in general (or any national policies targeted at particular cohorts, for instance, an adjustment of the retirement age). As different cohorts might still be exposed to different shocks in different regions that might be somehow related to the exposure to FS, we additionally allow for an interaction of cohort and regional labor market (rlm) effects, i.e., $\mu_{rlm \ x \ cohort}$. Figure 4 (a) presents the sixteen labor market regions in Switzerland. Individuals within the same region are likely to interact, to share similar labor market shocks, and thus are also more likely to share and to be exposed to similar values. This specification thus only exploits the variation in the age of exposure within a cohort and regions which at least partly

¹² Table A3 in the Appendix presents an example of the resulting variation in our data, again drawing on the example of the cantons of Bern (BE), and Vaud (VD). In this example we observe individuals born in 1950 who were exposed to FS before age 17 in VD, but not in BE, where they were already 21 when FS was introduced. Moreover, for Bern across the census waves in 1980, 1990, and 2000, we observe cohorts born in 1950, 1960, and 1970, at the age of 30. The basic idea behind this approach is inspired by the identification strategies in, for example, Malmendier and Nagel (2011), Giuliano and Spilimbergo (2013), and Fuchs-Schündeln and Schündeln (2015). Our implementation, however, deviates in that our treatment is an absorbing state. Once a cohort is treated it stays treated and all younger cohorts are treated. It is in this regard quite similar to a generalized difference-in-differences and to the application in Bailey (2006).

(a) Labor market regions

(b) Border municipalities



Figure 4: Labor market regions in Switzerland and border municipalities. The map on the left visualizes the regional labor markets in Switzerland. The map on the right visualizes the final set of border municipalities within a 3km range around cantonal borders with variation in the timing of the introduction of FS. The shading of the areas indicates the respective year of the introduction of FS, i.e., the lighter, the earlier the introduction.

overlap with cantons that introduced FS at different points in time. Or, to put it differently, we do not draw on the variation between cantons that do not share a common labor market.

Furthermore, we include $\eta_{c\ x\ t}$, which is a vector of canton-specific year effects. This controls for the fact that, generally speaking, some cantons might be more liberal than others. Further, it allows us to pick up region-specific time varying shocks related to, for example, macroeconomic development and differences in the cantonal labor market. Any measured outcome difference between women treated early or late therefore cannot be explained by differences in the current institutions, the economic situation, the political environment or any canton-times-year unobservables that affect all women in a canton alike. We also take into account a set of municipality fixed effects γ_m . They control for time invariant differences in general attitudes towards women and geographical conditions across municipalities. Finally, we control for an individual's religious denomination at the time of the interview (X_{it}) , as it might be another relevant determinant of the investigated outcomes. We cluster the standard errors at the level of the canton, i.e., the level at which our identifying variation arises. Identifying assumption – The relevant dimension this specification cannot control for are canton-specific cohort effects, as this is precisely the level from which our identifying variation arises. Our identification thus hinges on the assumption that there are no unobserved factors at the cohort-canton level that correlate with the age at exposure, or, to put it differently, that cohorts across cantons (within the same labor market region) would have evolved in parallel if not for the introduction of FS. The assumption implies that there are, for example, no policy effects of FS, no simultaneous policy changes, no societal overturns, no changes in attitudes and no labor market shocks that affected the relevant cohorts in a similarly differential way as exposure to FS.

We address the major concern that the introduction of FS was driven by a simultaneous change in the majority sentiment towards women's rights in two ways. First, we point to the historical context reviewed above. The unfolding of enfranchisement across cantons speaks against a sudden change in attitudes. It instead suggests, i) that attitudes towards FS evolved rather smoothly over time, and ii) that there is a certain decoupling between the time of the introduction of FS and the development of attitudes towards FS. As mentioned, FS was not necessarily introduced as soon as the majority of men would have supported it. Support for FS at the time of its introduction varied between below 30 and above 70 percent. It is thus unlikely that the introduction systematically coincides with a sudden change in majority preferences. Second, to make sure that we identify the effect within comparable groups across cantons that are exposed to the same local labor market, and *similar* attitudes, we transfer our baseline empirical strategy to a border design exploiting only within cohort variation within local border groups. We further address the validity of the main identifying assumption in three additional analyses. First, we validate that cohorts already too old to be affected evolve in parallel in early and late introducing cantons. We show that we only see the deviation in cohorts young enough to be affected. Second, we validate that we see no diverging trends in cantonal outcomes before the introduction of FS that would suggest that cohorts might have been exposed to differential developments. Third, we validate that there are no discernible policy effects of FS.

Border design – The basic idea behind the border design is that bordering municipalities and their residents are more comparable than the ones in more distant municipalities at the point in time when the treatment is assigned, because people in the bordering municipalities are more likely to interact with each other (see, e.g, Eugster and Parchet, 2019; Egger and Lassmann, 2015; Dell, 2010; Black, 1999; Holmes, 1998). In our context, they likely share local labor markets, local beliefs, values, and societal norms as well as local shocks. This level of comparability might not be achieved within the sixteen labor market regions that sometimes cover large parts of single cantons (see Panel (a) in Figure 4). Accordingly, the concern remains that these spatial units could have followed different trends. In order to alleviate such concerns and to define groups of comparable areas that are more likely to follow common trends, we thus transfer the basic idea of the border discontinuity design to our empirical strategy.

We define the initial set of border municipalities within a range of 3km around cantonal borders (see Panel (a) in Figure A4 in the Appendix). We then exclude municipalities which border two or more other cantons (see Panel (b)) and define border groups as the set of municipalities that share the same border between two cantons. Finally, we select those municipalities in border groups for which there actually is variation in the timing of the introduction of FS (see Panel (c)). This results in 489 municipalities in 15 border groups and 17 cantons, i.e., it reduces the sample to one fifth.¹³ The final set of border municipalities is visualized in Panel (b) of Figure 4.¹⁴

Balancing in the border design – The design rests on the idea that the resulting set of municipalities within a border group are ex ante comparable in their observable and unobservable characteristics. To validate this, we run a series of balancing tests. Specifically, we define an indicator I(earlier) set to one for those municipalities within a border group which are on the side of the border that introduced FS first and regress it on municipality demographics and

¹³ While the sample for the border design is considerably smaller than the full sample, the two are still comparable with respect to the average outcomes as reported in Tables 2 and A4.

¹⁴ The geographic information was processed in the open-source geographic information system QGIS 3.16.3. The border municipalities were defined based on the municipalities as of 2021. For the empirical analyses we re-coded them to the historical stock whenever possible.

Panel A: Pre-determined demographics											
	Share French	Share over 65	Share female	Population density	Population						
I(earlier)	1.109 (2.949)	0.778 (0.570)	0.204 (0.359)	-14.413 (15.241)	-114.222 (192.835)						
Border group FE	Yes	Yes	Yes	Yes	Yes						
Mean dep.	31.48	9.42	49.03	119.56	1565.98						
No. of obs.	489	489	489	451	458						
No. of clusters	15	15	15	15	15						
R^2	0.93	0.17	0.08	0.14	0.36						
Panel B: Political	preferences										
]	Pre-determined			Post treatment						
	Yes share	Yes share	Yes share	Yes share	Yes share	Yes share					
	1945	1957	1959	1970	1971	1981					
I(earlier)	-0.421	1.868	3.428	-5.521	8.886***	0.645					
	(4.362)	(3.192)	(2.006)	(3.144)	(2.477)	(1.811)					
Border group FE	Yes	Yes	Yes	Yes	Yes	Yes					
Mean dep.	71.13	49.23	25.11	40.26	62.33	55.08					
No. of obs.	332	364	486	364	488	484					
No. of clusters	15	15	15	15	15	15					
R^2	0.24	0.43	0.46	0.47	0.6	0.42					

Table 1: Balancing: border municipality characteristics

Notes: Pre-determined municipality demographics, as captured in the 1950 census, and political preferences in border municipalities. The votes used to compare the municipality level political preferences related to the position of women in society encompass the following topics: 1945, vote on the introduction of maternity insurance; 1957, vote on a compulsory civil defense service including women; 1959, 1st vote on the introduction of female suffrage at the federal level; 1970, vote on the right to housing and expansion of family protection; 1971, 2nd vote on the introduction of female suffrage at the federal level; 1981, vote on equal rights for men and women. Panel B of Table A1 in the Appendix provides a more detailed description of the votes. Standard errors are clustered at the border group level and are reported in parentheses. Significance levels: *.05 ,<math>**.01 .

political preferences. The coefficient of the indicator tells us whether these municipalities are, on average, different from the ones on the other side of the border where FS was introduced later. In order to exploit only the variation within border groups, we include border group fixed effects. Panel A of Table 1 shows the results for municipality demographics in 1950, before any canton introduced FS. We do not find that the municipalities on the early introducing side of the border are systematically different in their share of French speaking residents, of older residents, or of women, nor in population density, or total population either. In the first three columns of Panel B we ckeck whether male citizens also held similar political preferences with regard to women's rights before either side of the border was exposed to FS. Such an analysis is possible based on the results of national votes on topics related to the position of women in society, as only men were allowed to vote on the federal level until 1971. We observe that men's preferences are comparable before any canton introduced FS, i.e., in 1945, for a vote on the introduction of maternity insurance, in 1957, for a vote on compulsory civil defense service that would include women, and in 1959, for the 1st vote on the introduction of FS at the federal level. The votes after 1959 are no longer pre-determined, but post-treatment, as women were allowed to vote in some cantons and the male electorate was accordingly exposed to voting women. Any difference in federal vote outcomes might thus be affected by FS at the cantonal level. We still observe that men across borders voted similarly in a vote on the right to housing and expansion of family protection in 1970. However, we find that men in border municipalities that introduced FS earlier, and therefore had been exposed to FS for some time, were much more likely to support the introduction of FS at the federal level in the 2nd vote in 1971. Ten years later, in 1981, male and female voters decided on an article for equal rights for men and women. Across border municipalities a systematic difference in support is no longer observed.¹⁵

This analysis validates that pre-treatment, i.e., before any canton experienced FS, the border municipalities are comparable in demographics and their political position with respect to women's rights, which suggests that our border design indeed is based on comparable regions. Moreover, the result for the federal vote in 1971 suggests that men's experience with FS in the canton made them generally more favorable towards female political participation rights. As a

¹⁵ The outcome variables in this balancing exercise are described in detail in Panel B of Appendix Table A1. Note that some municipality vote information is missing in the historical records, which is why the number of municipalities in the balancing estimates varies.

consequence, any effect we find in our main analysis might be a combination of the impact of FS on women directly and an additional reinforcing effect due to a change in men's attitudes, which is driven by their experience with FS. This aspect will be relevant for interpretation of the mechanism and the drivers behind our findings, which we discuss in more detail in Section 7.

Border design specification – In order to exploit only the within-border group variation in our main specification, we reduce the sample of individuals to those living in one of the selected municipalities and augment our baseline specification presented in equation 1 by **cohortspecific border group** (*bg*) **fixed effects**. We estimate the following linear probability model

$$Y_{ict} = \alpha_0 + \sum_{k=1}^{B} (\tau_k \mathbb{1}_k) + v_{age \ x \ c} + \mu_{bgxcohort} + \mu_{rlm \ x \ cohort} + \eta_{c \ x \ t} + \beta X_{it} + \gamma_m + \epsilon_{ict}.$$
(2)

Panel (c) of Figure A4 in the Appendix visualizes the overlap between the border municipalities and the labor market regions. As the border design specification in equation 2 includes cohortspecific labor market region effects as well as cohort-specific border group effects, it only exploits variation within a border group and labor market. Thus, our identification does not draw on the variation in border groups that do not share a common labor market. This is, for example, the case when the cantonal border coincides with a separating mountain range. Overall, this specification should allow us to compare women who were exposed to similar living conditions, except for the fact that some of them were exposed to FS earlier.

6 Results

Table 2 reports the estimation results for the effect of exposure to FS on Swiss women's life choices based on the specification described in equation 2. The coefficients of the indicators for the age at exposure to FS should be interpreted in comparison with the reference group, i.e., women exposed to FS before the age of 17. Column (1) shows that women are less likely to

work the later in life they were exposed to FS. The difference ranges from 1 percentage point for those who were exposed early on, i.e., during their adolescence or early adulthood (age 17-20), to up to around 10 percentage points for those who experienced FS rather late in life (age 36-58), i.e., when presumably many relevant life choices had already been made. Given that the average female labor force participation rate in our sample is about 57 percent, this latter difference is sizable and amounts to about 17 percent.¹⁶ We find quite similar effects for women who were ever married (column 2). Thus, women who mainly grew up in a world in which women are politically empowered are systematically more likely to be gainfully employed (a factor largely neglected in the economic literature on female labor force participation, see, e.g., the reviews in Fernández 2013 or Gaddis and Klasen 2014). Interestingly, there is an effect, albeit a small one, even for women who experience FS later in life. Women exposed to FS between the ages of 26 and 35 are 2.9 percent more likely to participate in the labor market than women who experienced FS even later. This implies that women affected after the age of 26 still reconsidered their labor market participation decisions.¹⁷ Women who experienced the introduction of FS later are less likely to work, but if they do work, they are not more or less likely to work part-time (column 3). This suggests that any effect tends to works through the extensive margin, which is likely to be explained by the fact that the majority of women work part-time anyway. Women exposed to FS later are consistently more likely to dedicate their time to housework (column 4).¹⁸ In sum, women exposed to a world with FS, and thus also more emancipated female peers and role models, seem to develop and implement different life plans that provide them with more economic independence (potentially also increasing their bargaining power within the household).

¹⁶ Table A8 in the Appendix presents the estimates for the probability of working, including the various fixed effects successively. The cohort effects turn out to be most relevant.

¹⁷ The interpretation for labor force participation still holds when conditioning on individuals' educational attainment. The effect is mediated through this latter channel to only a small extent (see Table A7 in the Appendix).

¹⁸ The results for the labor market outcomes in column 1 to 4 hardly change if we restrict the sample to only include women of working age (up to 60 years of age). The coefficients increase slightly.

	Working	Working	Part-time	House-	Ever	Divorced	Any
		given	given	wife	married	given	higher
		ever mar.	working			ever mar.	edu.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Suffrage at							
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	-0.010^{**}	-0.006	-0.008	0.016***	0.013**	-0.013^{***}	-0.057^{**}
	(0.005)	(0.005)	(0.007)	(0.005)	(0.005)	(0.004)	(0.026)
age_{21-25}	-0.029^{***}	-0.020^{**}	0.005	0.035***	0.025**	-0.027^{***}	-0.092^{***}
	(0.008)	(0.009)	(0.018)	(0.007)	(0.009)	(0.004)	(0.023)
age_{26-35}	-0.068^{***}	-0.052^{***}	0.016	0.066***	0.033***	-0.030^{***}	-0.149^{***}
	(0.009)	(0.012)	(0.024)	(0.007)	(0.010)	(0.005)	(0.042)
age_{36-58}	-0.097^{***}	-0.080^{***}	0.034	0.092***	0.027^{*}	-0.028^{***}	-0.152^{***}
	(0.011)	(0.014)	(0.032)	(0.015)	(0.014)	(0.006)	(0.047)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Border group x							
cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Labor market x							
cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x							
canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x							
year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean dep.	0.57	0.50	0.53	0.32	0.80	0.10	0.67
No. of obs.	527,404	421,295	298,788	527,404	527,404	421,295	516,268
No. of clusters	17	17	17	17	17	17	17
R^2	0.19	0.17	0.08	0.12	0.18	0.06	0.22

Table 2: Female suffrage and the life choices of Swiss women

Notes: The results presented are based on the border design sample and estimation equation 2. Standard errors are clustered at the cantonal level and reported in parentheses. Significance levels: * .05 , ** <math>.01 , *** <math>p < .01.

Consistent with the notion that female empowerment increases the self-sufficiency of women, we find that the group socialized in an environment without FS is more likely to marry (column 5). The effect barely increases in the age of enfranchisement and ranges around 3 percentage points. This makes sense, as being ever married is an absorbing state that cannot be changed once it

has occurred. Women exposed to FS later in life are consistently less likely to divorce (column 6). This finding might be driven by both the higher probability of working and thus being able to make a living after leaving a relationship, and a higher sense of self-esteem, allowing women to leave unhappy relationships. In a nutshell, women socialized in a setting where women are empowered are less likely to marry, and if they marry, are more likely to divorce.

Studying female educational attainment, we find that women exposed to FS later in life are less likely to obtain any higher education, i.e., upper secondary or tertiary education. The difference amounts to between 5 and 15 percentage points, compared to a baseline of 67 percent (column 7). This change in human capital investment might be driven by mothers exposed to FS and envisaging an independent life for their daughters, or by potentially higher returns to education as the probability of engaging in the workforce increases.¹⁹

The estimates presented confined themselves to only exploiting variation within border groups and within local labor markets. This should render a convincing argument for the comparability of the subjects involved across cantons. As described previously, our baseline specification in equation 1 already relyies on the variation within labor market regions only, and thus regions exposed to similar shocks. Perhaps unsurprisingly, the results also turn out to be quantitatively similar if we apply this more general specification (see Table A4 in the Appendix for comparison).

When interpreting the documented estimates, it is important to note that they are not conventional treatment effect estimates aimed at capturing effects materializing immediately after some intervention. They are, rather, estimates of the accumulated differences in women's life choices over their life course. The decisions leading to these differences were made given the situation during socialization and might have been taken before or after the introduction of FS. Women in the reference group, growing up and being socialized in a world where women have a say in politics, made their decisions under the corresponding mindset. Women exposed to FS later in life and therefore socialized largely before FS, made their life choices predominantly under the corresponding attitudes and experiences. Thus, the estimates capture how much

¹⁹ Note that our results are not sensitive to alternative definitions of the age-cutoff (see Section 9).

more likely a woman is, for example, to work years later when she was exposed to FS before the age of 17, making all relevant decisions after the introduction of FS, compared with a woman experiencing enfranchisement later in life and making at least some of her decisions before the introduction of FS. This consideration is particularly important when interpreting the effects for the groups experiencing enfranchisement late in life. In our set of outcomes, there are some that are expected to be amenable to change even late in life, such as participation in the labor market. Other outcomes like marriage are much less amenable to change after a certain age (and once they have materialized). It is therefore reasonable to observe that the differences in outcomes vis–à–vis the reference group increase with the age of enfranchisement for some outcomes, while they stabilize for others.

In a supplementary analysis, we additionally draw on survey data to capture two other relevant life choices that are not covered in the census. We consistently find that women exposed to FS later in life tend, on average, to marry at an earlier age and to give birth to more children. The underlying Survey on Families and Generations is briefly introduced in the next section and the results are documented in more detail in Appendix Table A11.

Overall, we find systematic evidence that socialization in a world in which women have a say in politics changes relevant outcomes that characterize the life of women. The later in life they are exposed to female empowerment the less emancipatory, or the more traditional, are their life choices.

7 Discussion

In this section, we discuss potential mechanisms behind the documented effects of FS before we further validate our identifying assumption in Section 8. First, we explore the potential contribution of changes in men's attitudes in the overall effect of FS. Second, we draw on additional data on women's perceptions of control, their gender roles as well as their political participation to explore the relevance of the hypothesized mechanisms. Third, we present a placebo exercise which allows us to study potential spillover effects of value change.

Men's attitudes as a main driving force – The balancing exercise in the border design shows that the a priori preferences towards FS were similar in border municipalities. However, after exposure to FS men in border municipalities who experienced FS in their canton earlier, compared with those who experienced it later, are observed to be more supportive of women's enfranchisement at the federal level in 1971. From a theoretical perspective, it is thus conceivable that the impact of FS on women's life choices is partly driven by an additional effect of FS on men's attitudes regarding women's role in society. Any effect on women's life choices we observe might then be a composite of reactions due to empowerment as well as due to changes in men's behavior towards, for example, working women.

We are, of course, not able to observe what exactly motivated the change, as there is no data on changes in men's behavior around that time. However, we can explore effect heterogeneity in order to learn whether men's attitudes towards women are the main or simply an additional driving force behind our findings. In particular, we exploit the stated preferences of male voters in the federal vote on the introduction of FS in 1971. The change of the Swiss constitution was accepted and led to the introduction of FS at the federal level. However, even in supportive cantons there were municipalities where a majority of male voters opposed the introduction. These municipalities can thus be regarded as being 'forced' (by the majority in their canton) to accept the enfranchisement of women. As we would expect attitudes to be less supportive of women's empowerment and emancipation in these municipalities, the reinforcement channel would predict small or no effects of FS there, but large effects in municipalities where a majority of men were in favor of FS. If, however, the documented overall effect was primarily driven by the pure exposure to FS, we would expect to see rather similar effects across municipalities. In order to test this prediction, we estimate an interaction model allowing for heterogeneous effects depending whether the men in a municipality within our border group sample supported FS in 1971. We classify municipalities as 'supportive' (or 'forced') if a majority of male voters voted in favor of (or against) FS in the federal vote in 1971. In our sample of border municipalities, there are 124, or a fourth, 'forced' municipalities. On average, the support for FS in our border municipality sample increased by 37 percentage points between 1959 and 1971. In this, the increase was stronger in the 'supportive' group (41 percentage points) than in the 'forced' group (26 percentage points). The 'supportive' group thus also proxies municipalities with a development of attitudes that is more favorable towards FS.

The results of this exercise are presented in Figure A9 in the Appendix. The estimated effects for 'forced' and 'supportive' municipalities are generally similar. They are somewhat stronger in 'supportive' municipalities for the probability of working, being a housewife, and ever being married. For these outcomes, some reinforcement might have played a role. For the probability of divorce and a higher educational attainment, we observe just the reverse. The effects are somewhat stronger in 'forced' municipalities indicating that the empowering effect of FS played a major role in these outcomes. Overall, the results suggest that FS might have partly worked through men's attitudes, which are, however, unlikely to be the main driver behind the estimated effects.

Female suffrage and women's self-efficacy and perceptions of control – As motivated in Section 2, a potential mechanism for the effect of FS on life choices proposes that formal political participation rights increase women's (perceived) self-efficacy and control. We draw on two survey waves of the Swiss Household Panel (SHP) in 2012 and 2015 to investigate the proposed mechanism. The two waves are particularly interesting as they include a battery of questions measuring individuals' self-efficacy. However, the data has some limitations and the assignment of the age at which women were enfranchised might well be fuzzy, so that the results have to be interpreted with caution.²⁰

²⁰ The sample is rather small and the data does not contain information on the canton in which respondents lived during their childhood. We concentrate on a less restrictive specification drawing on the cantonal variation in estimation equation 1 (abstracting from labor market regions) with age fixed effects that do not differ across cantons. Moreover, we distinguish between two age ranges (instead of four) for women who were enfranchised later in their life. Panel F in Appendix Table A1 provides further details on the data and the variables.

We observe that women exposed to suffrage later in life express a weaker control over life events, express their wishes with a weaker assertiveness, are more likely to indicate that their scope of action is determined by others, and express less agreement that they are free to do what they want. However, they do not express a weaker control over their wants. While not all the differences are statistically significant at conventional levels, overall they imply that women exposed to FS later in life feel less self-efficacious and in control of their lives compared to women who mainly grew up in an environment where women had a formal say in politics. The full results are reported in Table A10 in the Appendix and summarized in Figure 5a.

Female suffrage and women's stated gender norms – Conceptually, women's emancipation involves an increase in self-efficacy as well as a change in the perception of appropriate behavior, i.e., gender norms, that then materializes as systematically different life choices. Measures of stated gender norms are, however, only available in two waves for the years 2013 and 2018 of a recently implemented Survey on Families and Generations. Furthermore, the sample is, again, rather small and the results should thus be interpreted with caution.²¹

We find that women exposed to FS later in life are more likely to state that a university education and a job are more important for men than for women. They are further more likely to indicate that childcare is more important to women and that caring for children and the household is primarily the responsibility of women. Consistently, they are more likely to support the male breadwinner model and think that men should earn the family living. The full results are documented in Appendix Table A11 and summarized in Figure 5b.

Female suffrage and women's political behavior – Theories on habit formation and socialization in political participation (see, e.g., Coppock and Green, 2016; Akbulut-Yuksel et al., 2017; Fujiwara et al., 2016) predict that women exposed to political rights later in life are also less likely to participate in politics and have less clear preferences about political issues than those exposed to them early in life. We draw on the cumulative data set of the Swiss Electoral

²¹ Regarding the specification, we pursue the same less restrictive strategy as the one described in footnote ²⁰. We further document the data and the outcomes in Panel G of Appendix Table A1.



Mechanism: Summary for additional outcome measures

Figure 5: Summary of estimates on alternative outcomes regarding the theoretical mechanism. All figures depict the coefficient for the oldest group of experience (age at exposure > 25) and its 90% confidence bounds. Panel a) summarizes the estimates on measures of self-efficacy and perceived control (captured on a scale from 0 "completely disagree" to 10 "completely agree") in Appendix Table A10. Panel b) summarizes the estimates on measures of gender norms (captured with an indicator set to one if the respondent indicates that she clearly or rather agrees with the statement) in Appendix Table A11. And Panel c) summarizes the estimates on measures of political interest and behavior (captured based on different scales) in Appendix Table A12.

Studies (Selects) between 1971 and 2011, a survey conducted in the aftermath of Swiss national

elections, to test this hypothesis.²² The same notice of caution as stated above for the other survey data set also applies to the interpretation of the results here.²³

We find that women who experienced FS later in life are systematically less likely to report having voted in the last federal election. The results further indicate that women enfranchised later make their decision about which party to vote for later, are less likely to report having a clear party attachment, are less likely to report frequently discussing elections, are slightly more likely to support the statement that politics is complicated, and report a lower interest in politics. The full results are presented in Table A12 in the Appendix and summarized in Figure 5c. While not all of these effects are statistically significant at conventional levels, they still suggest that the group of women socialized without FS have a less clear political orientation and engage systematically less in politics. This is consistent with our prior results and strengthens our conclusion that what we measure has to do with the exposure to women's right to vote.

Female suffrage and the diffusion of value change – If FS in the early introducing cantons had led to a value change that broadly diffused through social exchanges across space, spill overs across cantonal borders might have occurred. In the applied border design, the effect of the institutional change on emancipation would thus be underestimated. In order to assess the potential empirical relevance of the diffusion of value change, we engage in a placebo exercise and test for a hypothetical effect at the main language border within Switzerland, i.e., the one between the French and the German speaking part. Importantly, this 'border' cuts cross three cantons, i.e., Bern, Fribourg, and Valais. We assume that any diffusion of values is most pronounced within a common cultural area, such as a language region. Consistent with this idea, language is found to be a major determinant of identity and culture and to be key in cultural transmission processes (Clots Figueras and Masella, 2013). The Swiss language regions are historically determined and have been rather stable since the eighteenth century. Prior research consistently shows that the French-German language border separates two culturally

 $^{^{22}}$ $\,$ See Panel E in Appendix Table A1 for more details on the data and the variables.

 $^{^{23}}$ We also again concentrate on the less restrictive specification described in footnote 20 .

distinct areas, where measures of values, norms, and political attitudes are found to change discontinuously (see, e.g., Eugster et al., 2011, 2017; Eugster and Parchet, 2019). As described in the historical overview, the early introducing cantons are mainly in the French speaking part of the country. If the spatial diffusion was quantitatively important then the cohorts of women in the French speaking municipalities in any of the cantons that know a language border would be expected to undertake systematically less traditional life choices than the women from the same cohort in the German speaking municipalities.

In order to construct the placebo exercise we concentrate on municipalities within a range of 3km around the French-German language border (see Appendix Figure A5). We adopt the same empirical approach as before. In order to mimic the timing of the differential cultural impact, we assign the French speaking area the earliest possible date of exposure to any impact of FS, i.e., 1959, and the German speaking part the latest, i.e., 1971. As now there is variation in the age of exposure, within the bilingual cantons, we can augment the specification in equation 2 by canton-specific cohort effects to control for anything cohorts within a canton have commonly experienced.²⁴ The specification thus draws on variation in the age of exposure to the impact of potential value changes related to FS across language cultures within cantons and local labor markets.

Appendix Table A5 presents the resulting estimates for the sample of individuals in the language border municipalities. They clearly show that there is no systematic evidence for spillover effects for the probability of working, being a housewife, being married or divorced, and for the probability of holding any higher education. The coefficients are not only not statistically significant, but also very small compared to our main estimates. There is one exception, i.e., the probability of working part-time. In contrast to our main estimates, we now see a difference. Cohorts of women who were potentially affected from the value change later are more likely to work part-time. Overall, we conclude that in our setting the diffusion of value change across

²⁴ Note that the results are virtually unchanged if we choose a less restrictive specification and forgo the canton-specific cohort effects.

institutional borders is less of an issue and that our main estimates (with the possible exception of the decision to work part-time) are likely to capture the full impact of the exposure to FS.

8 Validation of identifying assumption

We argue that FS affected attitudes and norms contributing to societal change. However, evolving attitudes about women's role in society might well have driven the introduction of FS in the different cantons as well as the outcomes in women's life choices that we observe in our empirical analysis. In order to capture the effect of exposure to FS on norms and behavior in this bidirectional relationship, we exploit the variation in the age of exposure to FS, drawing only on the variation within border groups and local labor markets, conditioning on an extensive set of fixed effects controlling for a large set of potential confounders. Any remaining confounding societal change would have to be cohort-canton specific within locally close municipalities to explain our statistical findings. This is the relevant level where we cannot control for unobserved factors, as this level coincides with the one from which we derive our identifying variation.

While we cannot fully rule out a violation since we cannot observe all historical events, in this section we discuss three additional validity checks of our main identifying assumption, i.e. that cohorts across cantons would have evolved in parallel if not for the introduction of FS. Specifically, we (i) test for parallel cohort trends on outcomes that stabilize early in life, (ii) check for cantonal pre-trends in historical cantonal data, and (iii) present evidence validating that there was no direct effect of FS on policy outcomes.

Parallel cohort trends – Our identification strategy is based on the assumption that the cohorts across cantons would have evolved in parallel if FS had not been introduced. This assumption is not directly testable, as we cannot observe individuals in such a counterfactual context. However, the fact that some outcomes stabilize rather early in life in combination with




(a) Average probability of having any higher education

(b) Development of cohort differentials

Figure 6: Evolution of the probability of having any higher education for cohorts of Swiss women in cantons introducing FS either early (up to 1960) or late (after 1970). Panel a) presents the raw averages for both groups by cohorts. Panel b) visualizes the deviation of the difference between the *Early* and *Late* group of later cohorts from cohorts born between 1900 and 1904 (reference group). The results presented are based on the border design sample.

the idea that the impact of the exposure to suffrage is stronger, the younger an individual is, leaves scope to test for pre-trends in cohort outcomes within border groups across cantons.

Outcomes like educational attainment will primarily change up to a certain age and much less thereafter. Cohorts already older at the time of the introduction of FS should thus be less affected by the constitutional change. If our assumption holds, their outcomes are not expected to show a diverging trend in early- and late-introducing cantons. We follow this line of reasoning and compare within-cohort differences in female outcomes for the set of border municipalities across two sets of cantons, those introducing FS early (up to 1960) and those introducing it late (after 1970). If the assumption of parallel cohort trends holds, we should not observe that older cohorts in the two groups of cantons diverge systematically (the cohort differential should be fairly stable). It should only diverge for those cohorts that were 'young enough' to respond. As labor market participation is an outcome that can be affected up to a higher age, it is not suitable as an outcome for this analysis. Figure 6 visualizes the average development of the probability of having any higher education within both groups and over cohorts (in the graphs on the left), and shows formal tests for the change in the average differential between the outcome of the two groups with respect to individuals born between 1900 and 1904 (the reference group) (in the graph on the right). According to our assumption of parallel trends in early- and late-introducing cantons, we would expect that the differential does not change systematically for those cohorts *too old* to respond to the treatment, but would gradually diverge for those cohorts which were *young enough* to respond, before it might converge again for cohorts in which all individuals were treated early in life.²⁵ The x-axis of the figures presented mark the year of birth and age in 1960, the last year FS was introduced in cantons that we define as early adopters.

Educational attainment is likely to stabilize after the age of about 25, or at the latest after the age of 30 for higher education. Figure 6a depicts the fraction of Swiss women with any higher education across cohorts born between 1900 and 1960. We see that overall women in the border groups of *early*-adopting cantons are less likely to have any higher education (a baseline difference that is accounted for by the border group and canton effects in our main specification). Moreover, the average probability of having any higher education moves reasonably in parallel for the cohorts in the two groups of cantons up to the cohort born in about 1930. For cohorts thereafter, the probability of having any higher education seems to increase to a greater extent in the *early*-adopting cantons. Figure 6b shows the corresponding test, i.e., the development of the cohort differentials between *early*- and *late*-adopting cantons in five-year bands, using the difference for individuals born between 1900 and 1904 as reference. The difference remains quite stable and there is no systematic divergence from that in the reference group up to the cohort born between 1930 and 1934, with women being between 30 and 25 years old in 1960.

In order to estimate the development of the differential between early and late introducing cantons, we group cohorts in bins of 5 birth years (1900 to 1904, 1905 to 1909, 1910 to 1914, ...). We then estimate any divergence for the respective group with regard to the difference between late and early introducing cantons and cohorts born between 1900 and 1904, which form our reference group. The estimated specification is the following: $Y_i = \alpha_0 + \mu Early + \sum_{k \neq (1900-1904)} (\beta_k \mathbb{1}_k) + \sum_{k \neq (1900-1904)} (\gamma_k \mathbb{1}_k \times Early) + \epsilon_i$, where Y is the dependent variable, Early is an indicator set to one for early introducing cantons, and $\mathbb{1}_k$ are the indicators for the cohort groups. Consequently, the γ s indicate the deviation from the difference in the reference group. These coefficients are displayed in the graph on the right.

The difference decreases (the estimated differential increases) for younger cohorts, indicating that women in the *early*-adopting cantons became more likely to achieve a higher educational level once exposed to FS. This divergence for the cohorts born between about 1930 and 1950 is in line with our main hypothesis and the findings in our main specification. It is the young women at the time of the introduction of FS who are affected by the institutional change. The observation that the educational outcomes for cohorts who were already older (when FS was introduced) evolve in parallel speaks for the validity of the assumption that there were no strong pre-trends in women's educational attainment.

Cantonal pre-trends – An additional way of corroborating the parallel trends assumption is to check for pre-trends in relevant cantonal outcome measures. If there were, for example, technological developments or other changes that only affected a specific group of cantons and led to the introduction of FS, then the counterfactual scenario of parallel development might not be realistic. In order to address this concern, we check for the parallel development of some relevant cantonal outcome measures that are available for the periods before the introduction of FS in historical statistics. The investigated variables are described in Panel C of Appendix Table A1. As municipality level data is not available, we cannot concentrate on the set of border municipalities in this analysis. Note that any level differences we observe in these figures at the cantonal level are not a concern as they are accounted for in our empirical specification. We are primarily interested in whether we see diverging trends.

Panel a) in Figure 7 shows the average number of live births separately for cantons introducing FS early (before or in 1960) and cantons introducing it late (after 1960). While the birth rate is on average lower for the early-adopting cantons, it seems to evolve mostly in parallel up to 1970. Panel b) depicts the respective evolution of divorces. While the divorce law is federal law, the divorce rate is still higher in early-adopting cantons. However, it evolves mostly in parallel in both groups of cantons. Panel c) turns to the development of women's education, and shows the proportion of female university students by their canton of origin. While the early-adopting cantons start at a higher level of female students than the late-adopting





(b) Number of divorces per 1,000 marriages

(c) Share of female university students by canton of origin



Figure 7: Cantonal trends for cantons introducing FS early (up to 1960) and late (after 1960). These graphs show the average historical outcomes of the two groups over time. The historical outcomes and the sources are described in Panel C of Appendix Table A1.

cantons, the proportions evolve in parallel until the former introduce FS around 1960. Thereafter the fraction of female students from these cantons increases. Panel d) presents the average amount of child allowance in the two groups of cantons. This is one of the few direct policy measures available over time. We do not observe a strongly converging or diverging trend in the allowances between the two groups before FS was introduced. Panel e) turns to a more general societal development and possible competing driver of female emancipation. The alternative explanation for our findings would be that urbanization accelerated and traditional family models dissolved earlier in cantons introducing FS early rather than late, and that this led to both the extension of suffrage and changing gender roles. Such developments are, of course, hard to capture quantitatively, especially in a historical perspective. One possible – perhaps unusual - proxy measure that is available is how many families hold poultry. Poultry keeping is strongly related to traditional lifestyles and is normally the duty of women. Using the number of poultry holders per 1,000 inhabitants as an approximation for prevailing traditional gender roles and looking at its development over time, we find that it evolves rather in parallel in both groups of cantons, while the level is somewhat higher in the late-adopting cantons. Finally, it is conceivable that some economic shocks affected both the introduction of FS and women's roles in society. Panel f) delineates the development of national income per capita in both groups of cantons. They evolve roughly in parallel, not indicating any major deviations in trends that might explain our findings. Figure A8 in the Appendix presents the estimated change in differences between the two groups for all the six cantonal outcome measures.

Overall, this cantonal trend perspective indicates that cantons introducing FS early rather than late tend to be more 'modern' regarding the specific indicators considered in this section. None of the level differences can have driven our results, however, as border design resolves the level differences. Moreover, we do not observe striking deviations in the trends across the two groups of cantons preceding the introduction of FS, which would suggest important confounders.

Policy effects of suffrage extension – Another potential threat to our identifying assumption are policy effects of FS. This would be an alternative explanation for our findings if cantonal policy changes were induced by the introduction of FS, which affected the corresponding cohorts in a specific manner, leading to the observed patterns in life choices. Such policy effects would pose a potential problem in the interpretation of our results, as they would prevent us from distinguishing between the effects of political empowerment per se and the indirect effects via the impact on cantonal policies. In that regard, it comes as an advantage that the institutional changes, with the first cantonal introduction of FS in 1959, occurred comparatively late. Major developments in public health, social security, and education policy had already taken place, reducing the risk that policy changes explain the patterns observed in life choices. In line with this reasoning, and contrary to studies evaluating the policy impact of FS in the U.S. that document an increase in spending once women are granted the right to vote (see, e.g., Lott and Kenny, 1999; Kose et al., 2021), similar evaluations for Switzerland fail to document fiscal responses (see, e.g., Stutzer and Kienast, 2005; Krogstrup and Wälti, 2011). Appendix D presents a state-of-the-art re-evaluation of the prior findings. In an event-study framework, we do not find any impact of FS on relevant electoral outcomes, i.e., the share of mandates for the Social Democrats (SP) in cantonal parliaments. In a similar vein, we furthermore also fail to find any impact of FS on total cantonal per capita spending and the level of child allowances. This makes us confident that the Swiss case offers a unique opportunity to learn about the emancipating effects of FS absent any sharp confounding policy changes.

9 Robustness

This section assesses the robustness of our estimates with respect to (i) alternative age-cutoffs, (ii) the potential bias from selective mobility, and (iii) sensitivity to correction for a small number of clusters. It furthermore demonstrates the power of our fixed effects strategy to control for spurious correlations.

Alternative age-cutoffs – While we set the age of 17 as an age-cutoff in our empirical analysis based on theories of socialization, there are, of course, reasonable alternative choices. Table A6 in the Appendix presents our main results based on an age cut-off of 13, using women experiencing FS before the age of 13 as the reference group. The results are qualitatively unchanged from the ones presented in the main analysis. In addition, Figure A7 presents the estimated coefficients for the probability of working iterating the reference group to an age of exposure between below 17 to below 5. The implied differential life choices remain similar, irrespective of the particular threshold.

Sorting: Female suffrage and migration – In order to specify the age of experience correctly, in our specific setting, we exclude women who left their birth canton. For them we only know that they no longer live in their canton of birth, but lack more specific information about their origin and moving behavior. Accordingly, a concern for the interpretation of the observed empirical patterns in women's life choices might be that they reflect spatial sorting triggered by the staggered introduction of FS. A possible scenario that would lead to comparable effects turns out to be quite complicated however.

Section E in the Appendix presents a test for such a strategic selection. Our test is based on the information on whether a woman still lives in the canton where she was born. The estimates do not support selective mobility as a potential driver of our estimates. We conclude that it is rather unlikely that migration reactions drive the documented differences.

Robustness of inference – As our estimates only cover 17 cantons, our clustered standard errors might over-reject the null due to the small number of clusters. We check whether our main estimates remain robust if we apply the Cameron et al. (2008) cluster wild bootstrap procedure. The results are reported in Table A14 in the Appendix.²⁶ While we lose some power in some estimates, most results remain statistically significant at the 90% level. The exception is the estimates for educational attainment. Some coefficients fall slightly below conventional levels of statistical significance with the alternative inference.

Power of fixed effect strategy – We validate that the chosen fixed effect strategy has the power to control for spurious correlations due to potential confounds by re-estimating our main model on a placebo outcome. We would not expect that the age at which women were exposed to FS has a systematic impact on the probability of them being widowed (conditional on ever been married). Still, when estimating the simple correlation without any fixed effect we see a sizable positive correlation. The later in life a woman was exposed to FS, the more likely she is to be widowed (see column 1 in Table A13 in the Appendix). However, women experiencing suffrage later are, on average, also older when they appear in our sample. Controlling for age effects therefore considerably reduces the observed correlation, though it remains systematic (column 2 and 3). Independent of FS, the women treated late in our sample, on average, are more likely to be from older cohorts. They might be more likely to be widowed for other reasons, such as being, on average, much younger than their husbands. Including cohort effects should

²⁶ More precisely, we apply the cluster wild bootstrap procedure implemented in the stata boottest package (Roodman, 2018).

address this issue. Column 4 shows that cohort effects erase any systematic correlation. As expected, the age of exposure to FS does not play a role in the likelihood of being widowed. The remaining fixed effects do not seem to matter much for this placebo outcome (columns 5 to 7). This empirical exercise demonstrates that there is a potential for spurious correlations in the relationship between women's outcomes and their age of exposure to FS. However, our empirical strategy is capable of controlling for a wide range of confounding factors.

10 Conclusion

Changes in women's lives have, to a large extent, marked the social and economic transformation in countries with developed economies over the last century. For the United States, Goldin (2006) termed the transformation of women's employment, education and family as a "quiet revolution" (p.1) that led to the change in women's roles in society and households, i.e. "[i]t was a change from passive actors, who take the income and time allocation of other members as given, to active participants who bargain somewhat effectively in the household and the labor market" (p. 2). Most of this development is understood as a consequence of technological advances in the economy but also in medicine, especially with the contraceptive "pill".

In this paper, we emphasize the forces unleashed by a sometimes not-so-quiet revolution, i.e., the enfranchisement of women. The main argument is that FS not only led to political empowerment, but also increased women's perceptions of control in the private sphere, expanding the conceivable opportunity set for them and their daughters in the short- and long-run. We exploit the staggered introduction of FS across the Swiss cantons that led to the situation that women born in the same year but living in different cantons were allowed to vote at different points in time. This produces variation in the age since which women were exposed to FS, which forms the basis of our identification approach. Specifically, we study how socialization in an environment in which women hold formal democratic participation rights changed women's lives in terms of their labor force participation, their educational attainment, as well as their marital status. The fact that the late empowerment of women in the political sphere did not lead to discernible policy consequences in the Swiss case, allows us to abstract from many potential alternative channels other than the impact of exposure to FS on life choices.

Based on Swiss census data and exploiting the variation within border groups of municipalities, we find that women who experienced the introduction of FS later in life show a lower probability of carrying out paid work compared to women exposed to FS early. Further, we observe that women exposed to FS later have a higher probability of being a housewife and are more likely to marry and to stay married. Finally, women who were socialized in an environment without FS are less likely to achieve higher levels of education. We undertake a number of supplementary analyses to validate our main identifying assumption of parallel cohort trends and to assess how likely it is that alternative forces explain our results. We do not find any indication for confounding developments that might explain our findings. Our evidence, however, suggests that the changes in women's life choices might have partly arisen due to a reinforcement effect working through men's attitudes and complementing the direct effects of the empowerment. In a series of additional analyses based on survey data, we observe that the differential exposure to FS is consistently mirrored in attitudes, norms and political behavior. A later adoption of FS in a women's life is associated with a lower level of perceived control, more traditional gender norms and less involvement in politics.

While previous research strikingly documents the long-term persistence of gender norms, often due to their institutionalization in unequal property rights, our results suggest that changes in constitutional rights have the potential to trigger a fundamental transformation in these norms in the short- to mid-term. With women's enfranchisement, the playpen was rendered wide open.

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Women leaving the playpen:

The emancipating role of female suffrage

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Appendix

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A Female Suffrage in Switzerland

A.I Democratic movements for female suffrage

By and large, four interrelated movements towards FS can be delineated in Switzerland. First, there were several attempts to give the constitutional clause regarding the principle of equality a new interpretation, i.e., that it would imply equal political rights for women and men. All these attempts failed (Ruckstuhl, 1986). Second, there were the efforts of male parliamentarians to initiate constitutional change with the procedural means they had. These efforts were primarily motivated by the goal of later winning the votes of the newly enfranchised women. Third, there was the pressure from national women's associations to hold a federal referendum on the introduction of FS. Fourth, there were the local women's movements that campaigned for FS at the cantonal or at least at the municipal level.

Concurrent decentralized developments were shaped by different sets of political ideas (see, e.g., Studer 2015). On the one hand, the historic model of the Landsgemeinde²⁷, as a forum of men who could at any time be called up to defend it, had been an important reference point in men's understanding of the state. Related ideas linking citizenship, military duty and direct democracy were maintained as a position against power sharing in many of the numerous all-male associations. On the other hand, there were the human rights ideas of the French Revolution and the discourse of the French constitution that favored equal rights for women.

A.II An historical overview of female suffrage in Switzerland

Early demands and defeats

In the late 19th century, the demand for gender equality in the civil law was expanded to political rights. When the canton of Zurich revised its constitution in 1868, some women anonymously postulated the active and passive voting right for women, albeit without success though. As part of the international women's movement, a Genevese founded the Association international des

²⁷ The Landsgemeinde can be described as a (cantonal) assembly where eligible voters gather on a centrally located square to publicly deliberate and vote on proposals by a show of hands.

femmes, and several educational and professional associations took a stand for the betterment of women's legal and economic situation including the right to vote. In 1893, the Swiss Association of Female Employees (Schweizerischer Arbeiterinnenverband) officially demanded FS.

At the beginning of the 20th century, cantonal associations for FS emerged, which in 1909 formed the Swiss Association for Women's Right to Vote (Schweizerischer Verband für Frauenstimmrecht, SVF) (Hardmeier, 1997). Their members often came from the Protestant bourgeoisie and were well educated. Compared to their fellow campaigners abroad, their demands were less radical. Influenced by leading feminists as well as a liberal politician of the National Council and professor for constitutional law (Carl Hilty), many members pursued a piecemeal approach and asked first for political rights in church, school and welfare councils on the municipal level and only in a prospective next step for FS at the cantonal and federal level.

One impediment to women's demand in the eyes of their opponents was the argument that the right to vote is closely connected to the citizen's duty to do military service. Accordingly, during the First World War, members of women's associations saw their involvement in wartime welfare and their collection of money for the support of families whose breadwinner was on active duty as an implicit service to earn political rights. At the federal level, they failed in this effort. Moreover, two motions in the National Council in 1918 were only referred to the Federal Council as a postulate to which it did not respond.

In parallel, there were attempts in the cantons. Motions for FS were submitted in the cantons of Basel, Bern, Geneva, Neuchâtel, Zurich and Vaud, but most of them failed in parliament. In Geneva, the Voting Rights Association launched a popular initiative that was voted on in 1921. It failed, as did all the referendums held between 1919 and 1921 in Neuchâtel, Basel, Zurich, Glarus and St. Gallen. The fraction of nays was high at between 65% and 80%.²⁸

The defeats in the cantons curbed parliamentary activities in the cantons, and the political sentiment influenced by politically conservative and fascist ideas turned towards women's traditional role in the home. The demand for political rights was still presented in the first Swiss Exhibition for Female Labor (SAFFA) in Bern in 1928 and a year later in a petition of the SFV

²⁸ The only small success for women was in the canton of Ticino, where the parliament introduced family suffrage in 1919 in the civic communities. This family suffrage could be exercised by a man or a woman.



Figure A1: Poster of the Swiss Association for Female Suffrage in 1950. The poster says: "All over Europe women vote. Switzerland is the only exception. Swiss women, claim your political rights! Male voters, give women political rights!" *Source:* Gosteli-Stiftung.

with a quarter of a million signatures (with about one third of them from men). Again, the Federal Council did not react. Moreover, there was now also dissent from some women, with the Swiss Catholic Women's League explicitly disassociating itself from the petition.

Run up to first introductions at the cantonal level

The proceedings around the introduction of voting rights for women during and immediately after the Second World War turned out similarly to the experiences thirty years before. Women's associations engaged in wartime welfare and in several cantons there were votes on the FS at the municipal or cantonal level. The SFV accompanied these cantonal campaigns with advertisements like the one presented in Figure A1, which was considered rather provocative at the time. However, the outcome for the activists was disenchantment; all the reform proposals were rejected (1946 in Basel, Basel District, Geneva, and Ticino, 1947 in Zurich, 1948 in Neuchâtel, and Solothurn, and 1951 in Vaud), although, compared to the votes in the 1920s, with lower fractions of nays. The SFV experienced (and complained about) a lack of interest among women (Hardmeier 1997, p. 463) and by 1951 there were only 30 sections of the association in 16 cantons with a total membership of 4,133.²⁹ Moreover, the Federal Council responded to a further postulate that it would be 'too early to have a national referendum'.

The latter assessment changed when the Federal Council was confronted with opposition to its own political plans during the Cold War. The Federal Council wanted to introduce a compulsory civil defense service that included women. This possible extension of obligations for women without additional rights (in particular the right to vote) sparked considerable public discussion and resistance from women's associations across the board. In reaction, the Federal Council presented the parliament with a draft for the introduction of FS in 1958. The proposal passed with the support of its opponents, who wanted to see a rejection by male voters. On February 1, 1959, the first national vote on the introduction of FS took place. The revision of the constitution was clearly rejected by 66,9% of the men participating. While FS was overall declined, the vote revealed substantial variation in men's attitudes across cantons. In three of them, men would have accepted FS (in the canton of Vaud with a share of 51.3%, in the canton of Neuchâtel with a share of 52.2%, and in the canton of Geneva with a share of 60.0% approving FS). In fact, the three cantons introduced FS at the cantonal level either on the same occasion, in the case of the canton of Vaud, or shortly after in the cantons of Neuchâtel (1959) and Geneva (1960).The discussion and vote on a mandatory civil defense service including women can thus be regarded

²⁹ The corresponding information is from a letter on behalf of the then president of the association (see Figure A2).



Figure A2: Letter from April 23, 1951 on behalf of the then president of the Swiss Association for Women's Right to Vote reporting all the sections of the association and the number of members at the time.

Source: Schweizer Sozialarchiv.

as a catalyst to the first wave of introductions of FS at the cantonal level, although the proposal was originally not considered to be linked to the extension of women's political rights. The general defeat and the first introduction wave at the cantonal level was followed by a pause³⁰

³⁰ An important representative of the women's movement at the time, Lotti Ruckstuhl characterizes the situation then as follows: "After the great debacle of the federal vote of February 1, 1959, the path to women's suffrage at the federal level was blocked for a long time. It was therefore up to the sections to strive for its realization in the cantons and municipalities. The Central Association shifted its activities to shaping public opinion" (own translation) (Ruckstuhl 1986, p. 106).

before, starting with Basel in 1966, step-by-step several other cantons followed, adopting FS on the municipal and/or cantonal level.

Federal breakthrough and cantons following suit

The turning point at the federal level was provoked by another plan of the Federal Council that stirred massive protests by old and new women's associations. In 1963, Switzerland joined the Council of Europe without ratifying the European Convention on Human Rights (ECHR). As the voting right for women would be required in the ECHR, the Federal Council decided in 1968 to consider accession with the reservation that FS would be excluded. This step gave new momentum to the movement for FS. In this, the traditional associations for women's right to vote were spurred to more assertiveness by activists of the movement of 1968. In 1969, a "March to Bern" was organized as a large demonstration for FS; further, more progressive women in 1970 formed the "Movement for the Liberation of Women" (Frauenbefreigungsbewegung). These developments led another three cantons to vote on and introduce FS at the cantonal level (i.e., the cantons of Lucerne, Valais and Zurich). And the Federal Council once more prepared a proposal for women's voting right that was passed by the federal parliament without opposition. On February 7, 1971, the second national vote on the introduction of FS at the federal level took place and the constitutional change was approved by 65.7% of the participating male voters and a majority of 18 out of 25 cantons. Most cantons that had not yet approved the voting right for women at the cantonal and municipal level followed suit in 1971 or 1972. The discussion about the ratification of the European Convention on Human Rights can thus be regarded as the second catalyst in the development of women's political rights in Switzerland, triggering the second and final introduction wave. Overall, it thus took about 100 years until women received equal political participation rights.³¹

³¹ Only in the canton of Appenzell Outer-Rhodes, did it take until 1989 for the Landsgemeinde to narrowly approve FS, and in the canton of Appenzell Inner-Rhodes it required a decision of the federal court in 1990, stipulating that the term fellow citizens in the constitution would also include women.

B Data Sources

Variable	Description	Source
Panel A – Main out	comes in Swiss census micro data	
	We draw on the harmonized data of the Swiss	Data access can be requested from
	census (1980-2000) and the Strukturer hebung	the FSO.
	2010 provided by Swiss Federal Statistical Of-	
	fice (FSO) (Harmonized Swiss census).	
Working	Indicator set to one if an individual indicates	Harmonized Swiss census
	being active in the labor market. This might	
	be full or part-time.	
Part-time	Indicator set to one if an individual who is in	Harmonized Swiss census
	work indicates that he or she works part time.	
Housewife	Indicator set to one if an individual indicates	Harmonized Swiss census
	that he or she works at home and is not active	
	in the labor market.	
Ever married	Indicator set to one if an individual's marital	Harmonized Swiss census
	status is married, widowed, or divorced, and	
	thus indicates that the individual is or was	
	married.	
Divorce	Indicator variable set to one if an individual	Harmonized Swiss census
	indicates that he or she is divorced.	
Any higher educa-	Indicator set to one if an individual indicates	Harmonized Swiss census
tion	that his or her highest educational attainment	
	is higher secondary education (Germ.: Sekun-	
	darstufe II) or tertiary education (Germ.: Ter-	
	tiärstufe). The indicator is set to missing for	
	those who indicate they are still in education,	
	as for them the highest level is not recorded.	

Table A1: Variables and sources

Variable	Description	Source			
Panel B – Municipality level outcomes: balancing test for the border design					
	Demographics				
Share french	Share of total population with French as main	Municipality level data from the			
	language in % (1950).	Historical Atlas of the Swiss Federal			
		Census in 1950			
Share older 65	Share of total population older than 65 in $\%$	Municipality level data from the			
	(1950).	Historical Atlas of the Swiss Federal			
		Census in 1950			
Share female	Share of female population in $\%$ (1950).	Municipality level data from the			
		Historical Atlas of the Swiss Federal			
		Census in 1950			
Population density	Inhabitants per $\rm km^2$ total area (1950).	Municipality level data from the			
		Statistical Atlas of Switzerland, his-			
		torical statistics, 1950			
Population	Number of residents (1950).	Municipality level data from the			
		Statistical Atlas of Switzerland, his-			
		torical statistics, 1950			
	Political preferences				
Yes share 1945	Percentage of yes votes in the vote on "For the	Municipality level vote outcomes as			
	family" (German: Gegenentwurf zur Volksini-	provided by Swissvotes, Année Poli-			
	tiative "Für die Familie", #139). A yes-vote	tique Suisse.			
	indicated support for the following changes:				
	The Confederation is assigned the general				
	competence to take care of the family and				
	its well-being by means of appropriate mea-				
	sures, thus anchoring family protection in the				
	constitution. Furthermore, it commissioned				
	the introduction of a general maternity				
	insurance granting authority over the rele-				
	vant family compensation funds.				

 $Table \ A1 \ continued$

Variable	Description	Source	
Yes share 1957	Percentage of yes votes in the vote on	Municipality level vote outcomes as	
	a new "Civil protection law " (German:	provided by Swissvotes, Année Poli-	
	"Zivilschutzartikel", #180). A yes-vote indi-	tique Suisse.	
	cated support for a compulsory civil de-		
	fense service including women.		
Yes share 1959	Percentage of yes votes in the first vote on the	Municipality level vote outcomes as	
	"Introduction of the right to vote for women	provided by Swissvotes, Année Poli-	
	in federal matters" (German: "Einführung des	tique Suisse.	
	Frauenstimm- und -wahlrechts in eidgenössis-		
	chen Angelegenheiten", #191). A yes-vote in-		
	dicated support for the introduction of fe-		
	male suffrage at the federal level.		
Yes share 1970	Percentage of yes votes in the vote on the	Municipality level vote outcomes as	
	"Right to housing and expansion of family	provided by Swissvotes, Année Poli-	
	protection" (German: "Recht auf Wohnung	tique Suisse.	
	und Ausbau des Familienschutzes", #222). A		
	yes-vote indicated support for a constitutional		
	right to housing that obliged the Confeder-		
	ation to guarantee every citizen housing that		
	meets his or her needs at a reasonable rent.		
Yes share 1971	Percentage of yes votes in the second vote	Municipality level vote outcomes as	
	on the "Introduction of the right to vote for	provided by Swissvotes, Année Poli-	
	women in federal matters" (German: "Ein-	tique Suisse.	
	führung des Frauenstimm- und -wahlrechts in		
	eidgenössischen Angelegenheiten", #224). A		
	yes-vote indicated support for the introduc -		
	tion of female suffrage at the federal		
	level.		

Table A1 continued

Variable	Description	Source	
Yes share 1981	Percentage of yes votes in the vote on "Equal rights for man and woman" (German: "Gle- iche Rechte für Mann und Frau", #306). A yes-vote indicated support for the equality between men and women , especially in the family, education and work. It also entailed the constitutional right to equal pay for work of equal value.	Municipality level vote outcomes a provided by Swissvotes, Année Pol tique Suisse.	
Panel C – Historical	cantonal outcomes: Analysis of cantonal p	pre-trends	
Number of live births Number of divorces	Number of live births per 1,000 women be- tween 1900 and 1990. Number of divorces per 1,000 marriages be- tween 1926 and 1995.	Historische Statistik der Schweiz (HSSO), https://hsso.ch/ HSSO	
Proportion of fe- male university stu- dents	Proportion of female university students by their canton of origin between 1930 and 1984. This data was digitized from the printed ver- sion of the Swiss statistical yearbook (Germ.: Statistisches Jahrbuch der Schweiz), where the relevant information was available be- tween 1930 and 1932. The data for the years between 1935 and 1971 and between 1974 and 1984 were retrieved from two studies of the FSO on students at Swiss universities (Germ.: Studierende an den schweizerischen Hochschulen). The information about stu- dents' canton of origin is not coded in the same way across all the sources and years but should still be largely comparable. It either refers to the home canton, the canton of residence of the students' parents, or the canton in which the student lived before starting to study.	Statistisches Jahrbuch der Schweiz (FSO, various years) and Studierende an den schweiz- erischen Hochschulen (FSO, various years)	

 $Table \ A1 \ continued$

Variable	Description	Source
Child allowance	Cantonal child allowance between 1958 and 1990	The data was digitized from an FSO publication entitled "An- sätze Kinderzulagen ab 1958" (available at https://www. bsv.admin.ch/bsv/de/home/ sozialversicherungen/famz/ grundlagen_und_gesetze html)
Number of poultry holders	Number of poultry holders per 1,000 inhabi- tants between 1918 and 1966. It is calculated from the absolute number of poultry holders per canton and the total population. As the poultry holder and population series are not always available for exactly the same years, i.e., population data is only available for cen- sus years, we use the closest census year and assign it to the number of poultry holders.	grundiagen-und-gesetze.ntmi). HSSO
National income per capita	National income per capita between 1950 and 1995	HSSO
Panel D – Historical	cantonal support for FS	
Yes share in vote on female suffrage	Percentage of yes votes in cantonal votes on the introduction of FS at the cantonal level (and usually also at the municipal level).	The results of the cantonal votes were digitized from the supplemen- tary document in the book by Ruckstuhl (1986). The results of the federal votes are provided by Swissvotes, Année Politique Suisse.
		continued

 $Table \ A1 \ continued$

Variable	Description	Source	
Panel E – Survey dat	ta on political behavior		
	We use data from the Swiss Electoral Studies	The data is available at www.	
	$({\bf Selects})$ between 1971 and 2011. Selects is	selects.ch.	
	a survey conducted among about two to four		
	thousand citizens in the aftermath of national		
	elections, which take place every four years.		
	We concentrate on the survey waves in which		
	individuals reported the canton they lived in		
	as a child. This allows us to determine the age		
	at which individuals were exposed to FS.		
Voting participa-	Indicator set to one if the respondent indicates	Selects/vp1	
tion	having voted in the last federal election.		
Late election deci-	Indicator set to one if the respondent indicates	Selects/mvd1	
sion	having made their voting decision days/one $% \left({{{\left({{{{{{\rm{b}}}}} \right)}_{\rm{cl}}}}} \right)$		
	week before or just before the vote.		
Party attachment	Indicator set to one if the respondent indicates	Selects/pid1	
	having a clear party affiliation.		
Discuss elections of-	Indicator set to one if the respondent indicates	$\mathrm{Selects/pp2}$	
ten	discussing elections frequently.		
Politics is compli-	Agreement with the statement that politics is	Selects/peff3	
cated	complicated, measured on a scale from 0 to 1, $% \left({{{\rm{D}}_{{\rm{D}}}}_{{\rm{D}}}} \right)$		
	with decimal values. A higher value on the		
	response scale indicates a higher agreement.		
Political interest	Respondent's stated political interest on a	Selects/pi1	
	scale from 1 "not interested at all" to 4 "very		
	interested".		

Table A1 continued

Variable	Description	Source			
Panel F – Survey data on self-efficacy and perceived control					
	We use data from two waves of the Swiss	The data is available at https:			
	Household Panel (\mathbf{SHP}), i.e., 2012 and 2015.	//forscenter.ch/projects/			
	We only use individuals who were Swiss citi-	swiss-household-panel/.			
	zen since birth, who are not a dual citizen, who				
	have resided in Switzerland since their birth,				
	and who have not moved within the last year.				
	We drop individuals whom we know moved				
	after the age of 15.				
Little influence on	Agreement with the statement that she has	SHP			
life	little influence on life events, measured on a				
	scale from 0 "completely disagree" to 10 "com-				
	pletely agree".				
Wants in own hands	Agreement with the statement that what she	SHP			
	wants is in her own hands, measured on a scale				
	from 0 "completely disagree" to 10 "completely				
	agree".				
Find a way to suc-	Agreement with the statement that when she	SHP			
ceed	really wants something she usually finds a way $% \left({{{\mathbf{x}}_{i}}} \right)$				
	to succeed, measured on a scale from 0 "com-				
	pletely disagree" to 10 "completely agree".				
Others determine	Agreement with the statement that others de-	SHP			
what I do	termine what she can do in life, measured on a				
	scale from 0 "completely disagree" to 10 "com-				
	pletely agree".				
Can do what I want	Agreement with the statement that she can	SHP			
	do everything that she wants to do, measured				
	on a scale from 0 "completely disagree" to 10				
	"completely agree".				

Table A1 continued

	Table AI continuea	0	
Variable	Description	Source	
Panel G – Survey da			
	We draw on the two available waves from 2013	Data access can be requested from	
	and 2018 of the Survey on Families and Gen-	the FSO.	
	$erations~({\it EFG})$ (Germ.: Erhebung zu Fam-		
	ilien und Generationen). We concentrate on		
	individuals who were born in Switzerland and		
	have been Swiss citizens since birth, who are		
	not dual citizens, who have resided in Switzer-		
	land since their birth, and who still live in		
	the canton they were born in when observed		
	(this information is generated based on a data		
	linkage between the EFG and the population		
	register Statpop). For considerations of com-		
	mon support in age, we restrict the sample to		
	women above the age of 45.		
University more im-	Answer to the question about for whom a uni-	$EFG/s_eins05b$	
portant for men	versity education is more important. Indicator $% {\displaystyle \int} {\displaystyle \int } {\displaystyle \int { \displaystyle \int } {\displaystyle \int } {\displaystyle \int $		
	set to one if the respondent indicates that it		
	is clearly or rather more important for men.		
Job more important	Answer to the question about for whom a job	$EFG/s_eins05c$	
for men	is more important. Indicator set to one if the		
	respondent indicates that it is clearly or rather		
	more important for men.		
Childcare more im-	Answer to the question for whom taking care	$EFG/s_eins05d$	
portant for women	of any children is more important. Indicator		
	set to one if the respondent indicates that it is		
	clearly or rather more important for women.		
Support male	Answer to the question about who should earn	$EFG/s_eins05e$	
breadwinner	the necessary money for the living of the fam-		
	ily. Indicator set to one if the respondent in-		
	dicates that it is clearly or rather the respon-		
	sibility of men.		

Table A1 continued

Variable	Description	Source		
Women responsible	Answer to the question about who is responsi-	$EFG/s_eins05f$		
for household and	ble for the household and the children. Indica-			
children	tor set to one if the respondent indicates that			
	it is primarily the responsibility of women.			
Age at marriage	The age at which married women got married.	EFG		
No. of children	The number of children a women reports to	EFG		
	have given birth to.			
Panel H – Outcomes	in analysis of policy effect of FS			
Share SP mandates	Share of mandates of the Social Democratic	Data on the historical cantonal elec		
	Party of Switzerland (SP) in cantonal parlia-	tion outcomes is available from the		
	ments.	FSO website (https://www.bfs.		
		admin.ch).		
Cantonal spending	Total cantonal government spending divided	HSSO		
per capita	by the cantonal population in 1970.			
Child allowance	Cantonal child allowance between 1958 and	The data was digitized from an		
	1990	FSO publication entitled "An-		
		sätze Kinderzulagen ab 1958"		
		(available at https://www.		
		bsv.admin.ch/bsv/de/home/		
		sozialversicherungen/famz/		
		grundlagen-und-gesetze.html).		

 $Table \ A1 \ continued$

Notes: This table provides details on the definition and sources for the dependent variables in all our empirical analyses.

C Tables and Figures

Canton	Year of first exposure (treatment)	Level	Support at time of introduction	Comments
Aargau	1971	*	50.2	municipal/cantonal February 1971
Appenzell O.Rh.	1971	*	39.9	municipal in April 1972; cantonal April 1989
Appenzell I.Rh.	1971	*	28.9	municipal/cantonal November 1990
Basel	1966	cantonal/municipal	60.0	_ ,
Basel District	1968	cantonal	68.1	municipal September 1970
Bern	1971	*	66.5	municipal/cantonal December 1971
Fribourg	1971	*	71.1	municipal/cantonal February 1971
Geneva	1960	cantonal/municipal	55.4	
Glarus	1971	*	41.3	municipal/cantonal May 1971
Grisons	1971	*	54.8	cantonal March 1972; municipal February 1983
Jura	1971	*	66.5	municipal/cantonal December 1971
				(as part of Bern)
Lucerne	1970	cantonal/municipal	63.0	
Neuchâtel	1959	cantonal/municipal	53.6	
Nidwalden	1970	municipal	55.8 (in 1971)	cantonal April 1972
Obwalden	1971	*	46.7	cantonal September 1972
St Gallen	1971	*	46.5	municipal/cantonal January 1972
Schaffhausen	1971	*	56.7	municipal/cantonal February 1971
Schwyz	1971	*	42.2	municipal/cantonal March 1972
Solothurn	1971	*	64.1	cantonal June 1971; municipal March 1980
Thurgau	1971	*	44.1	municipal/cantonal December 1971
Ticino	1969	cantonal/municipal	63.0	
Uri	1971	*	36.3	municipal/cantonal March 1972
Vaud	1959	cantonal/municipal	52.6	
Valais	1970	cantonal/municipal	72.6	
Zug	1971	*	59.9	municipal/cantonal February 1971
Zurich	1970	cantonal/municipal	67.0	

Table A2: Introduction dates of female suffrage in Swiss cantons

Notes: This table lists the year of first exposure to FS for each canton as used in our analysis. Cantons for which the first exposure to FS was triggered by the introduction at the federal level or happened at the same time are marked with a * and the year of its introduction on the federal level is used. In the canton of Bern, Grisons, Obwalden, Solothurn, and Zurich the municipalities could introduce female voting in an opt-in setting before 1971. However, this option was usually only taken just before women's right to vote was introduced also at the cantonal level.

Sources: Ruckstuhl (1986), and Lutz and Strohmann (1998).



Figure A3: Raw averages of the dependent variables for two groups in the overall sample of Swiss women. The *Early* group includes women who experienced enfranchisement before the age of 17. Women in the *Late* group experienced it later.

Canton	FS	Cohort	Census year	Age	Age at intro of female suffrage	Female suffrage before 17
BE	1971	1929	1980	51	42	0
BE	1971	1939	1990	51	32	0
BE	1971	1949	1990	41	22	0
BE	1971	1960	1990	30	11	1
BE	1971	1950	1980	30	21	0
BE	1971	1970	2000	30	1	1
VD	1959	1929	1980	51	30	0
VD	1959	1939	1990	51	20	0
VD	1959	1949	2000	51	10	1
VD	1959	1949	1990	41	10	1
VD	1959	1960	1990	30	1	1
VD	1959	1950	1980	30	9	1
VD	1959	1970	2000	30	-11	1

Table A3: Variation due to census rounds

Notes: Example of the variation arising from the staggered introduction of FS across cantons and the repeated cross-sectional nature of the census data. The column FS indicates the year FS was introduced in the corresponding canton. Cohort represents a certain year of birth, Census year indicates the year a census was held, Age indicates the respective age of a particular cohort, Age at intro of FS indicates the age at exposure to FS of the particular cohort, and FS before 17 presents an indicator set to one if an individual was exposed to FS before the age of 17. BE stands for the canton of Bern and VD for the canton of Vaud.



(a) Range of 3 km around cantonal border

(c) Border municipalities with variation in female suffrage (b) Border municipalities



(d) Overlap between border municipalities and labor market regions



Figure A4: These maps visualize the steps in the definition of the border municipalities. Map (a) depicts the range (buffer) of 3km around the cantonal borders. Map (b) depicts the selection of border municipalities that can be uniquely assigned to one cantonal border. Map (c) depicts the final selection of border municipalities at borders with variation in the timing of the introduction of FS. Map (d) visualizes the overlap between the border municipalities and the labor market regions.


Figure A5: This map depicts the municipalities at the French-German language border. It marks the municipalities within a range of 3km around the border.



Figure A6: Density of the age at which women were exposed to FS in the border design sample of Swiss women.

	Working	Working	Part-time given	House- wife	Ever married	Divorced given	Any higher
		ever mar.	working			ever mar.	edu.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Suffrage at							
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	-0.016^{***}	-0.005	0.001	0.022***	0.020***	* -0.012***	-0.038^{**}
	(0.005)	(0.003)	(0.007)	(0.005)	(0.006)	(0.004)	(0.015)
age_{21-25}	-0.035^{***}	-0.021^{**}	0.004	0.039***	0.020**	-0.024^{***}	-0.076^{***}
	(0.009)	(0.008)	(0.012)	(0.008)	(0.008)	(0.006)	(0.018)
age_{26-35}	-0.069^{***}	-0.050^{***}	0.024	0.074***	0.026***	* -0.039***	-0.126^{***}
	(0.010)	(0.010)	(0.017)	(0.009)	(0.007)	(0.007)	(0.030)
age_{36-58}	-0.099^{***}	-0.077***	0.049**	0.110***	0.018*	-0.045^{***}	-0.149^{***}
	(0.019)	(0.014)	(0.020)	(0.015)	(0.009)	(0.011)	(0.034)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Labor markets :	x						
cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x							
canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x							
year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean dep.	0.55	0.49	0.54	0.34	0.82	0.09	0.64
No. of obs.	2,462,686	2,021,171	1,355,500	2,462,686	2,462,686	2,021,171	2,420,531
No. of clusters	26	26	26	26	26	26	26
R^2	0.18	0.17	0.08	0.12	0.16	0.05	0.21

Table A4: Female suffrage and the life choices of Swiss women: Full sample

Notes: The results presented are based on the full sample and estimation equation 1. Standard errors are clustered at the cantonal level and reported in parentheses. Controls include indicators for individuals' religious affiliation. Significance levels: * .05 , ** <math>.01 , *** <math>p < .01.

	Working	Working	Part-time	House-	Ever	Divorced	Any
		ever mar	working	wite	marned	ever mar	edu
	(1)	$\frac{(2)}{(2)}$	(3)	(4)	(5)	$\frac{(6)}{(6)}$	(7)
Cuffuence	()	()	()	()		< /	
Suffrage at	$\mathbf{D}_{\mathbf{o}}\mathbf{f}$	Dof	Dof	Def	$\mathbf{D}_{\mathbf{c}}\mathbf{f}$	$\mathbf{D}_{\mathbf{o}}\mathbf{f}$	$\mathbf{D}_{\mathbf{a}}\mathbf{f}$
age_{0-16}	Rei.	Rei.	Rei.	Rei.	Rei.	Rei.	Rei.
age_{17-20}	-0.020**	-0.007**	0.035***	0.017***	0.019	-0.008	-0.016
	(0.006)	(0.002)	(0.010)	(0.001)	(0.011)	(0.009)	(0.009)
age_{21-25}	-0.018	0.002	0.051^{**}	0.009	0.017	0.002	-0.034^{*}
	(0.023)	(0.019)	(0.017)	(0.019)	(0.014)	(0.017)	(0.016)
age_{26-35}	-0.016	0.009	0.065^{**}	0.012	0.019	0.001	-0.034
	(0.027)	(0.023)	(0.020)	(0.021)	(0.024)	(0.018)	(0.021)
age_{36-58}	-0.020	0.016	0.108**	0.015	0.023	0.012	-0.009
	(0.027)	(0.024)	(0.036)	(0.026)	(0.053)	(0.015)	(0.045)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x							
cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Labor market x							
cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x							
canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x							
year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean dep.	0.53	0.47	0.55	0.35	0.85	0.07	0.53
No. of obs.	172,232	146,748	90,643	172,232	172,232	146,748	170,423
No. of clusters	8	8	8	8	8	8	8
R^2	0.19	0.18	0.07	0.13	0.14	0.05	0.21

Table A5: Diffusion of value changes due to female suffrage and the life choices of Swiss women

Notes: The results presented are based on the language-border sample and estimation equation 2 enriched by canton-specific cohort effects. Standard errors are clustered at the cantonal level and reported in parentheses. Significance levels: * .05 , ** <math>.01 , *** <math>p < .01.

	Working	Working	Part-time	House-	Ever	Divorced	Any
		given	given	wife	married	given	higher
		ever mar.	working			ever mar.	edu.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Suffrage at							
age_{0-12}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{13-16}	-0.016^{***}	-0.009	0.030**	0.014***	0.016^{**}	-0.004	-0.058*
	(0.005)	(0.006)	(0.011)	(0.005)	(0.007)	(0.003)	(0.028)
age_{17-20}	-0.019^{***}	-0.011	0.011*	0.024***	0.023***	-0.016***	-0.093^{**}
	(0.005)	(0.008)	(0.006)	(0.005)	(0.007)	(0.004)	(0.039)
age_{21-25}	-0.040^{***}	-0.026^{**}	0.028	0.044***	0.036***	-0.030***	-0.133***
	(0.009)	(0.012)	(0.023)	(0.008)	(0.011)	(0.004)	(0.039)
age_{26-35}	-0.083^{***}	-0.060***	0.046	0.079***	0.047***	-0.034***	-0.202***
	(0.011)	(0.016)	(0.029)	(0.008)	(0.015)	(0.007)	(0.065)
age_{36-58}	-0.114^{***}	-0.089^{***}	0.072^{*}	0.106***	0.044**	-0.033^{***}	-0.213^{**}
	(0.014)	(0.018)	(0.038)	(0.017)	(0.019)	(0.008)	(0.073)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Border group x							
cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Labor market x							
cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x							
canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x							
year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean dep.	0.57	0.50	0.53	0.32	0.80	0.10	0.67
No. of obs.	527,404	421,295	298,788	527,404	527,404	421,295	516,268
No. of clusters	17	17	17	17	17	17	17
R^2	0.19	0.17	0.08	0.12	0.18	0.06	0.22

Table A6: Female suffrage and the life choices of Swiss women: Alternative age cutoff

Notes: The results presented are based on the border design sample and estimation equation 2, which is extended by one additional age group redefining the age-cutoff to 13. Standard errors are clustered at the cantonal level and reported in parentheses. Controls include indicators for individuals' religious affiliation. Significance levels: * .05 , ** <math>.01 , *** <math>p < .01.



Figure A7: Estimated effect sizes with respect to alternative definitions of the reference group. The estimated coefficients are presented for ten specifications that include an additional indicator for younger ages at exposure to FS. This indicator varies and includes the age ranges between 5 to 16 and 14 to 16.

	Working	Working given	Part-time given	House- wife	Ever married	Divorced given
		ever mar.	working			ever mar.
	(1)	(2)	(3)	(4)	(5)	(6)
$Suffrage \ at$						
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	-0.010^{**}	-0.006	-0.008	0.016***	0.013**	-0.013^{***}
	(0.005)	(0.005)	(0.007)	(0.005)	(0.005)	(0.004)
age_{21-25}	-0.022^{**}	-0.012	0.007	0.030***	0.024**	-0.028^{***}
	(0.008)	(0.009)	(0.018)	(0.008)	(0.009)	(0.004)
age_{26-35}	-0.057^{***}	-0.041^{***}	0.019	0.059***	0.032**	-0.032^{***}
	(0.008)	(0.011)	(0.023)	(0.008)	(0.011)	(0.006)
age_{36-58}	-0.087^{***}	-0.070^{***}	0.039	0.086***	0.028	-0.031^{***}
	(0.012)	(0.013)	(0.032)	(0.018)	(0.016)	(0.007)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Border group $\mathbf x$						
cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Labor market x						
cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Age x						
canton FE	Yes	Yes	Yes	Yes	Yes	Yes
Canton x						
year FE	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean dep.	0.57	0.50	0.53	0.32	0.80	0.10
No. of obs.	527,404	421,295	298,788	527,404	527,404	421,295
No. of clusters	17	17	17	17	17	17
R^2	0.20	0.18	0.09	0.13	0.19	0.06

Table A7: Female suffrage and the life choices of Swiss women, conditional on educational attainment

Notes: Notes: The results presented are based on the border design sample and estimation equation 2. In addition, the estimation equation controls for respondents highest educational attainment. Standard errors are clustered at the cantonal level and reported in parentheses. Controls include indicators for individuals' religious affiliation. Significance levels: * .05 , ** <math>.01 , *** <math>p < .01.

	Working	Working	Working	Working	Working	Working	Working
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Suffrage at							
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	-0.072^{***}	-0.106^{***}	-0.136***	-0.020^{***}	-0.014^{***}	< -0.009*	-0.010^{**}
	(0.014)	(0.018)	(0.017)	(0.004)	(0.004)	(0.004)	(0.005)
age_{21-25}	-0.125^{***}	-0.142^{***}	-0.153***	-0.047^{***}	-0.038^{***}	-0.026***	-0.029^{***}
	(0.017)	(0.018)	(0.016)	(0.006)	(0.006)	(0.008)	(0.008)
age_{26-35}	-0.215^{***}	-0.221^{***}	-0.259***	-0.093^{***}	-0.073^{***}	< -0.063***	-0.068^{***}
	(0.021)	(0.027)	(0.020)	(0.009)	(0.009)	(0.008)	(0.009)
age_{36-58}	-0.390^{***}	-0.302^{***}	-0.364***	-0.159^{***}	-0.108^{***}	-0.092***	-0.097^{***}
	(0.013)	(0.040)	(0.019)	(0.014)	(0.014)	(0.010)	(0.011)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Border group x							
cohort FE	No	No	No	No	No	Yes	Yes
Labor market >	2						
cohort FE	No	No	No	Yes	Yes	Yes	Yes
Age	No	Yes	No	No	No	No	No
Age x							
canton FE	No	No	Yes	Yes	Yes	Yes	Yes
Canton x							
year FE	No	No	No	No	Yes	Yes	Yes
Municip. FE	No	No	No	No	No	No	Yes
Mean dep.	0.57	0.57	0.57	0.57	0.57	0.57	0.57
No. of obs.	527,415	527,415	527,415	527,407	527,407	527,404	527,404
No. of clusters	17	17	17	17	17	17	17
R^2	0.10	0.15	0.17	0.18	0.18	0.18	0.19

Table A8: Female suffrage and the probability of working: Relevance of the different fixed effects for the estimation result

Notes: The results presented are based on the border design sample. Standard errors are clustered at the cantonal level and reported in parentheses. Controls include indicators for individuals' religious affiliation. Significance levels: * .05 , ** <math>.01 , *** <math>p < .01.



Figure A8: Cantonal trends for cantons introducing FS either early (up to 1960) or late (after 1960). The graphs show the average deviation of the difference between early and late adopting cantons with respect to the first year of observation.



Figure A9: The graphs show the estimated effects for the main dependent variables for municipalities in which a majority of men voted in favor of FS at the federal level in 1971 (labelled 'Supportive') and for municipalities in which the majority of men voted against its introduction (labelled 'Forced'). The estimation results are reported in Table A9.

	Working	Working	Part-time	House-	Ever	Divorced	Any
		given	given	wife	married	given	higher
		ever mar.	working			ever mar.	edu.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Suffrage at							
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	-0.008	-0.005	-0.010	0.014^{**}	0.012^{**}	-0.012^{**}	-0.057^{**}
	(0.005)	(0.006)	(0.007)	(0.006)	(0.005)	(0.004)	(0.027)
Forced x	-0.012	-0.007	0.012	0.017^{*}	-0.002	-0.024^{***}	-0.022
age_{17-20}	(0.011)	(0.009)	(0.009)	(0.009)	(0.006)	(0.004)	(0.016)
age_{21-25}	-0.028^{***}	-0.019*	0.005	0.034^{***}	0.025^{**}	-0.026^{***}	-0.091^{***}
	(0.008)	(0.009)	(0.018)	(0.007)	(0.009)	(0.004)	(0.024)
Forced x	-0.001	-0.000	-0.010	-0.001	-0.027^{***}	· -0.013***	-0.044^{**}
age_{21-25}	(0.007)	(0.005)	(0.007)	(0.006)	(0.008)	(0.003)	(0.019)
age_{26-35}	-0.068^{***}	-0.052^{***}	0.016	0.066^{***}	0.034^{***}	-0.028^{***}	-0.147^{***}
	(0.009)	(0.013)	(0.023)	(0.007)	(0.011)	(0.005)	(0.044)
Forced x	0.024	0.018	-0.018	-0.018	-0.040^{***}	· -0.016*	-0.056^{**}
age_{26-35}	(0.015)	(0.014)	(0.011)	(0.013)	(0.008)	(0.008)	(0.021)
age_{36-58}	-0.098^{***}	-0.081^{***}	0.034	0.092^{***}	0.030^{*}	-0.026^{***}	-0.147^{***}
	(0.012)	(0.014)	(0.032)	(0.015)	(0.015)	(0.006)	(0.049)
Forced x	0.042^{**}	0.036^{**}	-0.014	-0.033^{**}	-0.051^{***}	6.000	-0.093^{**}
age_{36-58}	(0.016)	(0.014)	(0.017)	(0.013)	(0.011)	(0.005)	(0.036)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Border group x cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Labor market x	200	100	100	100	100	200	100
cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x							
canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x							
year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean dep.	0.57	0.50	0.53	0.32	0.80	0.10	0.67
No. of obs.	527,404	421,295	298,788	527,404	527,404	421,295	516,268
No. of clusters	17	17	17	17	17	17	17
R^2	0.19	0.17	0.08	0.12	0.18	0.06	0.22

Table A9: Female suffrage and women's life choices: Effect heterogeneity with regard to a municipality's support of female suffrage

Notes: The results presented are based on the border design sample and estimation equation 2 extended by an interaction between the treatment indicators and an indicator for municipalities in which a majority of men did not support women's enfranchisement in 1971 (labeled 'forced'). Standard errors are clustered at the cantonal level and reported in parentheses. Controls include indicators for individuals' religious affiliation. Significance levels: * .05 , ** <math>.01 , *** <math>p < .01.

	Little influence on life	Wants in own hands	Find a way to succeed	Others determine what I do	Can do what I want
	(1)	(2)	(3)	(4)	(5)
Suffrage at					
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-25}	0.694	0.281	-0.244	0.788^{*}	-0.497
	(0.432)	(0.279)	(0.178)	(0.431)	(0.363)
age_{26-31}	0.838^{*}	0.064	-0.554	1.240^{*}	-0.772
	(0.413)	(0.501)	(0.328)	(0.619)	(0.504)
Controls	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes	Yes	Yes
Canton x					
year FE	Yes	Yes	Yes	Yes	Yes
Mean dep.	4.34	7.41	7.94	3.30	7.00
No. of obs.	1,681	1,686	1,688	1,683	1,687
No. of clusters	26	26	26	26	26
R^2	0.07	0.06	0.06	0.09	0.08

Table A10: Female suffrage and women's perception of control

Notes: The sample includes women who affirm having lived in Switzerland since their birth, only holding Swiss citizenship, and whose household has not moved since the last survey wave. If the information is available, we further drop observations from those women who moved into the current place of residence after the age of 15. However, this is only the case for a very small fraction of the sample. The sample covers the age range between 58 and 72. Controls include individuals' religious affiliation and language spoken. Standard errors are clustered at the cantonal level and are reported in parentheses. The data from the Swiss Household Panle is further documented in Panel F of Appendix Table A1. Significance levels: *.05 , <math>**.01 , <math>*** p < .01.

	University more important for men (1)	$ Job more \\ important \\ for men \\ (2) $	Child- care more important for women (3)	Support male bread- winner (4)	Women respons. for household and children (5)	Age at marriage (6)	No. of children (7)
Suffrage at							
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-25}	-0.024	0.039	-0.027	0.090**	0.055	-0.776	0.226^{*}
	(0.020)	(0.045)	(0.041)	(0.037)	(0.042)	(0.729)	(0.115)
age_{26-38}	0.064^{*}	0.144**	0.111**	0.150^{*}	0.212***	-3.054^{**}	0.670^{***}
	(0.037)	(0.069)	(0.052)	(0.086)	(0.070)	(1.092)	(0.184)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x							
year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean dep.	0.08	0.25	0.45	0.42	0.31	27.22	1.77
No. of obs.	1,634	1,637	1,635	1,634	1,635	1,047	1,642
No. of clusters	26	26	26	26	26	25	26
R^2	0.11	0.16	0.10	0.13	0.14	0.16	0.13

Table A11: Female suffrage and women's stated gender norms

Notes: The sample includes women who still live in the canton where they were born, have not changed the canton of residence during the last 5 years, and have spent most of their youth in Switzerland. In order to obtain common support in age, we only include women older than 45. The estimates are based on a specification equivalent to equation 1, but only including cohort fixed effects due to the small sample. We adapt the age ranges for the treatment indicators accordingly. Controls include indicators for religious affiliation. Standard errors are clustered at the cantonal level and are reported in parentheses. The data from the Survey on Families and Generations is further documented in Panel G of Appendix Table A1. Significance levels: * .05 < p < .1, ** .01 < p < .05, *** p < .01.

	Voting	Late	Party	Discuss	Politics	Political
	partici-	election	affilia-	election	is compli-	interest
	pation	decision	tion	often	cated	
	(1)	(2)	(3)	(4)	(5)	(6)
Suffrage at						
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-25}	-0.068	0.126^{**}	-0.024	-0.066	0.031	-0.051
	(0.047)	(0.060)	(0.058)	(0.086)	(0.038)	(0.076)
age_{26-58}	-0.107^{**}	0.262***	-0.171^{***}	-0.266^{***}	0.122	-0.170
	(0.048)	(0.088)	(0.039)	(0.091)	(0.079)	(0.121)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes	Yes	Yes	Yes
Canton x						
year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean dep.	0.56	0.52	0.38	0.79	0.58	2.46
Age range	20-60	21-60	20-60	41-60	20-60	20-60
No. of obs.	2,606	1,303	2,584	732	1,711	2,608
No. of clusters	26	25	26	21	26	26
R^2	0.10	0.22	0.11	0.08	0.26	0.17

Table A12: Female suffrage and women's political behavior

Notes: The sample includes women who still live in the canton where they lived as a child. Further, as the nationality is not reported, we restrict the sample to women who report being eligible to vote in the canton they live in. The age ranges of the respective samples are reported, as not all the items are available in every survey wave. Controls include indicators for religious affiliation and language region. Standard errors are clustered at the cantonal level and are reported in parentheses. The Selects data is further documented in Panel E of Appendix Table A1. Significance levels: * .05 , ** <math>.01 , *** <math>p < .01.

	Widowed	Widowed	Widowed	Widowed	Widowed	Widowed	Widowed
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Suffrage at							
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	0.011***	0.002*	0.006***	-0.002	-0.002	-0.001	-0.001
	(0.002)	(0.001)	(0.001)	(0.003)	(0.003)	(0.004)	(0.004)
age_{21-25}	0.022***	0.000	0.001	-0.000	-0.000	-0.000	-0.001
	(0.004)	(0.001)	(0.001)	(0.003)	(0.003)	(0.003)	(0.003)
age_{26-35}	0.057***	0.008***	0.012***	0.006	0.006	0.009	0.009
	(0.005)	(0.002)	(0.003)	(0.005)	(0.006)	(0.006)	(0.006)
age_{36-58}	0.149***	0.042***	0.050***	0.008	0.008	0.006	0.004
	(0.006)	(0.003)	(0.003)	(0.005)	(0.007)	(0.009)	(0.009)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Border group x							
cohort FE	No	No	No	No	No	Yes	Yes
Labor market x							
cohort FE	No	No	No	Yes	Yes	Yes	Yes
Age	No	Yes	No	No	No	No	No
Age x							
canton FE	No	No	Yes	Yes	Yes	Yes	Yes
Canton x							
year FE	No	No	No	No	Yes	Yes	Yes
Municip. FE	No	No	No	No	No	No	Yes
Mean dep.	0.06	0.06	0.06	0.06	0.06	0.06	0.06
No. of obs.	421,336	421,336	421,336	421,310	421,310	421,295	421,295
No. of clusters	17	17	17	17	17	17	17
R^2	0.06	0.09	0.10	0.10	0.10	0.10	0.11

Table A13: Female suffrage and the probability of being widowed: Placebo outcome

Notes: The results presented are based on the border design sample restricted to Swiss women who have ever been married. Standard errors are clustered at the cantonal level and reported in parentheses. Controls include indicators for individuals' religious affiliation. Significance levels: * .05 , ** <math>.01 , *** <math>p < .01.

	Working	Working	Part-time	House-	Ever	Divorced	Any
	0	given	given	wife	married	given	higher
		ever mar.	working			ever mar.	edu.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Suffrage at							
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	-0.010	-0.006	-0.008	0.016	0.013	-0.013	-0.057
	[024, .002]	[024, .007]	[028, .010]	[.002, .034]	[001, .026]	[024,003]	[129, .010]
	(0.0857)	(0.2953)	(0.2731)	(0.0327)	(0.0558)	(0.0081)	(0.1543)
age_{21-25}	-0.029	-0.020	0.005	0.035	0.025	-0.027	-0.092
	[046,008]	[037, .003]	[024, .072]	[.015, .056]	[.002, .053]	[041,014]	[132, .009]]
	(0.0218)	(0.0936)	(0.7963)	(0.0011)	(0.0224)	(0.0147)	(0.0987)
age_{26-35}	-0.068	-0.052	0.016	0.066	0.033	-0.030	-0.149
	[089,039]	[081,013]]	[025, .095]	[.051, .080]	[.012, .069]	[034,003]	[231, .011]
	(0.0006)	(0.0129)	(0.5068)	(0.0002)	(0.0013)	(0.0298)	(0.1170)
age_{36-58}	-0.097	-0.080	0.034	0.092	0.027	-0.028	-0.152
	[122,060]	[113,032]	[024, .135]	[.057,.141]	$[001,\ .073]$	[-.042,-.008]	[25, .017]
	(0.0001)	(0.0066)	(0.3733)	(0.0000)	(0.0592)	(0.0235)	(0.0786)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Border groups x							
cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Labor markets x							
cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x							
canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x							
year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean dep.	0.57	0.50	0.53	0.32	0.80	0.10	0.67
No. of obs.	527,404	421,295	298,788	527,404	527,404	421,295	516,268
No. of clusters	17	17	17	17	17	17	17
R^2	0.19	0.17	0.08	0.12	0.18	0.06	0.22

Table A14: Female suffrage and the life choices of Swiss women: Cluster wild bootstrap confidence bounds

Notes: The results presented are based on the border design sample and estimation equation 2. Controls include indicators for individuals' religious affiliation. 95% confidence bounds calculated using the cluster wild bootstrap procedure following Cameron et al. (2008) are reported in square brackets, the respective p-values are reported in parentheses. We use the cluster wild bootstrap procedure implemented in the stata boottest package and 10,000 replications (Roodman, 2018) and cluster at the cantonal level. As Stata runs into numerical issues with the large number of observations and covariates (fixed effects) in our empirical model, we exploit the Frish-Waugh-Lovell theorem and residualize all variables before the bootstrap procedure.

D Analysis of policy effects of suffrage extension

In this section, we present the results of a re-evaluation of the previous evidence on the impact of the introduction of FS on policy outcomes in Switzerland. The data we use is documented in Panel H of Appendix Table A1.

Electoral outcomes – In a first step, we investigate the most direct consequence of a newly composed electorate, i.e., electoral outcomes. If women were to hold systematically different policy preferences (which were previously disregarded by their husbands, fathers and brothers), we should observe a shift in party support. In studies from recent years, women tend to favor more generous social policies (see, e.g., Edlund and Pande 2002; Funk and Gathmann 2014). We therefore test whether the share of mandates of the Social Democratic Party of Switzerland (SP) in cantonal parliaments increased after women got the right to vote at the cantonal level. The Social Democrats, apart from some representatives of the Liberals, were the main supporters of the introduction of FS. They were also the largest party on the political left in the cantonal parliaments. The test is implemented as an event study around the introduction of FS at the cantonal level (see, e.g., Schmidheiny and Siegloch, 2019).

The specification can be described as follows:

$$Y_{ct} = \alpha_0 + \sum_{j \neq -1} (\tau_j \mathbb{1}(j=t)) + \beta_{canton} + \gamma_{decade} + \epsilon_{ct}$$
(3)

where Y is the dependent variable, measuring the share of mandates for the SP in canton c at election time t (t thus refers to elections not years). The indicator for t = -5 bins observations for $t \leq 5$ and the indicator t = 5 bins the observations for $t \geq 5$. We further include cantonal fixed effects and decade fixed effects. As event time t = 0, we adopt the year in which women were allowed to vote at the cantonal level for the first time (see Table A2).³² Panel a) in Figure A10 visualizes the coefficients of the event study, where the reference period is the last election just before the introduction of FS (t = -1). We neither observe a systematic divergence in

³² We drop the two cantons that introduced FS at the cantonal level exceptionally late, i.e. Appenzell A.Rh. and Appenzell I.Rh.. However, their inclusion does not change our conclusion. Furthermore, the canton Jura is excluded, as it was only founded in 1979, and consequently no data is available for the pre-treatment period.



Figure A10: Coefficients of the event study around the introduction of FS on the mandate share for the Social Democratic Party of Switzerland (SP) in cantonal parliaments (Panel a), on total cantonal per capita spending (Panel b), and cantonal child allowance (Panel c). The corresponding estimates can be found in Table A15.

the pre-trends, nor do we see systematic changes in the vote share for the SP after women's enfranchisement.

Government spending – In a second step, we further test for an impact of the introduction of FS on two cantonal spending measures: total cantonal spending per capita and, one of the few direct social policy spending measures available over time - the level of child allowance. This latter dimension seems a primary candidate for a possible response if the newly enfranchised female voters shifted policy. Panel b) in Figure A10 summarizes the results of the event study for per capita spending and Panel c) for child allowance.³³ We see neither pre-trends nor any increases in spending or child allowance once women are part of the electorate. The corresponding estimates for the three event studies are presented in Table A15.

Overall, our findings corroborate the prior evidence that there was no immediate effect of FS on public policy in Switzerland. A possible explanation might be that Switzerland was already highly developed in 1971. Anecdotally, it is frequently argued that women were effectively influencing political decisions before, albeit indirectly, through exerting influence on their husbands' and fathers' voting decisions.

³³ The data is available on a yearly level. The indicator for t = -5 bins the years $t \le 5$ and the indicator t = 5 bins the years $t \ge 5$. We further include cantonal fixed effects and year fixed effects. As the event time (t = 0) we use the first year after women were allowed to vote at the cantonal level for the first time. For the spending estimates we use the yearly data between 1949 and 1982. The data series on child allowance also ends in 1982, but only starts in 1959, so that we have few pre-treatment periods for the early introducing cantons.

	Mandate share SP	Per capita spending	Child allowance
	(1)	(2)	(3)
$Time_{-5}$	0.438	-0.000086	-0.474
-	(2.076)	(0.000267)	(1.706)
$Time_{-4}$	0.255	-0.000097	-0.720
	(1.105)	(0.000106)	(0.972)
$Time_{-3}$	-0.577	-0.000119	2.556
	(0.621)	(0.000129)	(2.676)
$Time_{-2}$	0.006	-0.000102	1.338
	(0.493)	(0.000135)	(1.421)
$Time_{-1}$	Ref.	Ref.	Ref.
$Time_0$	0.099	-0.000124	-0.658
	(1.235)	(0.000187)	(2.2392)
$Time_1$	0.868	-0.000151	-0.665
	(1.448)	(0.000235)	(2.985)
$Time_2$	0.265	-0.000158	-0.957
	(1.727)	(0.000268)	(3.593)
$Time_3$	-0.785	-0.000116	0.620
	(1.915)	(0.000298)	(4.387)
$Time_4$	-1.150	-0.000147	0.721
_	(2.514)	(0.000294)	(4.984)
$Time_5$	-2.047	-0.000154	0.495
	(3.330)	(0.000292)	(5.416)
Canton FE	Yes	Yes	Yes
Decade FE	Yes	No	No
Year FE	No	Yes	Yes
No. of obs.	367	782	546
No. of clusters	23	23	23
R^2	0.84	0.85	0.89

Table A15: Event studies for the effects of female suffrage on electoral outcomes, total government spending and child allowance

Notes: Event study estimates for the vote share of the Social Democratic Party in cantonal elections, per capita cantonal spending, and the level of cantonal child allowances around the year of introduction of FS in Swiss cantons. The indicator for t = -5 bins observation for $t \leq -5$ and the indicator t = 5 bins the observations for $t \geq 5$. The reference category is set to the election/last observation before the introduction (t = -1) and t = 0 is the first election/observation after the introduction of FS. Standard errors are clustered at the cantonal level and reported in parentheses. Significance levels: * .05 < p < .1, ** .01 < p < .05, *** p < .01.

E Robustness analysis on female suffrage and migration

People move for love and work when pursuing their life goals, but they likely also take the norms and attitudes prevailing in certain regions into account when deciding where to live. In order to specify the age of experience correctly, in our specific setting, we exclude women who left their birth canton. For them we only know that they no longer live in their canton of birth, but lack more specific information about their origin and moving behavior. Accordingly, a concern for the interpretation of the observed empirical patterns in women's life choices might be that they reflect spatial sorting triggered by the staggered introduction of FS. A possible scenario that would lead to comparable effects turns out to be quite complicated though.

Imagine the following scenario: The cohorts of women born between, say, 1930 and 1945 decide on where to live and work after mandatory schooling. The relatively more progressive young women from conservative regions move to more progressive regions within Switzerland (to work, live and marry), where they are more likely to be exposed to FS. On the other hand, relatively more conservative young women from progressive regions might prefer to take up a job, live and marry in more conservative parts of Switzerland, where FS is adopted later. Under this scenario our restricted sample focusing on those women who stayed in their canton of birth might reflect a selection of relatively more conservative women in conservative cantons (and relatively more progressive women in progressive cantons). This is per senot a problem for our strategy as we compare cohorts within cantons who experience FS at different ages.³⁴ However, if the described self-selection varies over time as more and more cantons grant FS and moving for differences in attitudes becomes less of an issue, older cohorts in late-adopting cantons might be formed by the more conservative stayers, while the younger cohorts might be less selected (and vice versa in the early-adopting cantons). Those women from the same cohort remaining in their birth canton who experience FS late in life might then show rather traditional life choices due to their innate conservatism rather than their late empowerment. Under this scenario, our observed effect might be driven by the difference between the conservative women experiencing it late, who stayed after the other cantons introduced suffrage, and the women who were born later

³⁴ It might, however, affect the external validity of our results, i.e., whether our results also apply to women leaving their canton of birth.

Table A	A16:	Female	suffrage	and	Swiss	women'	s mo	bilit	y

	Suffrage at										
	age_{0-16}	age_{17-20}	age_{21-25}	age_{26-35}	age_{36-58}	$age_{17-20} \ge C$ Early ct.	$age_{21-25} \ge x$ Early ct.	$age_{26-35} \ge X$ Early ct.	$age_{36-58} \ge x$ Early ct.		
(1)	Ref.	0.018	0.028*	0.043*	0.077**						
		(0.012)	(0.015)	(0.024)	(0.034)						
(2)	Ref.	0.010	0.013	0.009	0.042	-0.006	-0.001	-0.057	0.085		
		(0.020)	(0.026)	(0.032)	(0.044)	(0.030)	(0.036)	(0.047)	(0.065)		

Dependent variable: Probability of being born in the canton one lives in

Notes: Mobility estimates. The presented results are based on the border design sample. Early ct. is an indicator for the three cantons that adopted FS in 1959/1960, i.e. Vaud, Neuchâtel, and Geneva. Standard errors are clustered at the cantonal level and reported in parentheses. Estimates control for individuals' religious affiliation, age x canton FE, birth year times local labor market FE, birth year times border-group FE, canton x year FE, and municipality FE. The number of observations is 940,687, the number of clusters 17, the R^2 is 0.10 in row (1) and 0.10 in row (2). Significance levels: * .05 < p < .1, ** .01 < p < .05, *** p < .01.

and had no reason to move, as suffrage was already introduced when they reached an age at which they could decide about where to live.

If the observed differences were due to sorting as described above, we would expect to observe that the likelihood of being born in the canton of residence decreases for the age that women were when FS was introduced in the canton they live in when observed. The older a women was at the introduction, the more likely she would have moved. Moreover, under the sorting scenario, more women should have left conservative cantons and, in parallel, a larger portion of the female population in liberal cantons would have immigrated. Thus, the relation between the likelihood of being born in the canton of residence and the age at exposure to FS should be even stronger for the cantons that adopted FS early.

To test these predictions arising from sorting, we re-estimate our basic model, taking the probability that a woman was born in the canton she lives in as the dependent variable and using the age of exposure in the resident canton. The sample now includes all Swiss women, irrespective of whether they were born in the canton they live in or not. As is evident from Table A16 row (1), we do not observe a negative (but rather a positive) coefficient for the difference in the likelihood of being born in the canton one lives in between women who were enfranchised late and those in the reference group. This, if anything, suggests that women experiencing suffrage late are slightly more likely to stay in their canton of birth, an observation that is consistent with traditional gender roles. Row (2) shows that there is also no systematic negative difference (when the main effect and the interaction effect are added) for cantons that introduced FS before 1960, i.e., Vaud, Neuchâtel, and Geneva. We conclude that it is rather unlikely that migration reactions drive the documented differences.

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