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 women experienced enfranchisement to estimate the differences in life choices between women who were socialized in a world where women had a say in politics and those who were socialized before. Our empirical findings document that political empowerment increased female labor force participation, weakened marital bonds and motivated human capital investment. Our evidence suggests that changes in formal political institutions hold the power to change norms.

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

JEL classification: 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 in 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 as a historic event, which allows us to learn about the effects of legal rights on attitudes, norms, and, ultimately, on individual and household decisions on education, labor force participation, marriage and divorce. Consequences of political empowerment are hard to study in an empirically rigorous way, however. First, 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 via individuals' beliefs and motivation. Second, on a practical level, most countries introduced female suffrage in the 1920s or just after the second world war, a period for which individual level data is scarce. Third, empirical studies face a serious empirical challenge as, one introduction date for female suffrage per country does not allow us to separate age, cohort and general time effects from any potential effect of women's empowerment. We therefore concentrate on the experience in a strongly decentralized country, i.e., Switzerland. While Switzerland is certainly one of the oldest and most developed democracies, it took about sixty cantonal and two federal popular votes between 1919 and 1971 to achieve a gradual introduction of female suffrage on the level of states (i.e. cantons), until there was almost a uniform political participation right for women and men in 1971 (Ruckstuhl, 1986). Obviously, this struggle for female suffrage was, on the one hand, a reflection of a Swiss social transformation affecting women's life circumstances and life choices irrespective of their formal democratic participation rights. On the other hand, the gradual introduction led to differential experiences regarding the political rights of women from the same cohorts, offering a unique opportunity to study any potential (reinforcing) effects on individual behavior. In

that regard, it comes as an advantage that the institutional changes, with the first cantonal introduction 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. This assessment is backed by prior studies on the (non-) effect of female suffrage on fiscal policy in Switzerland and corroborated by our additional evidence. The Swiss case therefore constitutes an exceptional opportunity to learn about any effects of female suffrage on female emancipation, isolating it from simultaneous policy changes.

Building on theories that emphasize conditions from childhood to early adulthood as decisive in the formation of attitudes and norms (see, e.g., Roberts et al., 2006; McAdams and Olson, 2010), we study how socialization in an environment in which women hold formal democratic participation rights changes women's lives in terms of their labor force participation, their educational attainment and their marital status. We hypothesize that political empowerment increases the bargaining power of women, i.e., it changes women's threat point in everyday bargaining as they are - and feel - more in control of their lives. This puts women on a more equal footing with men, allowing them to renegotiate the norms related to traditional gender roles, making employment more attractive, marriage less necessary, and divorce more affordable.

We exploit the variation in the age at which women experienced enfranchisement caused by the staggered introduction of female suffrage across Swiss cantons. Our identification draws on the idea that repeated cross-sectional data in combination with regional variation in the exposure to a treatment during individuals' childhood and influential years brings us closer to causal estimates. This is because it allows us to condition our estimates on age times region, region times year, and birth cohort fixed effects, taking care of many potential confounding factors. In short, our empirical strategy leverages the fact that women born in the same year and the same country experienced the introduction of female suffrage at different ages, depending on the canton they were born in. Such an approach has, for example, been put forward by Malmendier and Nagel (2011) and Giuliano and Spilimbergo (2013) to investigate the effect of exposure to macroeconomic downturns on individuals' risk and redistribution preferences,

and has further been applied by Fuchs-Schündeln and Schündeln (2015) to determine whether exposure to democracy affects democratic preferences. The proposed empirical strategy allows capturing the specified effect under one major identifying assumption, i.e. that there are no canton-cohort specific effects not related to female suffrage, or parallel cohort trends. We undertake several supplementary analyses in our effort to validate this assumption (presented after the main results). Given this assumption and using register data from the Swiss population census over several decades, we identify the effects of political empowerment on female life choices by comparing how women who got the right to vote at different ages differ in their status years later. Importantly, these women were exposed to the same labor, marriage, and divorce laws at any point in time.

We consistently find that Swiss women experiencing female suffrage later, compared to women experiencing it earlier in life, make systematically less emancipated life choices. In particular, we find that women who have been denied the right to vote until after the age of 17 have an up to 6 percentage point lower probability of being engaged in paid work than women who experienced enfranchisement before the age of 17. Moreover, the difference is increasing with the age of enfranchisement. We further document that women enfranchised later have a higher probability of being a housewife by up to 5 percentage points, and that they have a higher probability of working part-time (among those working) by up to 5 percentage points. Women who got the right to vote later are, further, more likely to marry and to stay married. Finally, women who were socialized in an environment without female suffrage are more likely to end up with a low level of education, the effect ranging from about 2 percentage points for women who experienced the introduction of female suffrage between the age of 17 and 20, to up to about 6 percentage points for those enfranchised later in life. Furthermore, our analysis suggests that the effects on education choices were largest for women in municipalities that were most conservative regarding the equality of women and men. We proxy these attitudes with the support for the first national referendum on the introduction of female suffrage in Switzerland in 1959, before any canton introduced female suffrage. Interestingly, the life choices of women

in more liberal municipalities were also affected by the institutional change. This suggests that in our context the effects of changes in attitudes and norms were magnified, as participation rights were institutionally confirmed and implemented.

We perform several additional analyses to assess the validity of our main identifying assumption, i.e., parallel cohort trends. Corroborating our interpretation of the overall differentials observed for Swiss women, we see similar effects for a sample of Swiss women in cantons which have been forced to accept the introduction of female suffrage at the federal level. We do not see similar correlations for non-citizen women, i.e., second generation immigrants, who were also born, educated, and raised in Switzerland, who, however, are not allowed to vote.[1] The additional finding that we see no particular reaction in Swiss men's labor market participation further excludes parallel shocks to the local labor market as a potential alternative explanation. A complementary analysis compares outcomes that stabilize fairly early in life, i.e., educational attainment and marital status, within cohorts across early- and late-introducing cantons. It reveals that these outcomes evolve in parallel in both cantonal groups for older cohorts but deviate for younger cohorts, i.e. the cohorts we would hypothesize to be more strongly affected. This suggests that cohorts would have evolved in parallel across cantons if not for the introduction of suffrage. Using a series of tests, we do not find any indication that cantons introducing female suffrage early rather than late show deviating trends in a variety of characteristics. Moreover, exploiting the gradual introduction of female suffrage across cantons in an event study for the vote share of the Social Democratic Party in cantonal elections, we do not find systematic changes in electoral outcomes. Major policy changes just after its introduction are thus unlikely to drive our findings. Finally, a simulation analysis indicates that general societal changes around the time of the institutional reforms are unlikely to be the main driver of our findings either. None of the additional analyses suggests a violation of our main identifying assumption.

[1] This evidence speaks against the argument of differential supply of public services depending on the introduction of female suffrage (for related evidence in the Indian context see Ghani et al. 2013). If women in politics support policies that help women to reconcile family obligations and a job, such as policies promoting child care facilities or full-time schools, these services are available for Swiss and non-Swiss women alike. Similarly, if female politicians support the recruitment of women in public service jobs, this effect is expected to hold independent of the age of the women.

We complement our main analyses on the effect of formal political participation rights on life choices, providing direct evidence that female suffrage affects women's political behavior as well as their reported efficacy and perceptions of control. Based on survey data from the Swiss Electoral Studies (Selects), we observe an up to 11-percentage-point lower voting participation for women socialized in an environment without female suffrage until after they reached the age of 17. Consistently, women who experienced enfranchisement late are also less likely to discuss elections and tend to find politics complicated. Based on the Swiss Household Panel (SHP), we find that women who experienced the introduction of female suffrage after they turned 17 are more likely to report that they have little influence on life and that others determine what they do, results that we relate to lower self-efficacy.

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, emphasizing that people's 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 for womens' life choices.

Second, we complement research that studies the long-term determinants and the persistence of gender roles in society (see, e.g., Fernandez and Fogli, 2009), and traces and identifies their historical roots (see, e.g., Alesina et al. 2013 and Teso 2018, 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. We show that power sharing can unleash substantial changes in individuals' economic and marital outcomes within a generation.

[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).

Third, our evidence complements previous research showing that circumstances that lead to higher bargaining power for women in the economic sphere increase measures of empowerment in other life domains, for instance, marriage exit options, social independence, and financial autonomy (see, e.g., Gottlieb and Robinson, 2016; Teso, 2018; Tur-Prats, 2016). 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., 2016), and to lead to generally more egalitarian norms (see, e.g., Tur-Prats, 2016).

Fourth, our analysis is also related to contributions evaluating the effects of female suffrage on public policy. Granting democratic rights to new groups in the population who differ in their policy preference is expected to change policy outcomes.[3] Studies evaluating the effects of female suffrage in the U.S., where it was introduced between the late 19th century and 1920, tend to find quite sizable effects on public health and social welfare spending (see, e.g., Miller 2008; Lott and Kenny 1999). These findings are corroborated by the recent and closely related study of Kose et al. (2018) documenting effects of female suffrage on education. For Western Europe, where female suffrage was introduced later, but still earlier than in Switzerland, some small effects on public policy are documented (see Aidt and Dallal 2008; Aidt et al. 2006). In contrast, studies investigating the fiscal effect of female suffrage for Switzerland find no clear evidence for a general increase in government size, if anything, general spending decreases (see Stutzer and Kienast 2005 and Krogstrup and Wälti 2011). These differences in the findings might be due to different historical contexts but perhaps also due to timing. The later women were granted the right to vote, the more developed the social systems in these countries had become, potentially leaving fewer inequalities against which women had to fight. This holds especially when it comes to the basic provision of education as well as sanitary and health services. It also strengthens the case that we can learn about the direct effects of female empowerment on individual life choices by isolating it from, and statistically controlling for, changes in public policy that might affect women in general.

[3] A related literature studies the conditions for suffrage extensions (see Koukal 2017 and Koukal and Eichenberger 2017 for the Swiss case, and Doepke et al. 2012 for a review).

The remainder of our paper is organized as follows. Section 2 presents the theoretical context in which we relate formal political participation rights to individual life choices leading to our main hypotheses. In Section 3, we introduce the institutional setting. Section 4 describes the empirical strategy. The census data used in our main analysis is described in Section 5. Section 6 presents the results, and Section 7 discusses the main challenges to their identification and interpretation as well as the robustness of our estimates. Section 8 offers concluding remarks.

2 Theoretical context and hypotheses

Gender roles and norms are to a large extent social constructs. They are formed through interaction or socialization, as well as by the imitation of role models (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 which drive economic agents' behavior are partly shaped and affected by institutions (see, e.g., Bowles 1998). We develop a theoretical argument that this mechanism in social transformation is particularly important in the case of political participation rights.

A fundamental aspect of institutions of collective decision-making is whether they allow for participation. In democracy theory, participation rights have been framed as procedural goods of democracy related to individuals' feeling of being respected, treated with dignity, and having a sense of personal control (Lane, 1988). This reasoning builds on substantial research on mastery, self-determination and self-efficacy in psychology (see, e.g., Gecas, 1989). Institutions that allow the experience of autonomy, competence and relatedness strengthen people's perception of control and causal agency, two important factors in human motivation and action.[4] The

[4] Self-efficacy of children and their parents has been found to be a key determinant of educational aspirations and long-term behavior (Bandura et al., 2001).

acquisition of participation rights and their use are thus seen as a source of self-efficacy and esteem. Based on this reasoning, we hypothesize that acquiring and exercising formal political participation rights increases women's perceived efficacy and affects their long-term decision making. This effect is reinforced by contact with peers who experience the same, and by the exposure to female role models who express higher efficacy, self-esteem, and behave less traditionally. The latter mechanism might be particularly strong in the relationship between mothers and their daughters.[5] The perceived empowerment puts women on a more equal footing with men, allowing them to renegotiate the norms related to traditional gender roles, i.e. norms that prescribe that women should focus on preparing for life in a marriage, taking care of the family and the home, not aspiring to paid work and therefore not uselessly investing in human capital. Specifically, it increases their bargaining power within the household (Manser and Brown, 1980). All this might contribute to women's emancipation, an emancipation that brings them out of the home and into the labor market, allowing them to think about independent living arrangements.

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. Perceptions of appropriate gender specific behavior are partly formed even before during socialization in childhood (Witt, 1997). While there is some discussion in developmental psychology regarding the most influential years of age (based on the *impressionable years hypothesis*), it is generally found that personality and attitudes stabilize with increasing age (see, e.g. Roberts et al. 2006, and for a review McAdams and Olson 2010).[6] Based on these findings, we would expect that the impact of introducing female suffrage would diminish with increasing age at

[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, e.g., Beaman et al. (2012) find that being exposed to female leadership in their village increases girls career aspirations and educational attainment.

[6] Specifically, some studies emphasize the age between 18 and 25 as being particularly influenced by impressions from outside the family, and thus early adulthood (see, e.g. Krosnick and Alwin, 1989; Roberts et al., 2006). Others report that some personality characteristics stabilize even earlier (between the age of about 12 and 15), i.e., during early adolescence, and that there might be differences with regard to the concept investigated (see, e.g., Hooghe and Wilkenfeld, 2008; Russo and Stattin, 2017; Abdelzadeh and Lundberg, 2017; Klimstra et al., 2009).

experience, i.e. the marginal effects would become smaller after the *impressionable years* as individuals' personality and values are more and more matured and major life choices are settled.

Following this reasoning, we hypothesize that the introduction of female suffrage had the following consequences on women's observed life choices. Women who mainly grow up and are socialized in a world where women are politically empowered are (i) more likely to work, (ii) more likely to stay single or to divorce if they marry, and (iii) more likely to achieve a high level of education. Furthermore, as attitudes and personality stabilize over the life span, we hypothesize that any effects on emancipation are smaller, the later a woman experiences enfranchisement. Our concept of emancipation is thus strongly linked to measures of economic independence, deviations from traditional gender roles, and liberation from social stigmas as faced, for example, by divorced women.

3 Historical context and institutional setting

While Switzerland is one of the oldest and most well-established democracies, it is also one of the last developed countries where women were granted the right to vote. Most countries introduced women's franchise in the 1920s or after the second world war, around 1945. In Switzerland between 1919 and 1971, it took about 60 cantonal and 2 federal popular votes until there was a nearly uniform political participation right for women and men at the federal level as well as in most cantons.[7] In February 1971, a popular initiative favoring female suffrage was accepted in a national ballot by 65.7% of the participating male voters (Ruckstuhl, 1986).

3.1 Democratic movements for female suffrage

The introduction of female suffrage in Switzerland is characterized by its decentralized development strongly shaped by two different sets of political ideas. On the one hand, the historic

[7] Some cantons introduced the franchise for women on the municipal and cantonal level after 1971. Appenzell Innerrhoden was the last one, being forced by a decision of the federal court in 1990.

model of the Landsgemeinde[8] (or cantonal assembly) as a forum of the defensive men had been an important reference in men's understanding of the state. A view against power sharing was also maintained in the many all-male associations. On the other hand, there were the human rights ideas of the French Revolution and the discourse about the French constitution that favored equal rights for women. These ideas motivated strong individual women and men, local movements, and formally organized associations of women to engage in favor or against women's enfranchisement.

At the cantonal level, the first movements to fight for political rights for women started in Zurich in the late 1860s. At the beginning of the 20th century, clubs for female suffrage emerged and founded the Swiss Alliance for Women's Suffrage in 1909. The first cantonal votes on the introduction of female suffrage were held but declined between 1919 and 1921 in the cantons of Ticino, Neuchâtel, Basel-City, Zurich, Glarus, and Geneva. Success was first achieved at the level of the cantons where strong liberal ideas had already historically led to an early introduction of direct democratic institutions (Graber, 2017).[9] However, it still took until 1959 that the canton of Vaud, as the first canton, introduced female suffrage. Before, in the canton of Solothurn, the introduction narrowly failed in 1948 with a yes-vote share of 49.5%. Step-by-step several cantons followed, adopting it either on the municipal and/or the cantonal level (Ruckstuhl, 1986).

In 1929, the Swiss Alliance for Women's Suffrage together with other women's associations submitted a petition at the federal level after they had collected a quarter of a million signatures. However, the federal council was not responsive even though social democrats as well as some

[8] A Landsgemeinde is a cantonal assembly where eligible voters gather on a centrally located square to publicly deliberate and vote on proposals by a show of hands.

[9] The first canton to introduce the optional referendum was Vaud in 1845. Interestingly, and speaking for the interpretation that the resistance with respect to female suffrage was at least partly an expression of the historically rooted understanding of democracy and power sharing, the cantons Appenzell A.Rh. and Appenzell I.Rh., introducing female suffrage the latest, are also among those cantons that maintained the system of the Landsgemeinde (or cantonal assembly) the longest. The different views regarding democratic participation carry forward until today when considering which cantons grant foreigners the right to vote at least at the municipal level. The first canton to introduce non-citizen voting rights was Neuchâtel in 1849, and was followed by Jura, Vaud, Geneva, and Fribourg.

liberals supported female suffrage for strategic reason, i.e. they wanted to secure women's support once they would have the right to vote. It took until 1958 that the parliament could vote on an amendment to the constitution that they approved. However, in the mandatory referendum in 1959, the change was rejected by two thirds of the male voters (see, e.g., Ruckstuhl, 1986; Studer, 2015; Voegeli, 1997). Full political rights for Swiss women at the federal level were only brought about by the second mandatory referendum on female suffrage approved in 1971. Overall, it took thus about 100 years until women received equal political participation rights.

3.2 Introduction of female suffrage across cantons

The staggered enfranchisement of women in Switzerland led to the situation that women born in the same country in the same year, but living in different cantons, were allowed to participate in the democratic process at different points in time.

Figure 1 visualizes the variation in the years in which women in each Swiss canton were exposed to their first formal opportunities for political participation. The initial opportunity might have been on the municipal, cantonal or federal level, thereby allowing women to participate in municipal, cantonal, or federal elections and votes. Thus, for cantons that adopted female suffrage after its introduction on the federal level, the year of first exposure is set to 1971.[10] Of these latter cantons, nine introduced female suffrage at the cantonal level in the same year, and four cantons one year later in 1972. In total, there are eleven cantons where women experienced suffrage before 1971, covering more than 50 percent of the Swiss population. Table A1 in Appendix A.I lists the introduction dates of female suffrage at the cantonal as well as the municipal level for all cantons.

Due to the staggered introduction, women of the same birth cohort but living in different cantons experienced the introduction of female suffrage at different ages. For instance, while a

[10] We accept as a consequence that the treatment, or the type of election women were first exposed to, is not homogeneous across cantons. We thus emphasize the first exposure as the most relevant event allowing us a clear definition of the treatment.

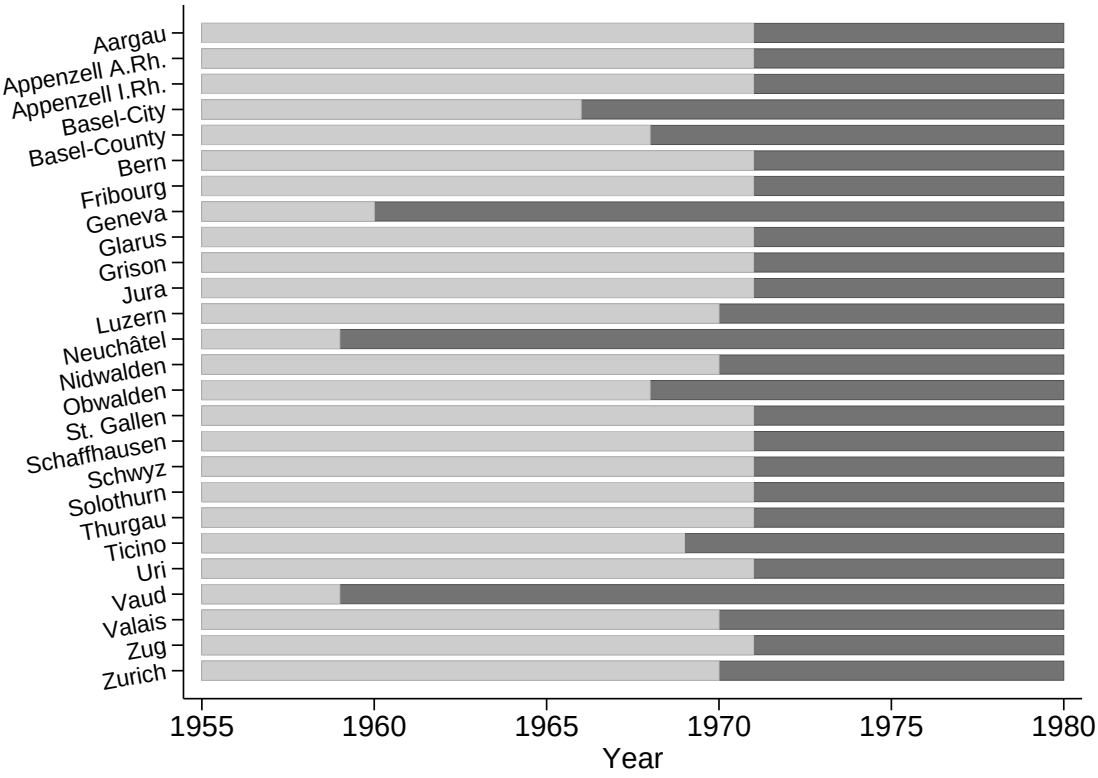


Figure 1: The graph visualizes the year of first exposure of women to female suffrage in Swiss cantons (either at the municipal, cantonal or national level). The darker bars mark the period after the introduction.

woman born in Vaud in 1935 was allowed to vote in 1959, and thus at the age of 24, a woman born in Bern in the same year could only participate in 1971 at the age of 36. We exploit this variation in the age at which women experience the introduction of formal political rights to identify whether women who mainly grew up in a world where they had a say in politics, when compared to those who experienced this opportunity later in life, make different life choices and adopt different attitudes.

4 Empirical strategy

We exploit the variation in the age at which women experienced the introduction of female suffrage across Swiss cantons. We see three main aspects that are important for our empirical strategy. First, we adopt a life course perspective as a conceptual framework. Second, we propose a flexible functional form to capture the long-term effects of the exposure to female suffrage at different ages. Third, we rely on a rather restrictive fixed-effects strategy to control for determinants of life choices that might be correlated with the age of exposure to suffrage extension and thus are potential confounders.

4.1 A life course perspective on the effects of political empowerment

Our empirical design relies on a setting in which cohorts are affected at different ages with a treatment that has a differential impact depending on the age of the treated person. If repeated cross-sectional data on the long-term consequences are available, then in a multiple regression framework confounding factors due to people's cohort, age, or time effects as well as spatial effects related to the unit at which the treatment is introduced can be controlled for. This empirical approach has been prominently applied by, for example, Malmendier and Nagel (2011), Giuliano and Spilimbergo (2013), and Fuchs-Schündeln and Schündeln (2015). They exploit similar repeated cross-sectional variation to identify the effect of the duration of exposure to democracy on preferences for democracy (Fuchs-Schündeln and Schündeln, 2015), of the exposure to economic uncertainty on risk taking behavior (Malmendier and Nagel, 2011), and of experiencing a recession during one's formative years on political preferences (Giuliano and Spilimbergo, 2013). We analyze the effect of female suffrage from a life-course perspective that emphasizes how conditions in an early phase of a person's life affect attitudes, choices, and outcomes later on.

In our context, as in the approaches above, the idea of formative years is crucial to (empirically) model the effect of female suffrage on women's lives. As noted before, the literature suggests that some gender norms are already transferred during childhood. When it comes to politics, the time of adolescence and early adulthood is proposed as being the most formative for personality and attitude development. There is no consensus though on when the most influential phase starts or ends exactly. An interesting age threshold is late adolescence, when socialization within the family becomes less important. We therefore define the reference group as including those women who were mainly socialized when their mother had or got the right to vote, experiencing its introduction before they turned 17. In contrast to this reference group, there are women who spent the main part of their formative years in an environment in which women were denied formal participation in democracy. These women experienced the introduction of female suffrage at the age of 17 or afterwards. We later on flexibly take their age at enfranchisement into account to capture differences in the degree of socialization under a regime with female suffrage.[11]

4.2 Estimation model

With the specification of our empirical model, we want to estimate how women who do not experience female suffrage up to the age of 17 or later are characterized relative to the women in the reference group, who experience the existence or the introduction of female suffrage before they turn 17. We expect that the differences in attitudes and life choices between those who are enfranchised later, compared to those who are socialized under female suffrage early on, will increase with the years a woman lived under a regime without female suffrage. In order to capture any such pattern, our main empirical specification includes a flexible form of the indicator for the group experiencing female suffrage after the age of 17. Specifically, we

[11] While we the age of 17 has in our view some appeal as age cut-off to separate women socialized completely under a regime with female suffrage and those who are at least partly socialized without, this decision leaves of course some discretion to the econometrician. One could well argue to set this cut-off at a slightly higher or lower age. In the interest of readability we still decided to stick to one age cut-off. However, our conclusions do not change if we were to choose a lower or higher age cut-off.

estimate the following linear probability model

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

where Y is our dependent variable, measuring some outcome for individual i in canton c registered in the census at time t. We define B groups for the age at which a women experienced the introduction of female suffrage in their canton of birth for those experiencing it after the age of 17. $\mathbb{1}_i$ is an indicator variable set to one if a woman's age at which she experienced enfranchisement falls into group k, and τ_k is the estimate of the difference in the outcome variable compared to that of the reference group. In our main specification, we define four groups as follows: $\mathbb{1}_1 = \mathbb{1}_{(age\_vote_i \geq 17\ \&\ age\_vote_i \leq 20)}$; $\mathbb{1}_2 = \mathbb{1}_{(age\_vote_i > 20\ \&\ age\_vote_i \leq 25)}$; $\mathbb{1}_3 = \mathbb{1}_{(age\_vote_i > 25\ \&\ age\_vote_i \leq 35)}$; $\mathbb{1}_4 = \mathbb{1}_{(age\_vote_i > 35)}$. age_vote_i is thus 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 at the time of the introduction thus serves as the reference group. We do not have any Swiss women in the sample who has *not* experienced female suffrage (as all the census data is post 1971). We thus study the effect of getting enfranchised at a high age (rather than at a young age) when behavioral reactions are expected to be minimal. If women in this latter group were still to have reacted, our estimates would have to be interpreted as a lower bound of the effects of formal political participation rights. We cluster the standard errors at the level of the canton, i.e. the level at which our identifying variation arises.

4.3 Control strategy

In order to isolate the effect of enfranchisement from other canton, time, cohort, or age specific factors that might themselves be correlated with our outcome variables, we include a restrictive set of fixed effects in our model. Our empirical approach therefore exploits the within cohort variation, as well as the across cohort within canton variation in the age of exposure. In our main specification, we include $\upsilon_{age\ x\ canton}$, which is a vector of canton specific age fixed effects.

The age effects allow us to factor out life-cycle effects; for instance, older women being more likely to be divorced or to work part time. We further allow these life-cycle effects to differ across cantons. This might be relevant if the age effects systematically differ across cantons that introduce female suffrage earlier or later. We control for μ_{cohort}, which is a vector of birth-cohort fixed effects. This allows us to rule out any cohort specific effects. Moreover, these fixed effects control for any national policies targeted at particular cohorts, for instance, an adjustment of the retirement age.[12] We include $\eta_{canton\ x\ year}$, which is a vector of canton-times-year effects. This allows us to pick up region-specific time varying shocks related to, for example, macroeconomic development and differences in the local labor market. Any measured outcome difference between the two groups of women 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 the women in a canton alike. Moreover, we include a vector X_i including an additional individual specific characteristic likely to be predetermined (and correlated with people's norms), i.e. individuals' religious denomination at the time of the interview. Finally, we take into account a set of municipality fixed effects γ_m. The latter control for time invariant differences in general attitudes towards women and geographical conditions across municipalities.

The only relevant dimension we cannot control for are cohort-times-canton effects as this is exactly 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 enfranchisement, or to put it differently, that cohorts across cantons would have evolved in parallel if not for the introduction of female suffrage. So far, we are not aware of any such factor. However, it is, of course, impossible to observe all historical societal changes across cantons. We instead try to validate the assumption following different approaches presented in a separate Section 7.2 below.

[12] Our results are further robust to the inclusion of cohort times language region fixed effects which we discuss later.

5 Data

In our main empirical analysis, we draw on harmonized micro-data of 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 until 2000 and for a large sample of about 5 percent in 2010. Based on this repeated cross-sectional data on demographic characteristics of over 2 million Swiss women, we can apply the empirical strategy described above.

In our approach, it is important to be able to control for age-specific fixed effects. We therefore restrict the sample such that we have an overlap in the variable age for women in the reference group and the group of women experiencing the introduction of female suffrage at the age of 17 or later. Accordingly, the included age range is restricted to lie between 26 and 67 and covers the cohorts born between 1913 and 1984. 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 it before the age of 17, are aged 67, respectively. Individuals aged 16 in the year of the earliest introduction (1959) were born in 1943 and were 67 in 2010. The highest age at which women in our sample experience the introduction of female suffrage is 58. Figure A1 in the Appendix visualizes the distribution of the age at which women were enfranchised in the main sample of Swiss females.

Our main sample is furthermore restricted to women who when observed are still living in the same canton where they were born.[13] This criterion allows us to specify the age at which they experienced the introduction of female suffrage. While the census data does not include

[13] About 65 percent of all individuals born in Switzerland reside in the canton they have been born in, when observed.

information on the canton of birth, it contains an indicator of whether an individual still lives in the canton of birth.[14]

Our main *explanatory* variable *suffrage at* age_{l-h} captures women's age at enfranchisement and is defined as an indicator set to one if an individual experienced the introduction of female suffrage between the age of l and h.

The *dependent* variables of our main empirical analysis are defined as follows:

- *Working*: Is an indicator set to one if an individual indicates being active in the labor market. This might be full or part time.
- *Part-time*: Is an indicator set to one if an individual who is working indicates she works part time.
- *Housewife*: Is an indicator set to one if an individual indicates that she is working at home and is not active in the labor market.
- *Ever married*: Is an indicator set to one if an individual's marital status is married, widowed, or divorced, and thus indicates that the individual is or was married.
- *Divorce*: Is an indicator variable set to one if an individual indicates she is divorced.
- *Less edu.*: Is an indicator set to one if an individual indicates that her highest educational attainment is lower secondary education (Germ.: Sekundarstufe I).
- *Highly edu.*: Is an indicator set to one if an individual indicates that her highest educational attainment is tertiary education (Germ.: Tertiärstufe).

The additional data sets including information about women's attitudes (the Swiss Household Panel) and political behavior (the Swiss Electoral Studies) are introduced in the respective sections when they are analyzed.

[14] The data restriction could produce a selected sample if women were to select into cantons that introduce female suffrage early. We validate that there is no evidence for such selection in Section 7.3.

6 Results

The following subsection presents the results of our main empirical analysis on how socialization in a world in which females have a say in politics affected women's major life choices. Thereafter, we study two sources of survey data. First, we test whether there are consistent differences in women's political behavior. Second, we explore the potential psychological mechanism and test for the effect of suffrage on women's efficacy and perception of control. In a further step, we investigate potential effect heterogeneity, differentiating between relatively more conservative and more liberal municipalities. In a separate Section 7, we discuss potential challenges to the identification and interpretation of our findings.

6.1 Female suffrage and women's major life choices

Figure 2 presents preliminary graphic evidence on whether women who experienced enfranchisement before the age of 17 (the *Early* group) differ from those who experienced it later in life (the *Late* group). Raw means by age of our eight main dependent variables are shown separately for the two samples.

The raw differences reveal that women experiencing the introduction of female suffrage later in life (the hollow diamonds) are, on average, less likely to work across their lifespan compared with the group experiencing it early (the solid circles). This also seems to hold for women who were at some time married. Further, they seem to be more likely to stay at home, slightly more likely to marry, less likely to divorce, and more likely to attain a lower level of education. These differences are consistent with the hypothesis that the socialization in a world where women have a say in politics changes female life choices in a direction that suggests stronger emancipation.

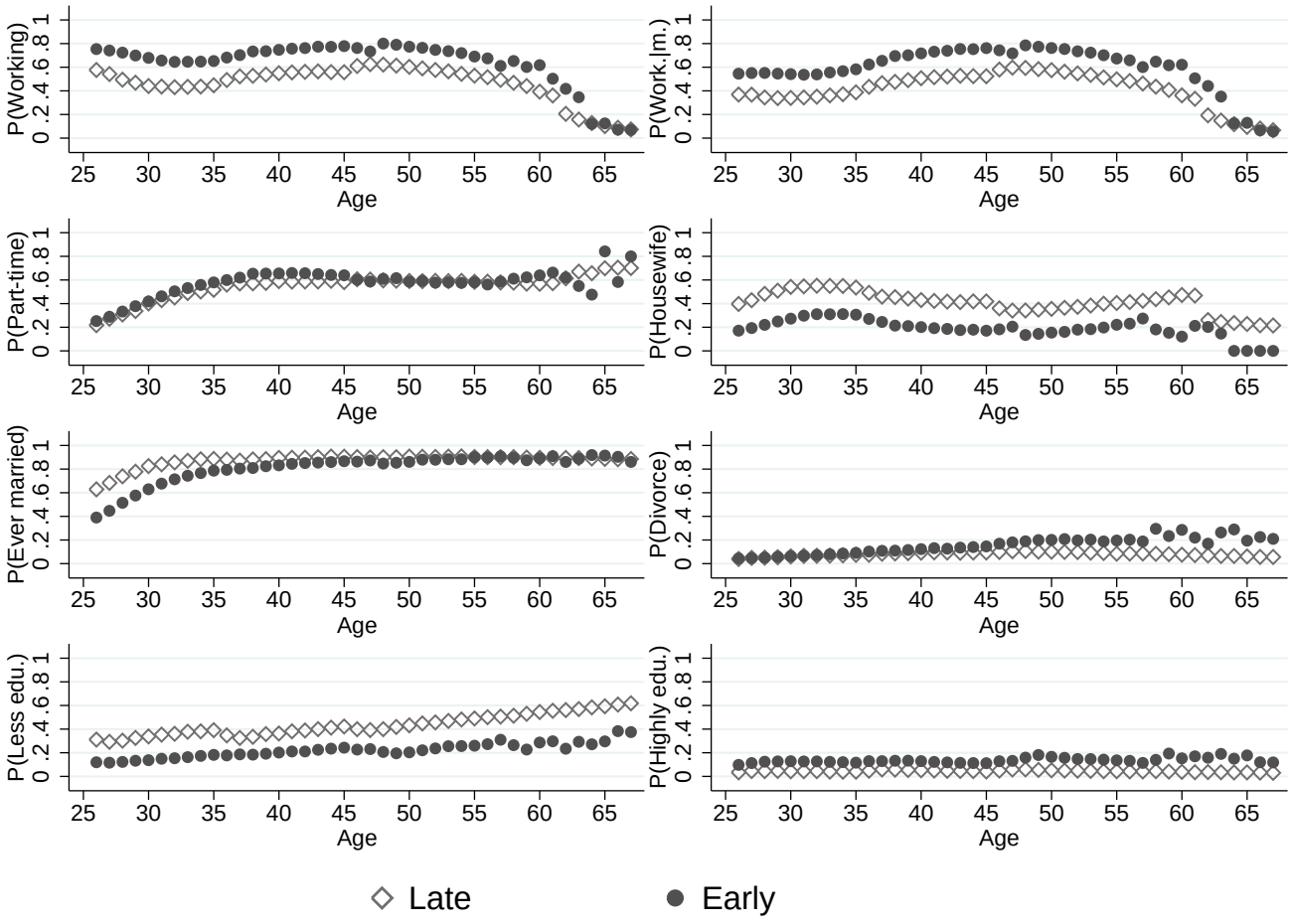


Figure 2: These figures show the raw means of our dependent variables by age for two groups in the main sample of Swiss women. The *Early* group includes women who experienced enfranchisement before the age of 17. Women in the *Late* group experienced it later.

However, this evidence is only suggestive as, for example, birth cohorts and individuals in cantons that introduced female suffrage early might differ systematically. We therefore proceed by applying the estimation strategy described above.

Table 1 reports the estimation results for our eight main dependent variables. We adopt the flexible specification with four age ranges for women experiencing the introduction of female suffrage at the age of 17 or later. The coefficients are always reported in comparison with the reference group, i.e. women enfranchised before the age of 17, and conditional on age times canton, canton times year, birth cohort, and municipality fixed effects. Column (1) shows that women are less likely to work the later in life they experienced female suffrage. The

Table 1: Female suffrage and the life choices of Swiss women

	Working	Working given ever mar.	Part-time given working	House-wife	Ever married	Divorced given ever mar.	Less edu.	Highly edu.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Suffrage at								
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	–0.015***	–0.006	0.013***	0.016***	0.017***	–0.014***	0.024**	–0.003
	(0.005)	(0.004)	(0.005)	(0.005)	(0.003)	(0.004)	(0.010)	(0.004)
age_{21-25}	–0.024***	–0.011*	0.033***	0.021***	0.022***	–0.021***	0.042***	–0.006*
	(0.006)	(0.006)	(0.007)	(0.006)	(0.004)	(0.004)	(0.012)	(0.003)
age_{26-35}	–0.042***	–0.025**	0.045***	0.038***	0.026***	–0.034***	0.064**	–0.004
	(0.011)	(0.011)	(0.008)	(0.012)	(0.003)	(0.006)	(0.023)	(0.006)
age_{36-58}	–0.060***	–0.040**	0.052***	0.053***	0.023***	–0.039***	0.061*	0.004
	(0.016)	(0.016)	(0.011)	(0.017)	(0.005)	(0.009)	(0.031)	(0.007)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep.	0.55	0.49	0.54	0.34	0.82	0.09	0.35	0.07
No. of obs.	2,462,685	2,021,168	1,355,494	2,462,685	2,462,685	2,021,168	2,462,685	2,462,685
No. of clusters	26	26	26	26	26	26	26	26
R^2	0.18	0.17	0.08	0.12	0.16	0.05	0.21	0.07

Notes: Main sample of Swiss women. Standard errors are clustered at the cantonal level and reported in parentheses. Controls include indicators for individuals' religious denomination.
Significance levels: * $.05 < p < .1$, ** $.01 < p < .05$, *** $p < .01$.
Data source: Swiss population census individual data, 1980-2010.

difference ranges from 1.5 percentage points for those who experienced it rather early during their adolescence or adulthood (age 17-20) up to 6 percentage points for those who experienced it rather late in life (age 36-58), when presumably many relevant life choices had been made. Given that the average female labor force participation rate in our sample is about 55 percent, this latter difference is sizable and amounts to about 11 percent. In column (2), somewhat smaller but still economically and statistically significant effects are estimated for women who

were ever married.[15] These effects might reflect a core manifestation of emancipation, when married women engage in paid work. Thus, women who mainly grew up in a world in which they had a political say are systematically more likely to participate in the labor force (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). These findings are consistent with our main hypothesis. However, contrary to the specific prediction that marginal effects are smaller when women experience enfranchisement later in life than early in life, we find that for employment sizable and statistically significant differences emerge even between the groups who were enfranchised at age 36 to 58 rather than at age 26 to 35. This implies that women affected after the age of 26 still changed their labor market participation decisions. Thus, at least for labor force participation, the impressionable years clearly reach beyond early adulthood.

According to column (3), women who experienced the introduction of female suffrage later are not only less likely to work, but given that they work, they are also more likely to work part-time. The difference amounts to between 1 and about 5 percentage points (and thus for the latter category to about 9 percent of the average probability of working part-time). Socialization in a world with politically empowered women thus affects female labor market participation along two margins, the extensive margin, i.e. the likelihood of working, and the intensive margin, i.e., working time. In column (4) we find that women enfranchised later are consistently more likely to dedicate their time to housework. Women exposed to political rights seem to develop and implement different life plans, providing them with more economic independence and potentially further increasing their bargaining power within households.

Columns (5) and (6) in Table 1 explore our hypotheses with regard to marital decisions. Consistent with the notion that female empowerment increases the self-sufficiency of women, we find that the group socialized in an environment without female suffrage is more likely to marry. The effect barely increases in the age of enfranchisement and ranges around 2 percentage points. In

[15] Table A10 in the Appendix presents the estimates for the probability to work including the fixed effects successively. As was to be expected cohort effects are most relevant.

line with the idea that empowered women are more independent and can support themselves, those women experiencing enfranchisement later are also less likely to divorce. The decision to divorce remains an option over the lifetime of married people and seems to be affected by differences in the age of enfranchisement later in life as well. This finding is also consistent with the notion that economically independent women can afford to leave unhappy relationships, as we also observe an effect on economic activity. It might be driven by both, the higher probability to work and to be able to make a living, and a higher self-esteem allowing to leave unhappy relationships. In sum, women socialized in a setting where they are granted formal political rights are less likely to marry, and if they marry, are more likely to divorce.

Finally, in columns (7) and (8), we investigate differences in female educational attainment or human capital investment. We find that women enfranchised later in life are more likely to be educated to a lower secondary level, the difference amounting to between 2 to 6 percentage points. There is little evidence for a systematic effect on achieving a tertiary education, indicating that political empowerment primarily affected the decision to engage in some professional education after mandatory schooling. This change in human capital investment might be driven by mothers exposed to suffrage and envisaging an independent life for their daughters, or by potential higher returns to education as the probability to engage in the workforce increases.

When interpreting the documented estimates, it is important to note that they are not conventional treatment effect estimates capturing effects materializing immediately after some *treatment*. 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 their situation during socialization and might have been taken before or after the introduction of female suffrage. 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 resulting mind-set. Women in the other groups, experiencing enfranchisement later in life and therefore being socialized largely in a world where women have no say in politics, made their life choices predominantly under the corresponding attitudes and experiences. Thus, the estimates capture how much more likely a woman is, for

example, to work years later when she experienced female political empowerment before the age of 17, making all relevant decisions after the introduction of female suffrage, compared to a woman experiencing enfranchisement later in life and making at least some of the decisions before the introduction of female suffrage. 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 which are expected to be amenable to change even late in life, such as the participation in the labor market or divorce. Other outcomes like being married or educational attainment are much less amenable 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 are increasing in the age of enfranchisement for outcomes which remain clearly amenable, while they stabilize for the others. This holds in our data for the difference in the probability of working, which increases in the age of enfranchisement, as women might at any time decide to enter the labor market, while the differences in the probability of ever being married or of attaining a low level of education are rather stable independently of when after the age of about 25 a woman experienced enfranchisement.

Overall, we find strong evidence that the socialization in a world in which women have a say in politics changes women's life choices. The later in life they experience female empowerment the less emancipatory, or the more traditional, are their life choices. They are less likely to participate in the labor force, more likely to be married and less likely to get a divorce. Consistent with lower expected returns to education, they are more likely to be educated only to the minimum level of secondary school. The interpretation for labor force participation still holds when conditioning on individuals' educational attainment. The effect is only to a small extent driven through this channel (see Table A2). These findings are consistent with, and strongly support, the notion that political empowerment has had far reaching consequences for women's lives and has had the force to stimulate changes in gender roles and self-concepts that map into revealed preferences.

6.2 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) would suggest 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 Studies (Selects) between 1971 and 2011 to test this hypothesis.[16] In each survey about two to four thousand individuals are interviewed in the aftermath of Swiss national elections that take place every four years. Given the nature of this data, we end up with considerably smaller samples than those from the census data. Accordingly, we concentrate on a slightly less restrictive specification 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 late in their life.

Table 2 presents the estimation results for women's reported political behavior and preferences. Despite the small sample, a systematic pattern emerges. Column (1) shows that women who experienced female suffrage later in life are systematically less likely to report having voted in the last federal election. While the confidence intervals are wide, the effect seems sizable, amounting to around 11 percentage points, with an average participation rate of 56%. Columns (2) to (6) further indicate that women enfranchised later make their decision about which party to vote for later (measured by the probability of making the decision later than months/weeks before the election), 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 slightly lower level of political interest (on a scale from 1 "not interested at all" to 4 "very interested"). While not all of these effects are statistically significant at conventional levels, they still suggest that the group of women socialized without

[16] The data is available at www.selects.ch. The same questions are not asked in every survey. We concentrate on waves in which individuals reported the canton they lived in as a child. This allows us to calculate the age at which they experienced enfranchisement as before.

Table 2: Female suffrage and women's political behavior

	Voting participation	Late elections decision	Party attachment	Discuss election often	Politics is complicated	Political interest
	(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

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 year. Controls include indicators for religious denomination and language region. Standard errors are clustered at the cantonal level and are reported in parentheses.
Significance levels: * $.05 < p < .1$, ** $.01 < p < .05$, *** $p < .01$.
Data source: Swiss Electoral Studies (Selects), cumulative file 1971-2011.

access to formal political participation rights has a less clear political orientation and engages systematically less in politics.

6.3 Mechanism: Female suffrage and women's efficacy and perceptions of control

As motivated in Section 2, a potential mechanism for the effect of female suffrage on life choices puts forward that formal political participation rights increase women's (perceived) efficacy and

control. We draw on two waves of the Swiss Household Panel (SHP) survey in 2012 and 2015 to investigate this conjecture. The two survey waves are particularly interesting as they include a battery of questions measuring individuals' efficacy. However, the sample is rather small and we have no information on the canton in which respondents were living during their childhood. Further, the highest age at which a woman in the specific sample experienced the introduction of female suffrage is 31. Given these limitations, the assignment of the age at which women were enfranchised might well be fuzzy and the results have to be interpreted with caution. We again specify two age ranges for women experiencing the introduction of female suffrage after the age of 17.

Table 3 reports the estimated effects on women's reported perception of control if they experienced the introduction of female suffrage late in their formative years. According to columns (1) to (5), these women more strongly agree with the statement that they have little influence on life events (on a scale from 0 "completely disagree" to 10 "completely agree"), but seem not less likely to agree with the statement that what they want is in their own hands (on a scale from 0 "completely disagree" to 10 "completely agree"), seem to agree less with the statement that when they really want to do something, they usually find a way to succeed at it (on a scale from 0 "completely disagree" to 10 "completely agree"), more strongly agree with the statement that others determine what they can do (on a scale from 0 "completely disagree" to 10 "completely agree"), and seem to agree less with the statement that they can do everything that they want to do (on a scale from 0 "completely disagree" to 10 "completely agree"). While not all the differences are statistically significant at conventional levels, overall they point in the direction that women who were enfranchised later in their life feel less efficacious and in control of their lives compared to those women who mainly grew up in an environment where women had a formal say in politics.

Table 3: Female suffrage and women's perception of control

	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. var.	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

Notes: The sample includes women who indicate 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 denomination and spoken language. Standard errors are clustered at the cantonal level and are reported in parentheses.
Significance levels: * $.05 < p < .1$, ** $.01 < p < .05$, *** $p < .01$.
Data source: Swiss Household Panel (SHP), waves 2012 and 2015.

6.4 Heterogeneity: Conservative vs. liberal municipalities

Finally, we investigate whether women in conservative municipalities are affected more by female suffrage. This analysis takes up the idea that the attitudes prevalent around the introduction of formal participation rights for women might moderate the effect of female suffrage on emancipatory life choices. We see two competing hypotheses. The first could be called a *confirmation hypothesis*. Women from municipalities that were relatively open and where men supported

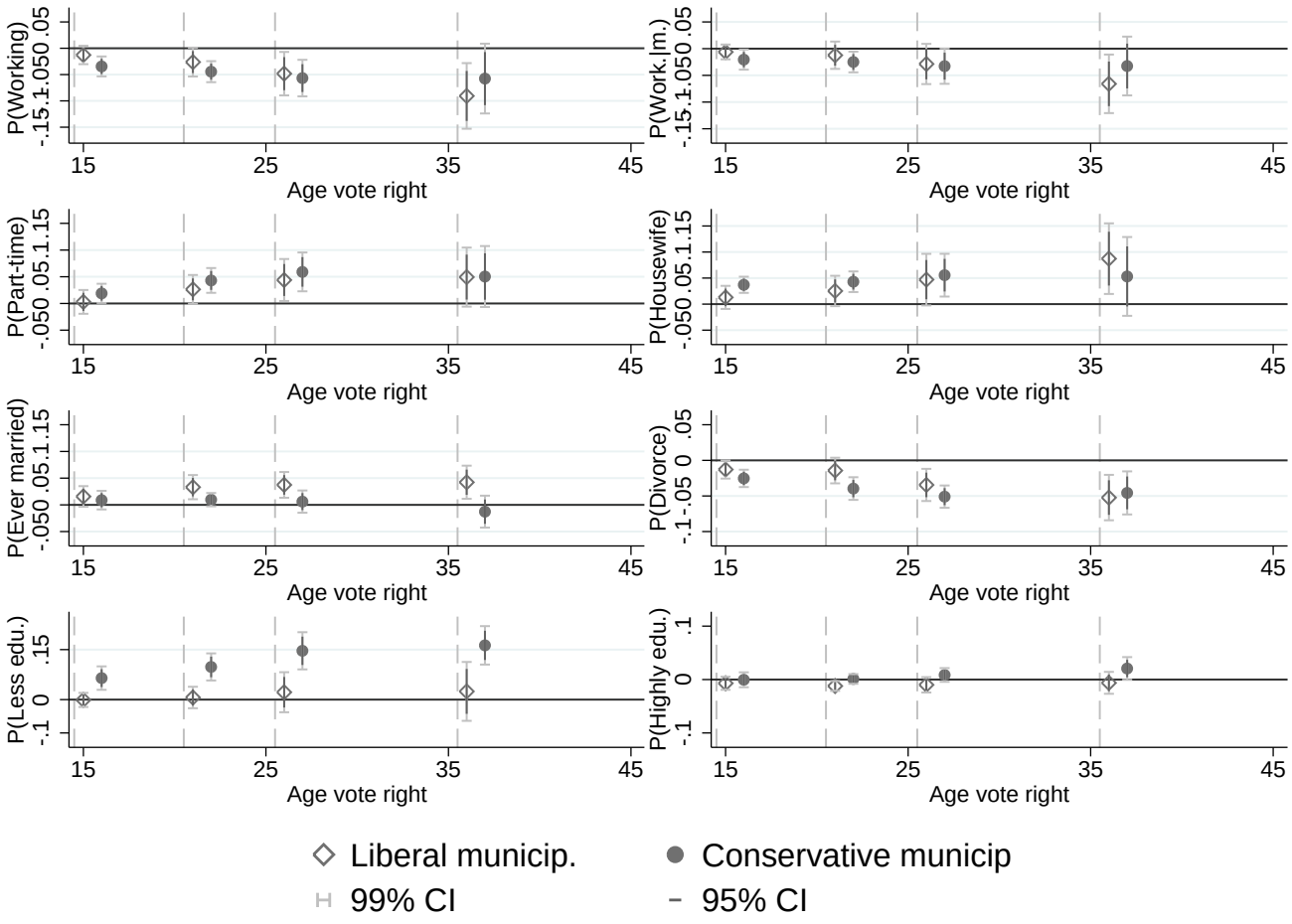


Figure 3: These figures show the estimated differences for our eight main dependent variables in liberal and conservative municipalities for the main sample of Swiss females who live in their birth municipality when they are observed. The estimation results are reported in Table A3 in Appendix A.I.

gender equality more are confirmed in their aspirations with the adoption of female suffrage and motivated to implement their life plans. However, there is also a second one that could be called a *revelation hypothesis*. For women in relatively conservative municipalities a new world is opened up that strongly shapes their norms, and ultimately, decisions over the life course. According to the latter hypothesis, institutional change in the form of female suffrage affects outcomes more if at the time the traditional norms still prevailed. In contrast, the former hypothesis emphasizes that women who are prepared, in terms of their attitudes, for gender equality are affected relatively more by an institutional change that brings attitudes and laws into congruence.

We test the idea of effect heterogeneity across municipalities, drawing on our main sample of Swiss women and their life choices. We approximate whether a municipality was liberal or conservative with respect to norms regarding the role of women in society by drawing on the municipality level voting outcomes in the first federal ballot on the introduction of women's voting rights in Switzerland in 1959. The share of yes votes for this constitutional amendment captures local men's preferences before any canton introduced female suffrage. The right to vote for women was clearly rejected by the male Swiss citizenry. Still, there was a considerable variation in support for the referendum across municipalities, ranging from 0 to 95 percent, with a mean of 33.1 percent. We define conservative municipalities, relative to other municipalities in the same canton, as those that showed a below average approval rate in the referendum. This classification picks up potentially many factors besides specific preferences that are correlated with the vote outcome, such as urbanization which has to be kept in mind when interpreting the results.[17]

We estimate the differential long-term effects of female suffrage interacting the indicators for being enfranchised late with the indicator for living in a historically conservative municipality. The results are visualized in Figure 3 and reported in Table A3 in Appendix A.I. Overall, we observe rather similar patterns for labor market choices and divorce. For marriage, the point estimates for individuals in conservative municipalities seem to be smaller, but statistical uncertainty hampers an interpretation. If anything, it might suggest that the marriage norm is more persistent in these regions. Different patterns emerge for education across the two groups of municipalities when compared to the results in Section 6.1. A late enfranchisement increases the difference in the probability of only attaining a low educational level in the more conservative municipalities but not in the more liberal ones. For women in the former municipalities, the effects amount to between 7 and 15 percentage points, while they are only between -0.006 and

[17] In order to make sure that women were exposed to these attitudes at the time of the introduction of female suffrage, the sample is restricted to women who live in the same municipality where they lived after their birth in this sub-analysis.

-0.02 percentage points, and not statistically significant, for women in historically more liberal municipalities.

Female empowerment thus seems to have most strongly affected those women who lived in conservative environments, which are places where female suffrage was introduced against the will of a majority of men (and many older women). Female suffrage revealed and opened up new perspectives that dramatically changed life courses. However, women in more liberal municipalities, where men were decisively for the introduction of female suffrage, were affected as well. This suggests that in our context the effects of changes in attitudes and norms have been magnified as participation rights were institutionally confirmed and implemented.

7 Discussion

This section, first, presents additional estimates for Swiss men. Second, we discuss the validity of our main identifying assumption, i.e. that cohorts across cantons would have evolved in parallel if not for the introduction of suffrage. Specifically, we (i) present estimates for a sample of foreign women who were born in Switzerland, but were not granted the right to vote, (ii) test for parallel cohort trends on outcomes that stabilize early in life, (iii) check for cantonal pre-trends in historical aggregate data, (iv) present evidence on an event study of female suffrage on electoral outcomes, and (v) present a simulation on placebo suffrage introduction years. In a third step, we check for the robustness of our estimates, i.e. whether our estimates are (i) sensitive to the exclusion of single cantons, (ii) robust to the correction for the limited number of clusters, (iii) driven by language region cohort effects, (iv) the result of selective fertility, or (v) sensitive to selective mobility.

7.1 Effects on Swiss men

An analysis of Swiss men's life choices in relation to the introduction of female suffrage helps to better understand the patterns for women. It is also interesting in its own right as there are numerous potential spillover effects on men's outcomes from changes in women's life choices (see, e.g., Dahl et al. 2018 for the effects of women in male teams). Specifically, we can study whether men make different labor market decisions when they have experienced politically empowered women as early as during adolescence or only later on. Effects might also occur via the labor market if men compete with women from the same cohort in local labor markets. Women who experienced enfranchisement later and are thus less likely to engage on the labor market might make it easier for men of the same age to find and keep employment. They might also be less likely to work part-time, given that women stay at home. For marital decisions, we expect to see similar patterns, given that there are small age differences at marriage between spouses and that men's outcomes in this domain should mirror that of women. Patterns in education are particularly interesting, as growing up in a conservative environment without female suffrage might also capture a general educational alienation. A possible spillover effect could arise if women's better education pushes men into even higher educational categories.

Table 4 summarizes the estimates for the main outcome variables and the sample of Swiss men. The sample is composed exactly like that for Swiss women. We observe no differences in men's labor force participation with regard to the extensive margin in column (1) in response to when they experienced women's enfranchisement. This finding also indicates that the pattern for women does not reflect some systematic cohort-canton specific labor market-demand effects that affect employment careers in general. With regard to the intensive margin in column (3), the correlations for working part-time are consistent with their spouses being more likely to stay at home. For the status of ever being married in column (5), the effect sizes closely mirror those for women. For the status of divorce in column (6), they go in the same direction but differ slightly in size. The results in columns (7) and (8) suggest that men's educational choices

Table 4: Female suffrage and Swiss men's life choices

	Working	Working given ever mar.	Part-time given working	Taking care of home	Ever married	Divorced given ever mar.	Less edu.	Highly edu.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Suffrage at								
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	–0.001	–0.000	–0.007***	0.002*	0.022***	–0.007***	0.009*	–0.010***
	(0.002)	(0.002)	(0.002)	(0.001)	(0.004)	(0.002)	(0.005)	(0.004)
age_{21-25}	0.001	0.002	–0.008***	0.001	0.022***	–0.010***	0.006	–0.019***
	(0.002)	(0.001)	(0.002)	(0.001)	(0.003)	(0.003)	(0.005)	(0.003)
age_{26-35}	–0.003	–0.002	–0.012***	0.005**	0.026***	–0.020***	0.021**	–0.029***
	(0.004)	(0.003)	(0.003)	(0.002)	(0.003)	(0.004)	(0.009)	(0.010)
age_{36-58}	–0.012	–0.010*	–0.014***	0.013**	0.024***	–0.026***	0.018	–0.029**
	(0.007)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.011)	(0.013)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep.	0.91	0.91	0.06	0.01	0.77	0.07	0.19	0.22
No. of obs.	2,686,428	2,062,117	2,437,607	2,686,428	2,686,428	2,062,117	2,686,428	2,686,428
No. of clusters	26	26	26	26	26	26	26	26
R^2	0.34	0.43	0.05	0.10	0.25	0.04	0.15	0.06

Notes: Sample of Swiss men. Controls include indicators for individuals' religious denomination. Standard errors are clustered at the cantonal level and reported in parentheses.
Significance levels: * $.05 < p < .1$, ** $.01 < p < .05$, *** $p < .01$. *Data source*: Swiss population census individual data, 1980-2010.

were at most minimally affected at the lower end of the distribution by the experience of women having the right to vote. Only 19% of men in our sample have a low level of formal education, while the respective fraction among women is 35%. On the upper end, sons who were raised by a mother who had or received the right to vote early were also slightly more likely to attain a tertiary education. This might also mirror a displacement effect, i.e., the more women enter secondary education the more men are pushed up into tertiary education.

In our reading, the results for men support the interpretation that the differences identified between those women growing up in a world in which women have a say in politics and those experiencing the introduction of formal political rights for women later in life are due to women's reactions and do not merely mirror men's life choices (or some correlated contextual factor like educational alienation).

7.2 Discussion of identifying assumption

We argue that female suffrage affected attitudes and norms contributing to societal change. However, evolving attitudes about women's role in society might well have driven the introduction of female suffrage in the different cantons (and most certainly did) as well as the outcomes in women's life choices that we observe in our empirical analysis. In order to capture the effect of a change in formal institutions on norms and behavior in this bidirectional relationship, we have so far estimated specifications with an extensive set of fixed effects controlling for a large set of potential confounders. Any remaining societal change would have to be cohort-canton specific to explain our statistical findings. This is the only relevant additional level we cannot control for as it coincides with the level from which we derive our variation.

Our identification strategy thus implicitly assumes that the cohorts in cantons introducing female suffrage early rather than late would have evolved in parallel if female suffrage had not been introduced. It is not possible to test this assumption. However, we undertake six analyses to shed light on its validity. First, in order to validate that our findings are not purely driven by a change in men's attitudes towards women that led to the introduction of female suffrage, we check whether the estimated differentials are systematically different (smaller) in cantons that were not supportive toward female suffrage when it was introduced in 1971. Second, we test whether similar reactions are observed within a group of woman who were born in the same cantons and during the same time period who, however, were not granted political rights, i.e. second generation immigrants. Third, we test for pre-trends in women's outcomes which

stabilize fairly early in life by exploiting older cohorts that could no longer easily adapt their life choices after the introduction of female suffrage. Forth, we draw on historical cantonal-level data to validate that the cantons feature parallel developments in family policies (child allowance), fertility rates, divorce, female students, traditional household forms, and economic development. These trend analyses suggest that women in cantons introducing female suffrage early did not experience specific policy or economic shocks that would explain their different life choices. Fifth, we complement the evidence on the political consequences of female suffrage in Switzerland by conducting an event study around the introduction of female suffrage at the cantonal level on cantonal election results. Corroborating prior findings (see, e.g., Stutzer and Kienast, 2005; Krogstrup and Wälti, 2011), we do not find evidence for systematic changes in the partisan composition of legislatures. Sixth, we perform a simulation exercise in order to test whether it is the broader time period when institutional changes come about in general or whether it is the actual year of the introduction of female suffrage that drives our findings.

Effects for Swiss women in cantons 'forced' to accept female suffrage at the federal level

One potential concern about the interpretation of our results might be that, rather then the introduction of female suffrage, men's attitudes about women's role in society might have driven both, the observed differentials in life choices as well as the introduction of female suffrage.

Any effect on women's life choices that we observe might then be a composite of reactions due to empowerment as well as due to changes in male behavior towards, for example, working women. Thus part of our evidence would have to be ascribed to "men's emancipation".

In order to learn whether men's attitudes towards women are an important driving force behind our findings, we exploit the revealed preferences of the male voters in the national vote on the introduction of female suffrage in 1971. This vote was overall accepted and led to the introduction of female suffrage at the national level. However, there were cantons where a majority of male voters opposed the introduction in 1971. These cantons can thus be regarded

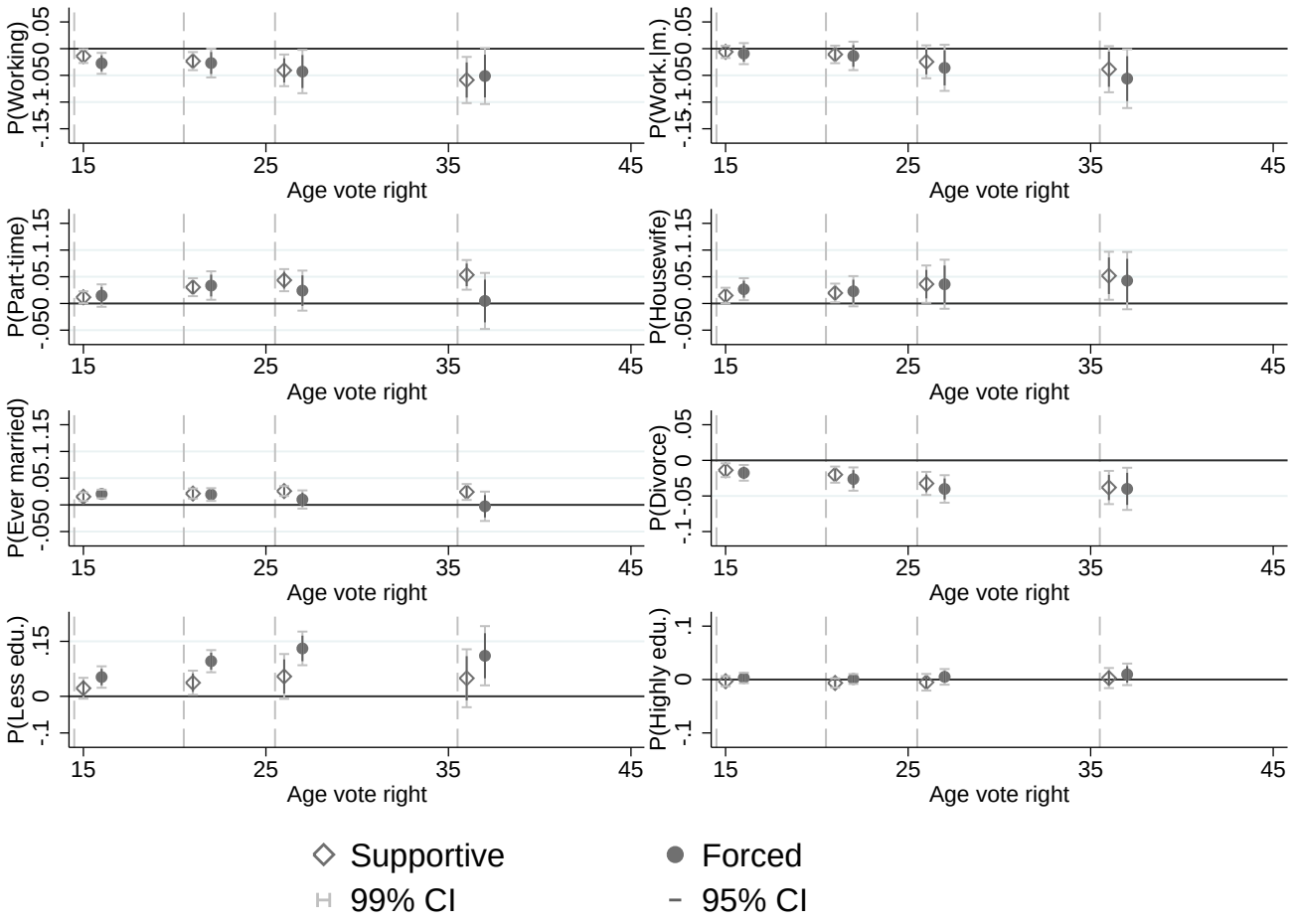


Figure 4: These figures show the estimated differences for our eight main dependent variables in cantons in which a majority of men voted in favour of female suffrage at the federal level (Supportive) in 1971 and those cantons in which the majority of men voted against its introduction (Forced). The estimation results are reported in Table A4 in Appendix A.I.

as being 'forced' to accept the enfranchisement of women at the federal level. We would expect that attitudes were less supportive of women's empowerment and emancipation in these cantons and thus that the described endogeneity channel is less of an issue in these cantons. We can only speculate, but would argue that without the development at the federal level, a majority for female suffrage would have been achieved only years later. We thus see the introduction of female suffrage in some of these cantons, shortly after the federal vote, as an endogenous result of the introduction at the national level.[18]

[18] There is some evidence for such top down policy diffusion for the US (see, e.g., McCann et al., 2015; Howell and Magazinnik, 2017).

If our documented effects were primarily driven by men's attitudes, we would expect that they are driven by cantons in which the majority of men was in favour of female suffrage. If, however, the documented overall effects were primarily due to changes in the choices of women who were exposed to female suffrage we would expect to see rather similar effects across cantons. In order to test this hypothesis, we estimate a full interaction model allowing for heterogeneous effects depending on the support of female suffrage in 1971. We classify cantons as 'supportive' if a majority of male voters voted in favour of female suffrage in the national vote on the introduction of female suffrage in 1971. Those cantons in which the majority of male voters opposed it are classified as being 'forced' to introduce it.[19]

The results of this exercise are presented in Figure 4. The estimated differentials for having experienced the voting right later are rather similar for women from the two groups of cantons. It is only in the probability to work part-time and to be ever married for which we observe somewhat smaller effects for women in cantons that were 'forced'. However, we find larger differentials in the probability of being less educated. This closely corresponds to the results of our analysis comparing liberal and conservative municipalities. Overall this analysis shows that women in cantons that were 'forced' to accept the introduction fo female suffrage at the federal level reacted rather similar as in cantons that were 'supportive', suggesting that men's attitudes are not the main driving force behind our evidence.

Effects on women of foreign nationality

In Switzerland, there are a substantial number of women who do not hold Swiss citizenship and thus are excluded from voting. However, many of them (and our sample in this section is restricted to them) were born in Switzerland, i.e., they are second generation immigrants, and grew up in the same institutional and societal setting as the Swiss women.[20] They thus form a group that was not directly affected by the institutional change of the female suffrage,

[19] These are the canton of Uri (36.3%), Schwyz (42.2%), Glarus (41.3%), Appenzell A.-Rh. (39.9%), Appenzell I.-Rh. (28.9%), St.Gallen (46.5%), and Thurgau (44.1%). While the majority in the canton of Obwalden also rejected the initiative (46.7%), we assign this canton to the supportive group as female suffrage on the municipal level had already been introduced before 1971.

[20] At the time when the cantons introduced female suffrage, this held for all the cantons but Neuchâtel.

Table 5: Female suffrage and the life choices of women of foreign nationality

	Working	Working given ever mar.	Part-time given working	House-wife	Ever married	Divorced given ever mar.	Less edu.	Highly edu.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Suffrage at								
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	0.017	0.024	0.007	–0.027	0.009	–0.017	0.013	–0.012
	(0.017)	(0.021)	(0.038)	(0.019)	(0.033)	(0.019)	(0.034)	(0.014)
age_{21-25}	0.011	0.052*	0.006	–0.027	0.060*	0.005	0.011	–0.027
	(0.022)	(0.028)	(0.055)	(0.024)	(0.032)	(0.021)	(0.028)	(0.023)
age_{26-35}	–0.034	0.002	0.067	0.000	0.127***	0.017	–0.005	–0.028
	(0.044)	(0.054)	(0.057)	(0.045)	(0.036)	(0.032)	(0.049)	(0.040)
age_{36-58}	–0.020	0.047	0.165*	–0.058	0.144**	0.044	–0.017	–0.017
	(0.064)	(0.073)	(0.090)	(0.059)	(0.062)	(0.041)	(0.065)	(0.054)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep.	0.74	0.68	0.37	0.14	0.65	0.08	0.35	0.08
No. of obs.	37,224	23,981	27,219	37,224	37,224	23,981	37,224	37,224
No. of clusters	26	25	25	26	26	25	26	26
R^2	0.17	0.18	0.13	0.13	0.18	0.10	0.25	0.10

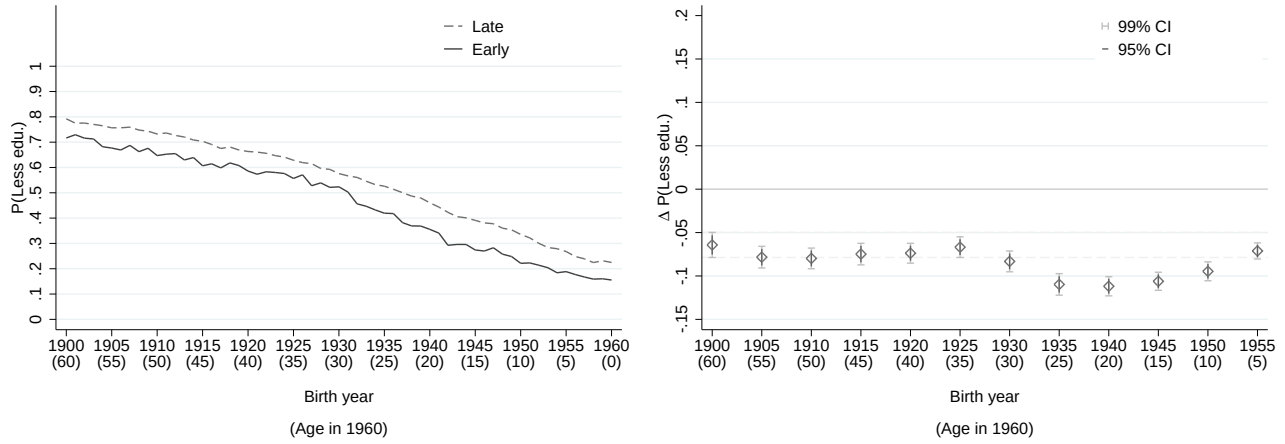
Notes: Sample of non-naturalized women. Controls include indicators for individuals' religious denomination. Standard errors are clustered at the cantonal level and reported in parentheses.
Significance levels: * $.05 < p < .1$, ** $.01 < p < .05$, *** $p < .01$. *Data source*: Swiss population census individual data, 1980-2010.

but was subject to the same societal changes during the introduction period.[21] Still, we cannot exclude that these foreign women were affected by their female Swiss peers from the same cohort when forming and executing their plans for life. This would lead to patterns in life choices similar to those we observe for Swiss women. Such a finding would not allow us to reject the

[21] Foreign and Swiss children went to the same schools and lived in the same communities. Permanent residents also had access to the same social security system. The exception were temporary workers, who also faced restrictions regarding family reunion and only stayed for a restricted number of months. The individuals in our sample, who all grew up in Switzerland, are thus most likely permanent residents.

alternative explanation of cohort-canton-specific societal changes driving the patterns. However, if the foreign women, who were raised by mothers who did not receive the right to vote and did not receive it themselves, do *not* show a similar pattern in life choices with reference to the introduction of female suffrage, then changes in norms that are cohort-canton specific are unlikely to be at work and unlikely to be responsible for the findings for Swiss women.

Table 5 reports the estimates of the main specification for the sample of women of foreign nationality who were born in Switzerland. The number of foreign women born in Switzerland is considerably lower than that of Swiss women. Therefore, the confidence bounds are much wider than for the effects reported in Table 1. However, we can still check whether the sign and magnitude of the estimated differences are similar. In general, the point estimates are much smaller and partly reverse signs compared to those for the sample of Swiss women. The discrepancy is particularly pronounced for the variables capturing education choices. Further, there is no clear pattern of increasing effect sizes with enfranchisement at a higher age. There is just one statistical effect that is rather similar to our findings in the sample of Swiss women, i.e. the effect on the likelihood of ever being married. This suggests that foreign women did not experience the same influential event that drives our findings for Swiss women.



(a) Average probability of being less educated (b) Cohort differential

Figure 5: Graphs (a) and (b) visualize the evolution of the probability of being less educated measured in 1980 for cohorts of Swiss women in cantons introducing female suffrage early (up to 1960) and late (after 1960).

Parallel cohort trends

Our identification strategy is based on the assumption that the cohorts across cantons would have evolved in parallel if female suffrage had not been introduced. As mentioned, this assumption is not testable as we cannot observe individuals in such a counterfactual context. However, the fact that some outcomes stabilize rather early in life leaves scope to test for pre-trends in cohort outcomes in the cantons that introduced female suffrage early.

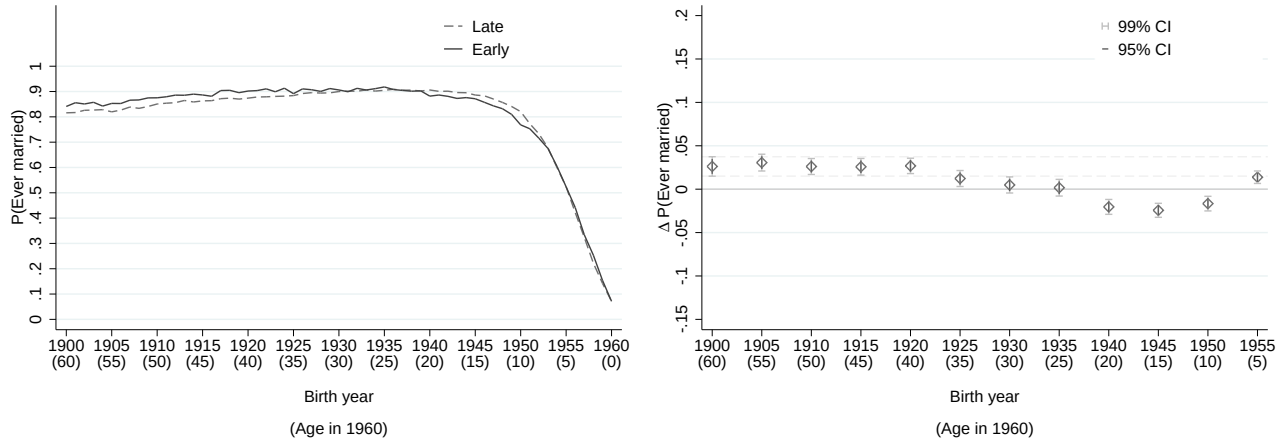
Outcomes like educational attainment and whether an individual was ever married will (in most cases) primarily change up to a certain age and much less thereafter. Cohorts that were already older at the time of the introduction of female suffrage should thus be little affected by the constitutional change and if our assumption is true 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 in 1980 across two sets of cantons, those introducing female suffrage early (up to 1960) and those introducing it late (after 1960).

We first consider individuals' educational attainment, i.e., the probability of being less educated as measured in 1980. Educational attainment is likely to stabilize after the age of about 25, or at

the latest after the age of 30 if someone is in higher education. Figure 5a visualizes the fraction of less educated Swiss women across cohorts born between 1900 and 1960. The x-axis marks the year of birth of cohorts and their age in 1960, the last year female suffrage was introduced in a canton that we define as an early adopter. We observe a development of the probability of being less educated that runs mostly in parallel for the cohorts in the two groups of cantons up to the cohort born in about 1930. For younger cohorts, the probability of being less educated seems to drop to a greater extent in the early adopting cantons. Figure 5b shows the estimated differences between the cohorts in *early* and *late* adopting cantons in five-year bands, such that individuals born between 1900 and 1904 form the first group. We see that overall women in *early* adopting cantons are less likely to be less educated. This baseline difference is accounted for by the canton-specific effects in our main specification. The difference remains quite stable up to the cohort born between 1935 and 1939, with women being between 21 and 25 years old in 1960. The difference increases for cohorts up to 1954, indicating that young women in the early adopting cantons were more likely to achieve a higher educational level. This divergence for the younger groups 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 female suffrage who are affected by the institutional change. Once all the young women in a cohort experience the right to vote during their formative years, the difference across groups of cantons gets smaller again. The observation that the educational outcomes for cohorts that were already older evolve in parallel speaks for the validity of the assumption that there were no strong pre-trends in educational attainment.[22]

A second outcome that stabilizes after a certain age is whether a woman was ever married. In order to see whether there were strong and differential pre-trends in marital patterns between cohorts in the two groups of cantons, we repeat the previous analysis for this outcome. Figure 6 visualizes the results. For the oldest cohorts, we observe that women in early-adopting cantons

[22] The corresponding analysis for the probability of being highly educated is consistent with this interpretation (see Figure A2a in the Appendix). For tertiary education, the age up to which investments in human capital usually occur is, of course, higher.

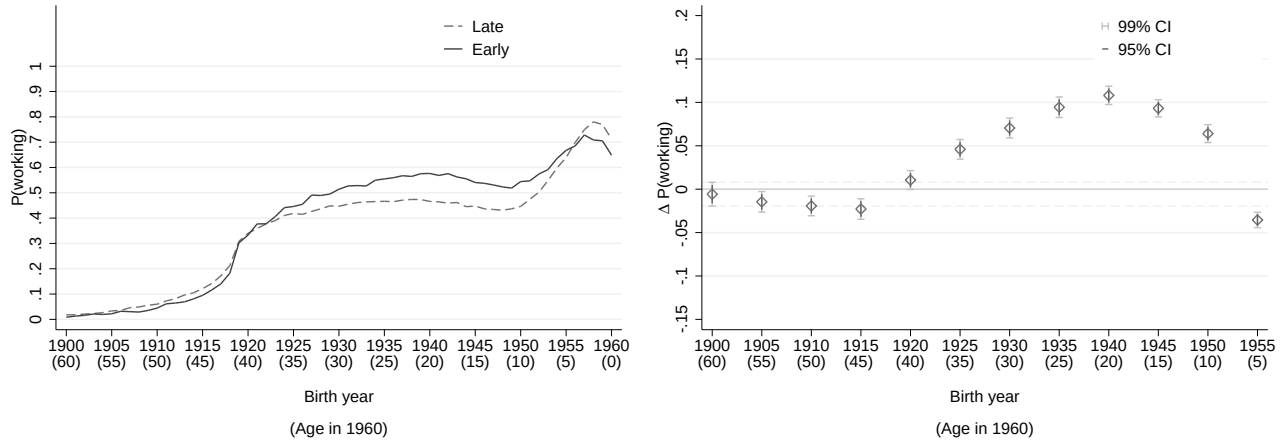


(a) Average probability of being ever married (b) Cohort differential

Figure 6: Graphs (a) and (b) visualize the evolution of the probability of being ever married measured in 1980 for cohorts of Swiss women in cantons introducing female suffrage early (up to 1960) and late (after 1960).

are more likely to have ever been married than in late adopting cantons. This difference in the likelihood of ever being married evolves rather parallel up to the cohort born around 1925, i.e. the women who are about 35 years old in 1960. For the younger cohorts, the difference decreases and even reverses, such that women in cantons introducing female suffrage early are less likely to have ever been married than women from the late-adopting cantons. These latter patterns are in line with our hypothesis and main findings, while the parallel evolution of outcomes for the older cohorts suggests that there were no strongly diverging trends.

In contrast to the two previous outcomes, individual labor market participation can and does change up to a relatively high age. We still analyze this outcome in the same way and present the resulting patterns in Figure 7. The patterns are to be interpreted differently though, as an analysis of pre-trends is not meaningful. Note also that measuring the outcome in 1980 means that a large portion of women in the older cohorts have already retired. The patterns still allow us to see whether the strongest descriptive deviations are observed for cohorts who experienced the introduction of female suffrage when young rather than when older. This is exactly what we observe, with the difference being most pronounced for the cohorts born around 1940. For the



(a) Average probability of working (b) Cohort differential

Figure 7: Graphs (a) and (b) visualize the evolution of the probability of working measured in 1980 for cohorts of Swiss women in cantons introducing female suffrage early (up to 1960) and late (after 1960).

younger cohorts, who grew up from their early teens in an environment offering female suffrage, there is little difference in labor force participation.

The results presented in this section suggest that cohorts no longer affected by the institutional change did not differ in their trends for important outcomes of life choices either. This supplementary evidence offers support for the assumption that the younger cohorts would also have evolved in parallel if not for the introduction of female suffrage.

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 female suffrage, 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 in historical statistics.[23]

[23] Unless indicated otherwise, we draw on the historical data compiled in the database "Historische Statistik der Schweiz HSSO" publicly accessible under `https://hsso.ch/`.

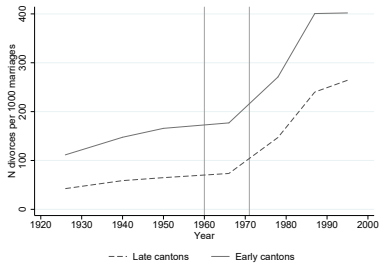
Figure A3a shows the average number of live births separately for cantons introducing female suffrage early (before or in 1960) and cantons introducing it late (after 1960). While the birth rate is on average lower for the early-adopting cantons, it seems to evolve mostly in parallel up to 1970. After 1970, it appears to drop by a larger magnitude in the cantons introducing female suffrage late. Figure A3b depicts the respective evolution of divorces per 1,000 marriages. The divorce rate is higher in early-adopting cantons. However, it evolves mostly in parallel in both groups of cantons. As the divorce law is federal law, we would not have expected to see any differences triggered by law. However, a differential trend before the first cantons started introducing female suffrage might have indicated diverging trends in social norms. Figure 8c turns to the development of female education, and shows the proportion of female university students by their canton of origin.[24] While the early-adopting cantons start at a higher level of female students than the late-adopting cantons, the proportions evolve in parallel until the former introduce female suffrage around 1960. Thereafter the fraction of female students from these cantons increases. Interestingly, in the late-adopting cantons, a stronger increase is observed after 1970. Figure A3d 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.[25] We do not observe a strong deviation in the allowances between the two groups. In particular, we do not see that allowances in the early-adopting cantons go up just after the introduction of female suffrage.

Figure A3e 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 female suf-

[24] The data about the proportion of female university students by canton of origin was digitized from the printed version of the Swiss statistical yearbook ("Statistisches Jahrbuch der Schweiz"), where the relevant information was available between 1930 and 1932. The data for the years between 1935 and 1971 and between 1974 and 1984 were retrieved from two SFSO studies on students at Swiss universities ("Studierende an den schweizerischen Hochschulen"). The information about students' 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.

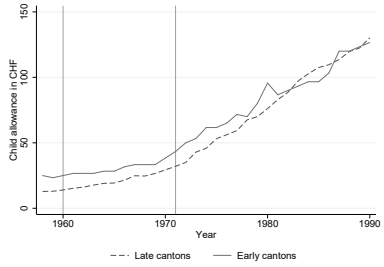
[25] Data on the cantonal child allowances was digitized from a SFSO publication entitled "Ansätze Kinderzulagen ab 1958" (available under https://www.bsv.admin.ch/bsv/de/home/sozialversicherungen/famz/grundlagen-und-gesetze.html).

(a) Number of live births per 1000

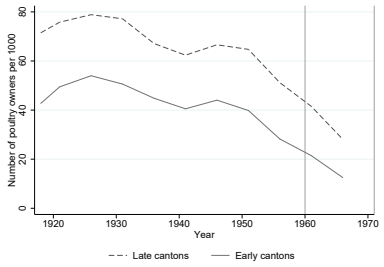


(b) Number of divorces per 1,000 marriages

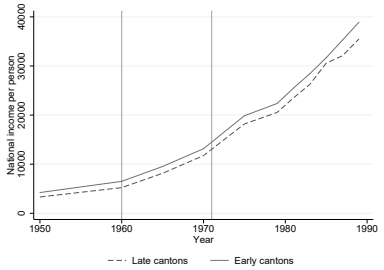
(c) Share of female university students by canton of origin



(d) Child allowance



(e) Number of poultry holders per 1,000



(f) National income per capita

Figure 8: Cantonal trends for cantons introducing female suffrage early (up to 1960) and late (after 1960). These graphs show the average historical outcomes of the two groups over time.

frage early rather than late and that this led to both the extention 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 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.[26] Finally, it is conceivable that some economic shocks affected both the introduction of female suffrage and women's roles in society. Figure A3f delineates the development of the national income per capita in both groups of cantons. They

[26] The number of poultry holders per 1,000 inhabitants is calculated from the absolute number of poultry holders per canton and the total population. As the series are not always available for exactly the same years, i.e., population data is only available for census years, we use the closest census year and assign it to the number of poultry holders.

evolve roughly in parallel, not indicating any major deviations in trends that might explain our findings. In the Appendix, Figure A3 presents the estimated change in the differences between the two groups for all the six cantonal outcome measures.

Overall, this cantonal trend perspective indicates that cantons introducing female suffrage early rather than late tend to be more 'modern' regarding the specific indicators considered in this section. None of the level differences can drive our results, however, as all the specifications include cantonal fixed effects. Moreover, we do not observe deviations in the trends across the two groups of cantons preceding the introduction of female suffrage that would suggest important confounders.

In a final test regarding trends, we also consider one potential *mechanism* that might have contributed to the observed patterns in life choices, namely that the introduction of female suffrage triggered a change in the preferences of men and opened up opportunities for women. This potential channel is hard to test. Luckily, there were two votes on the introduction of female suffrage at the national level, one in 1959 and the other in 1971, allowing us to measure men's preferences directly[27] (obviously only men were allowed to vote at the national level at the time). If female suffrage at the cantonal/municipal level had changed men's preferences in the early-adopting cantons we should observe that any difference between the two groups grew between the two votes. In the early-adopting cantons, men were exposed to women's political participation for at least eleven years. Figure 10 shows the average yes-vote share for the two groups. As expected, average support is higher in the early cantons compared to the late-adopting cantons and in 1971 compared to 1959. However, we do not observe that the difference between the two groups increases. In effect, the average difference in 1959 is 29.63 and it is still 28.76 in 1971. The support for women's enfranchisement at the national level thus seems to have evolved rather in parallel, even after men in the the early-adopting cantons had experienced female voting.

[27] Data on the cantonal vote outcomes are available on the SFSO website (`https://www.bfs.admin.ch`).

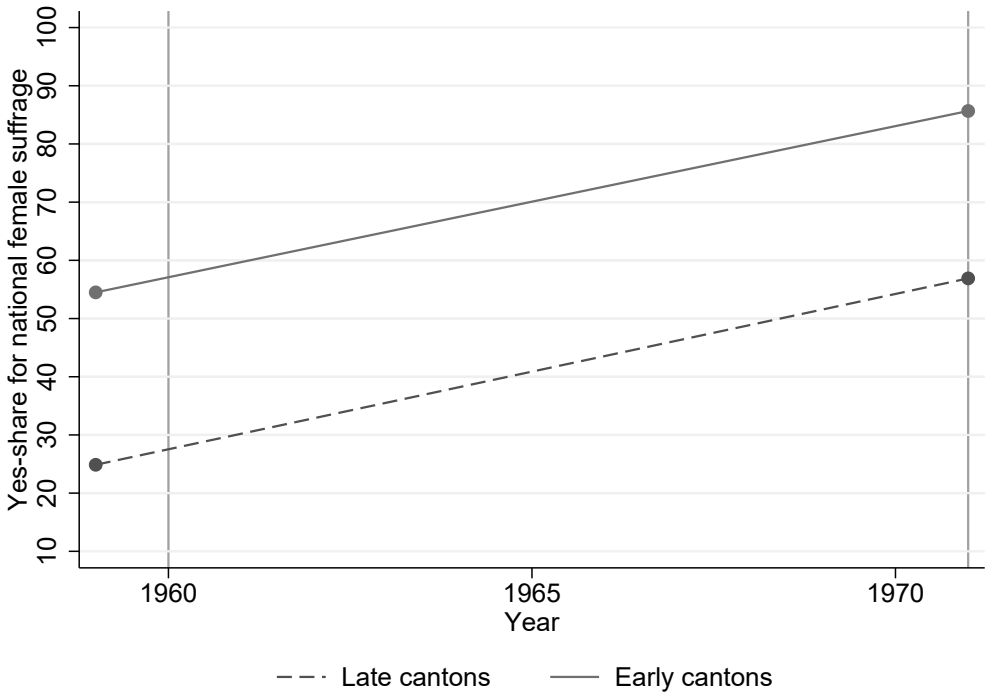


Figure 9: Average yes-vote share for the introduction of female suffrage for cantons introducing female suffrage early (up to 1960) and late (after 1960).

Effect of female suffrage on cantonal electoral outcomes

Yet another alternative explanation of our findings might be that cantonal policy changes were induced by the introduction of female suffrage, which affected the corresponding cohorts in a specific manner, leading to the observed patterns in life choices. One such example would be the documented effects of female suffrage on spending for the US. However, as mentioned before, similar studies for the Swiss context do not find such effects (see Stutzer and Kienast 2005 and Krogstrup and Wälti 2011). We corroborate this finding by investigating the most direct consequence of a newly composed electorate, i.e. electoral outcomes. If women were to hold systematically different policy preferences (that were disregarded by their husbands, fathers and brothers before), we should observe a shift in party support. In studies for 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 vote share for the Social Democrats increased

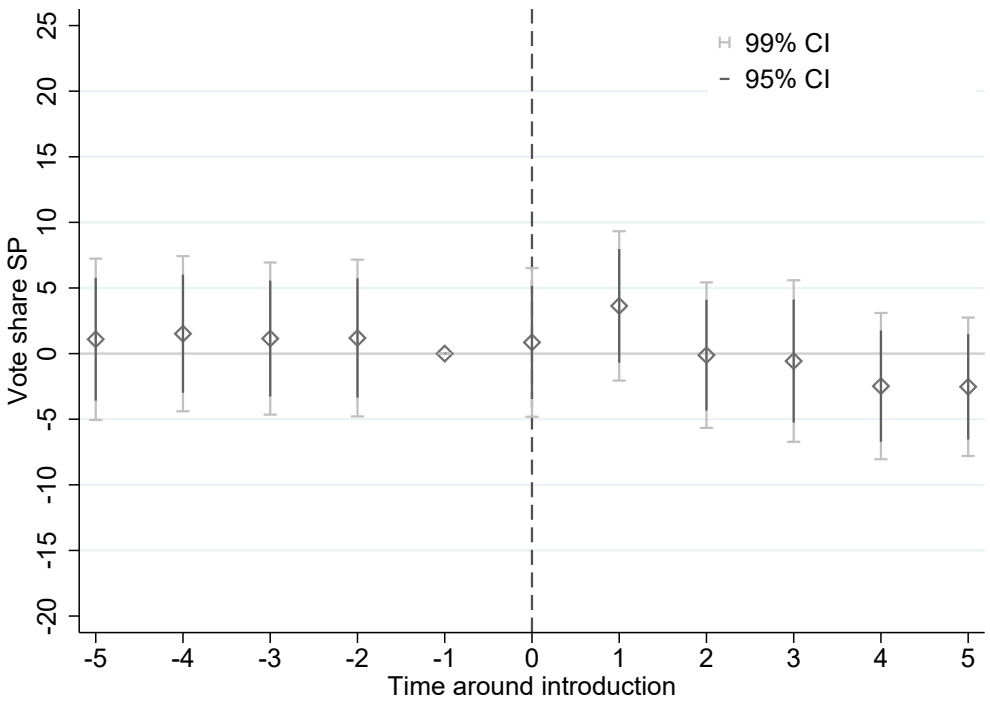


Figure 10: Coefficients of the event study around the introduction of female suffrage in the cantons on cantonal electoral vote shares for the social democratic party. The estimates can be found in row (3) of Table A5 in the Appendix.

after women's enfranchisement. The Social Democratic Party was also a main supporter of the introduction of female suffrage. We conduct an event study around the introduction of female suffrage at the cantonal level for the vote shares of the largest party on the political left in the cantonal parliaments.[28] Specifically, we estimate an event study within a window of the 5 elections before and the 6 elections after the introduction of female suffrage at the cantonal level.[29]

[28] Data on the historical cantonal election outcomes is available from the SFSO website (`https://www.bfs.admin.ch`).

[29] The specification can be described as follows:

$$Y_{ct} = \alpha_0 + \sum_{j \neq -1} (\tau_j \mathbb{1}(j = t)) + \beta_{canton} + \gamma_{decade} + \epsilon_{ct} \quad (2)$$

where Y is our dependent variable, measuring the vote share for the Social Democratic Party in canton c at election time t. We further include cantonal fixed effects and decade fixed effects. As the treatment year we use the year in which women were allowed to vote at the cantonal level for the first time (see Table A1). We drop the two cantons that introduced female suffrage at the cantonal level exceptionally late, i.e. Appenzell

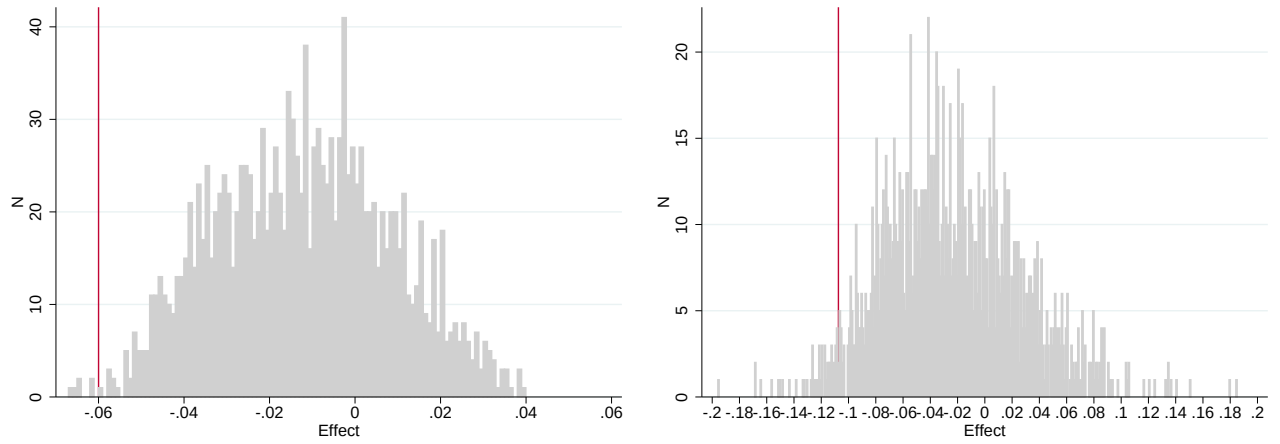
Figure 10 visualizes the coefficients of the event study, where the reference period is the last election just before the introduction of female suffrage ($t = -1$), and the first election just after the introduction in the cantons is set to $t = 0$. We neither observe a systematic divergence in the pre-trends nor do we see systematic changes in the vote share for the Social Democratic Party after women's enfranchisement. While the coefficient for the second election ($t = 1$) after the introduction of female suffrage is positive, it is not statistically significant at conventional levels and of a small magnitude. In the third election, the vote share returns to the level in the reference election. This corroborates the prior findings that there was no immediate effect of female suffrage on public policy in Switzerland (see Stutzer and Kienast 2005 and Krogstrup and Wälti 2011). Based on the combined evidence, we conclude that the Swiss case offers an unique opportunity to learn about the emancipating effects of female suffrage absent any sharp policy changes.

Simulation analysis: Placebo introductions

Finally, we pursue a simulation exercise to learn how likely it is that our results are driven by the time institutional changes come about in general or whether they are strongly bound to the actual year of the introduction of female suffrage. For this, we run a simulation with estimates for the coefficient of the indicator of the group in the sample that experienced the introduction of female suffrage latest. Rather than using the actual year of the introduction of female suffrage, we randomly assign introduction years to the cantons when calculating at what age a woman gained access to formal political participation rights. In this, the introduction year of female suffrage is randomly chosen per canton from a normal distribution with the expected value of the actual introduction year and a standard deviation of 10 years.[30] We repeatedly estimate the coefficient of the indicator, taking the same set of fixed effects into account as in the main specification and using the same sample of Swiss women. We choose to draw from a normal

A.Rh. and Appenzell I.Rh.. However, their inclusion does not change our conclusion. The canton of Jura is further excluded, as it was only founded in 1979, and there is consequently no pre-treatment period.

[30] Below we will consider a whole range of different standard deviations.



(a) Probability of working (b) Probability of voting

Figure 11: These figures visualize the distribution of simulated coefficients for two example dependent variables, i.e. the probability of working and the probability of voting, for the sample of Swiss women. The red vertical line marks the coefficient when the actual introduction year is used.

distribution. This makes it rather likely that the drawn year is somewhere around the real introduction year, i.e. during the time when attitudes towards women potentially changed.[31]

If the observed differences in our main results were, rather, due to societal change at the time around the introduction of female suffrage, affecting women differently depending on their age, we would expect the simulated coefficients to be just as high as those when we consider the actual introduction dates in a large fraction of runs. If the observed effects were, however, instead bound to the year of actual institutional change, it would be rather unlikely to observe estimates of the same magnitude.

Figure 11 presents two example distributions of simulated coefficients for the group experiencing the introduction of female franchise latest on the likelihood of working and the likelihood of voting from 1,500 simulation runs. The red vertical line indicates the estimate resulting under the actual introduction dates. As becomes evident, for these two outcome variables, the likelihood of obtaining stronger coefficient estimates than in the actual sample is rather low.

[31] As a consequence of the normal distribution, the simulation constitutes a rather conservative test of whether we observe just as large effects when choosing random years close to the actual introduction dates as the algorithm is most likely to choose the actual introduction date.

Table 6: Summary of the placebo simulations for the main sample of Swiss women

	Working	Part-time given working	House-wife	Ever married	Divorce given ever mar.	Less edu.	Little control life	Voting
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Suffrage late								
Est. with actual date	–0.06	0.052	0.053	0.023	–0.039	0.061	0.838	–0.107
P(stronger)	0.004	0.001	0.06	0.051	0	0.13	0.036	0.035

Notes: Summary table of the placebo simulations randomizing the introduction year of female suffrage. They are performed by running 1,500 estimates on the main sample of Swiss women.
Data source: Swiss population census individual data, 1980-2010.

Table 6 summarizes the results of the simulations for a large set of our dependent variables.[32] The highest probability of observing equally strong or stronger estimates in these simulations is about 13 percent for educational outcomes, which is low, given that this is a rather conservative test. The remaining probabilities are far below this, lying between 0 and 6 percent.

In order to see how sensitive the results of the simulation analysis are to the choice of the standard deviation of the normal distribution, we repeat the simulations for standard deviations between zero - and thus the actual introduction dates - and ten, again performing 1,500 runs per standard deviation and for two outcomes. The results are summarized in Figure A4 in the Appendix. We find that the likelihood of observing equally strong estimates compared to the actual introduction dates already falls sharply when a standard deviation of 1 is used and keeps falling for ever higher standard deviations. The same is true for the resulting estimates visualized in Figure A5. The estimated difference decreases, the higher the standard deviation of the distribution is. These results suggest that what we capture indeed has to do with the actual introduction year for each canton and is not purely a result of the time around the introductions.

As stated above, our identification strategy hinges on the assumption that there are no canton-specific cohort effects related to the age at experience of female franchise, or parallel cohort

[32] More detailed descriptions of the simulation results can be found in Table A6 in the Appendix.

trends across cantons. We undertake a number of empirical analyses to assess the importance of a possible joint evolution of institutions and norms for our findings. As a first basic control strategy, our setting allows us to include fixed effects for canton times year, cohort and even canton-specific age effects. Second, we also study heterogeneity within cantons across more or less conservative municipalities. Third, we are analyzing a sample of non-citizen women who did not get the participation right but were otherwise exposed to the same preexisting culture. Fourth, we check for parallel cohort trends across early- and late-adopting cantons in older cohorts and outcomes that stabilize early in life. Fifth, we draw on historical data to learn about potential cantonal pre-trends. Sixth, we perform an event study around the introduction of female suffrage at the cantonal level to learn whether it had a strong impact on electoral outcomes that might have shifted policy. Finally, we run simulation estimates based on temporally close placebo introduction dates to see whether we observe similar estimates in the time around the introduction. All this leads us to conclude that we see no indication that the identifying assumption is violated and that there is a systematic and sizable force in the direction that we emphasize as one important theoretical channel: exposure to female suffrage had the power to increase women's emancipation as measured by their life choices.

7.3 Robustness

This section assesses the robustness of our estimates with respect to (i) their sensitivity to the exclusion of single cantons, (ii) their sensitivity to the correction for the small number of clusters, (iii) their sensitivity to the inclusion of language-region cohort effects, (iv) potential selective fertility, and (v) potential selective mobility.

Influential observations

In order to exclude that the documented differences are driven by observations from single cantons, we repeat the estimates for one outcome variable, i.e. the probability of working,

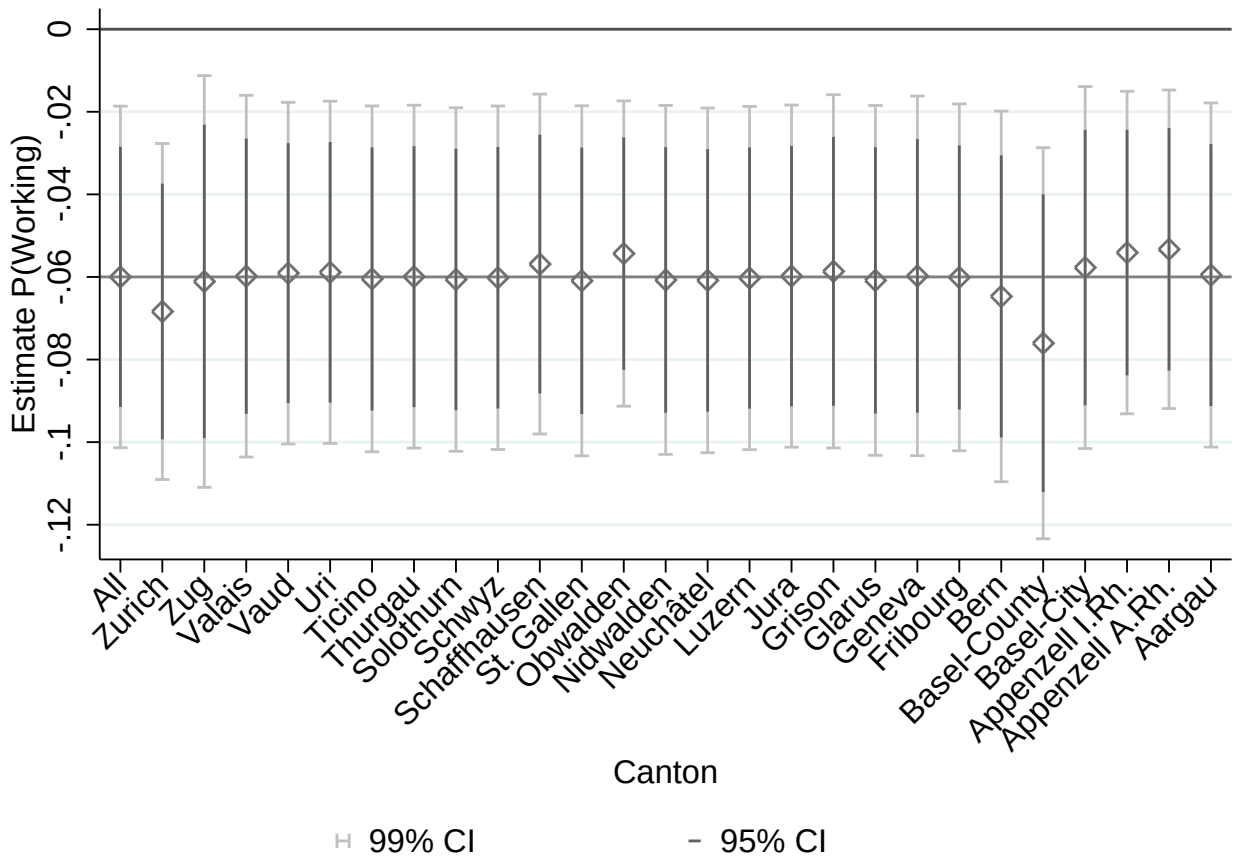


Figure 12: This figure shows the estimated differences for the probability of working when having received the right to vote after the age of 35 rather than before the age of 17, omitting the observations for each canton one at a time in the main sample of Swiss females.

dropping the observations of one canton at a time. If our results were sensitive to the exclusion of single cantons, we should see large differences in the estimated differences.

We visualize the results for the coefficient capturing the difference between the women who experienced the introduction of female suffrage after the age of 35 rather than before the age of 17. Figure 12 shows that the estimates do not change much when single cantons are excluded. We conclude that our result is thus not driven by the variation in single cantons.

Robustness of inference

As there are only 26 cantons in Switzerland, 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 A9 in the Appendix.[33] While we lose some power in some estimates, most results remain statistically significant at conventional levels. The exception are the estimates for educational attainment. They were already less precisely estimated before and fall slightly below conventional levels of statistical significance with the alternative inference.

Language region specific cohort effects

As the cantons introducing female suffrage early on are mainly French-speaking, a possible concern might be that some cohort-language specific cultural change drives the observed patterns rather than the exposure to female suffrage. We address this concern by including cohort-language region fixed effects in our main specification. The results of this exercise are reported in Table A8 in the Appendix. They reveal, if anything, that the estimated differences increase when including this level of fixed effects. We are therefore unconcerned that what we capture is driven by language-related cohort effects.

Selective fertility

Our main sample also includes women who where born after the introduction of female suffrage. This is clearly visible in the distribution of the age at first exposure in Figure A1 in the Appendix. One additional concern might be that this group was affected by selective fertility. If female suffrage had an impact on who bears children related to women's norms, then the daughters of these women might also share different norms irrespective of an empowerment effect. We therefore check whether selection of this particular kind is likely to drive our results by excluding all the observations from women who were born *after* female suffrage was introduced from our sample. The results of the supplementary estimations are presented in Table A7 in the

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

Appendix. The estimated effects are rather similar in size and precision. We conclude that such selective fertility is unlikely to driver our findings.

Sorting: Female suffrage and migration

People move for love and work when pursuing their life goals, but they likely also take the prevailing norms and attitudes across regions into account when deciding where to live. In order to specify the age of experience correctly, in our specific setting, we have to 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 regional sorting triggered by the staggered introduction of female suffrage. A possible scenario turns out 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 female suffrage. Vice versa, 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 female suffrage 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 se not a problem for our strategy as we compare cohorts within cantons who experience female suffrage at different ages. However, if the described self-selection varies over time as more and more cantons grant female suffrage 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 female suffrage

Table 7: Female suffrage and Swiss women's mobility

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

	Suffrage at age_{0-16}	age_{17-20}	age_{21-25}	age_{26-35}	age_{36-58}	age_{17-20} x *Early ct.*	age_{21-25} x *Early ct.*	age_{26-35} x *Early ct.*	age_{36-58} x *Early ct.*
(1)	Ref.	0.008	0.018	0.038*	0.051*				
		(0.012)	(0.016)	(0.022)	(0.030)				
(2)	Ref.	0.007	0.024	0.028	0.024	–0.004	–0.032	–0.019	0.014
		(0.013)	(0.018)	(0.028)	(0.034)	(0.013)	(0.020)	(0.037)	(0.059)

Notes: Sample of all Swiss women. *Early ct.* is an indicator for the three cantons that adopted female suffrage 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 denomination, age x canton FE, birth year FE, canton x year FE, and municipality FE. The number of observations is 4,034,853, the number of clusters 26, the R^2 is 0.09 in row (1) and 0.09 in row (2).
Significance levels: * $.05 < p < .1$, ** $.01 < p < .05$, *** $p < .01$.
Data source: Swiss population census individual data, 1980-2010.

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 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.

In the following, we discuss the results of two empirical tests that speak against this alternative interpretation in terms of sorting. First, there is the evidence from the heterogeneity analysis presented in Section 6.4 above. With sorting, we would expect progressive women to move away from more conservative municipalities and much less so from more progressive municipalities. Accordingly, when restricting our analysis to women in progressive municipalities, we would expect to see no or only small effects of being enfranchised later. However, the previous analysis shows just somewhat smaller effects of female suffrage on women's labor force participation in liberal municipalities compared to the overall sample as well as the sample of conservative municipalities.

Second, we can apply a test based on the information on whether a woman still lives in the canton where she was born. If the observed differences were due to some 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 female suffrage was introduced in the canton they live in when observed. 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 enfranchisement should be even stronger for the cantons that adopted female suffrage 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 suffrage introduction year of the resident canton to define age of exposure. 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 7 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 female suffrage before 1960, i.e., Vaud, Neuchâtel, and Geneva. We conclude that it is rather unlikely that migration reactions drive the documented differences.

8 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 female suffrage 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 investigate this channel that contributed to women's emancipation in a developed country ideally suited to address the empirical challenges that arise in such an analysis, i.e. by providing a control for many potential confounding factors that also shape women's lives. In particular, we exploit the staggered introduction of female suffrage across the Swiss cantons leading to the situation that women born in the same year but in different cantons where allowed to vote at different points in time. This produces variation in the age at which women experienced enfranchisement, 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. Another exceptionality of the Swiss case is that the late empowerment of women in the political sphere did not lead to strong policy consequences, which allows us to focus on the consequences of political empowerment, isolating it from other potential channels.

Based on more than two million observations, we find that women who were denied the right to vote through their formative years have a lower probability of carrying out paid work later on in life compared to women who experienced enfranchisement before the age of 17. Further, we observe that women experiencing enfranchisement later have a higher probability of being a housewife, and a higher probability of working part-time for those in work. Women who

obtained the right to vote later are, further, more likely to marry and to stay married. Finally, women who were socialized in an environment without female suffrage are more likely to end up with a low level of education. Consistent with the idea that formal political participation rights increase self-efficacy, we find that women who experienced the introduction of female suffrage after they turned 17 are more likely to report that they have little influence on daily life and that others determine what they do. We further observe lower voting participation for women socialized in an environment without female suffrage. We undertake a number of additional analyses to assess how likely it is that our findings can be explained by alternative forces. While we are not able to test for every possible cantonal policy, we do not find any indication for confounding developments that might explain our findings.

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 transformation in these norms in the short- to mid-term. Specifically, we show that power sharing in the form of women's enfranchisement has substantially changed women's labor force participation as well as their educational and marital choices over only one to two generations.

References

Abdelzadeh, A. and E. Lundberg (2017). Solid or Flexible? Social Trust from Early Adolescence to Young Adulthood. *Scandinavian Political Studies 40*(2), 207–227.

Aidt, T. S. and B. Dallal (2008). Female Voting Power: The Contribution of Women's Suffrage to the Growth of Social Spending in Western Europe (1869–1960). *Public Choice 134*(3-4), 391–417.

Aidt, T. S., J. Dutta, and E. Loukoianova (2006). Democracy comes to Europe: franchise extension and fiscal outcomes 1830–1938. *European Economic Review 50*(2), 249–283.

Akbulut-Yuksel, M., D. Okoye, and M. Yuksel (2017). Learning to Participate in Politics: Evidence from Jewish Expulsions in Nazi Germany. IZA Discussion Paper No. 10778, IZA.

Akerlof, G. and R. Kranton (2000). Economics and Identity. *Quarterly Journal of Economics 115*(3), 715–753.

Alesina, A., B. Brioschi, and E. L. Ferrara (2016). Violence Against Women: A Cross-cultural Analysis for Africa. NBER Working Paper No. 21901, NBER.

Alesina, A. and P. Giuliano (2015). Culture and institutions. *Journal of Economic Literature 53*(4), 898–944.

Alesina, A., P. Giuliano, and N. Nunn (2013). On the Origins of Gender Roles: Women and the Plough. *The Quarterly Journal of Economics 128*(2), 469–530.

Ashraf, N., N. Bau, N. Nunn, and A. Voena (2016). Bride Price and Female Education. NBER Working Paper No. 22417, NBER.

Bandura, A., C. Barbaranelli, G. V. Caprara, and C. Pastorelli (2001). Self-efficacy Beliefs as Shapers of Children's Aspirations and Career Trajectories. *Child Development 72*(1), 187–206.

Beaman, L., E. Duflo, R. Pande, and P. Topalova (2012). Female Leadership Raises Aspirations and Educational Attainment for Girls: A Policy Experiment in India. *Science 335*(6068), 582–586.

Bowles, S. (1998). Endogenous Preferences: The Cultural Consequences of Markets and Other Economic Institutions. *Journal of Economic Literature 36*(1), 75–111.

Bussey, K. and A. Bandura (1999). Social Cognitive Theory of Gender Development and Differentiation. *Psychological Review 106*(4), 676.

Cameron, A. C., J. B. Gelbach, and D. L. Miller (2008). Bootstrap-based improvements for inference with clustered errors. *The Review of Economics and Statistics 90*(3), 414–427.

Coppock, A. and D. P. Green (2016). Is Voting Habit Forming? New Evidence from Experiments and Regression Discontinuities. *American Journal of Political Science 60*(4), 1044–1062.

Dahl, G., A. Kotsadam, and D.-O. Rooth (2018). Does Integration Change Gender Attitudes? The Effect of Randomly Assigning Women to Traditionally Male Teams. NBER Working Paper No. 24351, NBER.

Doepke, M., M. Tertilt, and A. Voena (2012). The Economics and Politics of Women's Rights. *Annual Review of Economics 4*(1), 339–372.

Edlund, L. and R. Pande (2002). Why Have Women Become Left-Wing? The Political Gender Gap and the Decline in Marriage. *Quarterly Journal of Economics 117*(3), 917–961.

Fernández, R. (2013). Cultural Change as Learning: The Evolution of Female Labor Force Participation over a Century. *American Economic Review 103*(1), 472–500.

Fernandez, R. and A. Fogli (2009). Culture: An Empirical Investigation of Beliefs, Work, and Fertility. *American Economic Journal: Macroeconomics 1*(1), 146–177.

Franklin, M. N., P. Lyons, and M. Marsh (2004). Generational Basis of Turnout Decline in Established Democracies. *Acta Politica 39*(2), 115–151.

Fuchs-Schündeln, N. and M. Schündeln (2015). On the Endogeneity of Political Preferences: Evidence from Individual Experience with Democracy. *Science 347*(6226), 1145–1148.

Fujiwara, T., K. Meng, and T. Vogl (2016). Habit Formation in Voting: Evidence from Rainy Elections. *American Economic Journal: Applied Economics 8*(4), 160–88.

Funk, P. and C. Gathmann (2014). Gender Gaps in Policy Making: Evidence from Direct Democracy in Switzerland. *Economic Policy 30*(81), 141–181.

Gaddis, I. and S. Klasen (2014). Economic Development, Structural Change, and Women's Labor Force Participation. *Journal of Population Economics 27*(3), 639–681.

Gecas, V. (1989). The Social Psychology of Self-efficacy. *Annual Review of Sociology 15*(1), 291–316.

Ghani, S. E., A. Mani, and S. D. O'Connell (2013). Can Political Empowerment Help Economic Empowerment? Women Leaders and Female Labor Force Participation in India. Policy Research Working Paper No. 6675, World Bank.

Giuliano, P. (2017). Gender: A Historical Perspective. In S. L. Averett, L. M. Argys, and S. D. Hoffman (Eds.), *The Oxford Handbook of Women and the Economy*, pp. 1–32. New York, NY: Oxford University Press.

Giuliano, P. and A. Spilimbergo (2013). Growing up in a Recession. *Review of Economic Studies 81*(2), 787–817.

Goldin, C. (2006). The Quiet Revolution That Transformed Women's Employment, Education, and Family. *American Economic Review 96*(2), 1–21.

Gottlieb, J. and A. L. Robinson (2016). The Effects of Matrilineality on Gender Differences in Political Behavior Across Africa. University of California at Berkley, Mimeo.

Graber, R. (2017). *Demokratie und Revolten. Die Entstehung der direkten Demokratie in der Schweiz*. Zurich: Chronos.

Hooghe, M. and B. Wilkenfeld (2008). The Stability of Political Attitudes and Behaviors Across Adolescence and Early Adulthood: A Comparison of Survey Data on Adolescents and Young Adults in Eight Countries. *Journal of Youth and Adolescence 37*(2), 155–167.

Howell, W. G. and A. Magazinnik (2017). Presidential prescriptions for state policy: Obama's race to the top initiative. *Journal of Policy Analysis and Management 36*(3), 502–531.

Klimstra, T., W. Hale, Q. Raaijmakers, S. Branje, and W. Meeus (2009). Maturation of Personality in Adolescence. *Journal of Personality and Social Psychology 96*(4), 898.

Kose, E., E. Kuka, and N. Shenhav (2018, August). Who benefited from womenâĂŹs suffrage? Working Paper 24933, National Bureau of Economic Research.

Koukal, A. M. (2017). How Vatican II Influenced Female Enfranchisement: A Story of Rapid Cultural Change. CREMA Working Paper No. 2017-07, CREMA.

Koukal, A. M. and R. Eichenberger (2017). Explaining a Paradox of Democracy: The Role of Institutions in Female Enfranchisement. CREMA Working Paper No. 2017-13, CREMA.

Krogstrup, S. and S. Wälti (2011). Women and budget deficits. *The Scandinavian Journal of Economics 113*(3), 712–728.

Krosnick, J. A. and D. F. Alwin (1989). Aging and Susceptibility to Attitude Change. *Journal of Personality and Social Psychology 57*(3), 416.

Lane, R. E. (1988). Procedural Goods in a Democracy: How One is Treated Versus What One Gets. *Social Justice Research 2*(3), 177–192.

Lott, Jr, J. R. and L. W. Kenny (1999). Did women's suffrage change the size and scope of government? *Journal of Political Economy 107*(6), 1163–1198.

Lutz, G. and D. Strohmann (1998). *Wahl-und Abstimmungsrecht in den Kantonen.* Bern, Stuttgart, Wien: Haupt.

Malmendier, U. and S. Nagel (2011). Depression Babies: Do Macroeconomic Experiences Affect Risk Taking? *Quarterly Journal of Economics 126*(1), 373–416.

Manser, M. and M. Brown (1980). Marriage and Household Decision-making: A Bargaining Analysis. *International Economic Review 21*(1), 31–44.

McAdams, D. P. and B. D. Olson (2010). Personality Development: Continuity and Change Over the Life Course. *Annual Review of Psychology 61*, 517–542.

McCann, P. J. C., C. R. Shipan, and C. Volden (2015). Top-down federalism: State policy responses to national government discussions. *Publius: The Journal of Federalism 45*(4), 495–525.

Meredith, M. (2009). Persistence in Political Participation. *Quarterly Journal of Political Science 4*(3), 187–209.

Miller, G. (2008). Women's Suffrage, Political Responsiveness, and Child Survival in American History. *Quarterly Journal of Economics 123*(3), 1287–1327.

Mullainathan, S. and E. Washington (2009). Sticking with Your Vote: Cognitive Dissonance and Political Attitudes. *American Economic Journal: Applied Economics 1*(1), 86–111.

Plutzer, E. (2002). Becoming a Habitual Voter: Inertia, Resources, and Growth in Young Adulthood. *American Political Science Review 96*(1), 41–56.

Roberts, B. W., K. E. Walton, and W. Viechtbauer (2006). Patterns of Mean-level Change in Personality Traits Across the Life Course: A Meta-analysis of Longitudinal Studies. *Psychological Bulletin 132*(1), 1–25.

Roodman, D. (2018). Boottest: Stata module to provide fast execution of the wild bootstrap with null imposed.

Ruckstuhl, L. (1986). *Frauen sprengen Fesseln*. Bonstetten: Interfeminas Verlag.

Russo, S. and H. Stattin (2017). Stability and Change in Youths' Political Interest. *Social Indicators Research 132*(2), 643–658.

Studer, B. (2015). Das Frauenstimm- und Wahlrecht in der Schweiz 1848–1971. *Österreichische Zeitschrift für Geschichtswissenschaften 26*(2), 14–40.

Stutzer, A. and L. Kienast (2005). Demokratische Beteiligung und Staatsausgaben: Die Auswirkungen des Frauenstimmrechts. *Swiss Journal of Economics and Statistics 141*(4), 617–650.

Teso, E. (2018). The Long-Term Effect of Demographic Shocks on the Evolution of Gender Roles: Evidence from the Transatlantic Slave Trade. *Journal of the European Economic Association Forthcoming*.

Tur-Prats, A. (2016). Family Types and Intimate-Partner Violence: A Historical Perspective. Universitat Pompeu Fabra, Mimeo.

Voegeli, Y. (1997). *Zwischen Hausrat und Rathaus. Auseinandersetzungen um die politische Gleichberechtigung der Frauen in der Schweiz 1945-1971*. Zurich: Chronos.

von Roten, I. (1958). *Frauen im Laufgitter. Offene Worte zur Stellung der Frau.* Bern: Hallwag.

Witt, S. D. (1997). Parental Influence on Children's Socialization to Gender Roles. *Adolescence 32*(126), 253–259.

Appendix

A.I Additional Tables and Figures

Table A1: Introduction dates of female suffrage in Swiss cantons

Canton	Year of first exposure (treatment)	Level	Comments
Aargau	1971	*	municipal/cantonal in February 1971
Appenzell A.Rh.	1971	*	municipal in April 1972; cantonal in April 1989
Appenzell I.Rh.	1971	*	municipal/cantonal in November 1990
Basel-City	1966	cantonal/municipal	
Basel-County	1968	cantonal	municipal in September 1970
Berne	1971	*	municipal/cantonal in December 1971
Fribourg	1971	*	municipal/cantonal in February 1971
Geneva	1960	cantonal/municipal	
Glarus	1971	*	municipal/cantonal in May 1971
Grison	1971	*	cantonal in March 1972; municipal in February 1983
Jura	1971	*	municipal/cantonal in December 1971 (as part of Bern)
Luzern	1970	cantonal/municipal	
Neuchâtel	1959	cantonal/municipal	
Nidwalden	1970	municipal	cantonal in April 1972
Obwalden	1968	municipal	cantonal in September 1972
St. Gallen	1971	*	municipal/cantonal in January 1972
Schaffhausen	1971	*	municipal/cantonal in February 1971
Schwyz	1971	*	municipal/cantonal in March 1972
Solothurn	1971	*	cantonal in June 1971; municipal in March 1980
Thurgau	1971	*	municipal/cantonal in December 1971
Ticino	1969	cantonal/municipal	
Uri	1971	*	municipal/cantonal in March 1972
Vaud	1959	cantonal/municipal	
Valais	1970	cantonal/municipal	
Zug	1971	*	municipal/cantonal in February 1971
Zurich	1970	cantonal/municipal	

Notes: This table lists the introduction years of female suffrage for each canton as used in our analysis. Cantons that introduced the voting right for women at the same time or after the decision to introduce it on the federal level are marked with a * and the year of its introduction on the federal level is used. In the canton of Grison and Solothurn the municipalities could introduce female voting in an opt-in setting before the remaining municipalities were forced to introduce it in 1983, and 1980, respectively.
Sources: Ruckstuhl (1986), Lutz and Strohmann (1998), and Koukal (2017).

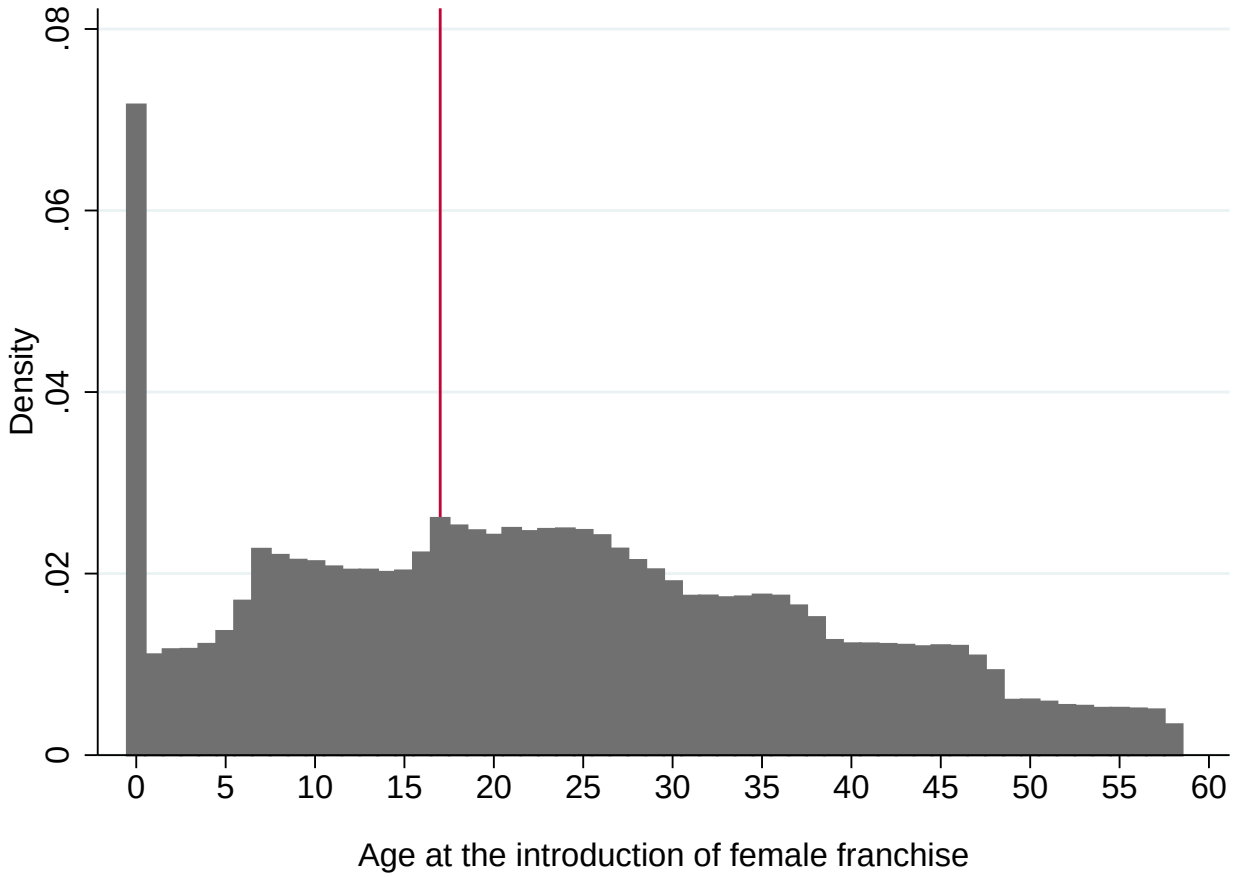


Figure A1: This figure visualizes the density of the age at which women experienced the introduction of female suffrage in our main sample of Swiss women. The red vertical line indicates the cutoff at the age of 17 years after which we consider a women to be primarily socialized in an environment without female suffrage.

Table A2: Female suffrage and the life choices of Swiss women, conditional on educational attainment

	Working	Working given ever mar.	Part-time given working	House-wife	Ever married	Divorced given ever mar.
	(1)	(2)	(3)	(4)	(5)	(6)
Suffrage at						
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	–0.013***	–0.004	0.013***	0.015***	0.016***	–0.014***
	(0.004)	(0.004)	(0.004)	(0.005)	(0.003)	(0.004)
age_{21-25}	–0.021***	–0.007	0.033***	0.018***	0.021***	–0.021***
	(0.006)	(0.005)	(0.007)	(0.006)	(0.003)	(0.004)
age_{26-35}	–0.037***	–0.021*	0.046***	0.034***	0.025***	–0.035***
	(0.010)	(0.010)	(0.008)	(0.012)	(0.003)	(0.006)
age_{36-58}	–0.056***	–0.036**	0.053***	0.051***	0.023***	–0.040***
	(0.015)	(0.015)	(0.011)	(0.016)	(0.005)	(0.009)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Age x canton 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
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep.	0.55	0.49	0.54	0.34	0.82	0.09
No. of obs.	2,462,685	2,021,168	1,355,494	2,462,685	2,462,685	2,021,168
No. of clusters	26	26	26	26	26	26
R^2	0.19	0.18	0.08	0.13	0.17	0.05

Notes: Main sample of Swiss women. Standard errors are clustered at the cantonal level and reported in parentheses. Controls include indicators for individuals' religious denomination and the highest educational attainment.
Significance levels: * $.05 < p < .1$, ** $.01 < p < .05$, *** $p < .01$.
Data source: Swiss population census individual data, 1980-2010.

Table A3: Female suffrage and women's life choices: Effect heterogeneity between conservative and liberal municipalities

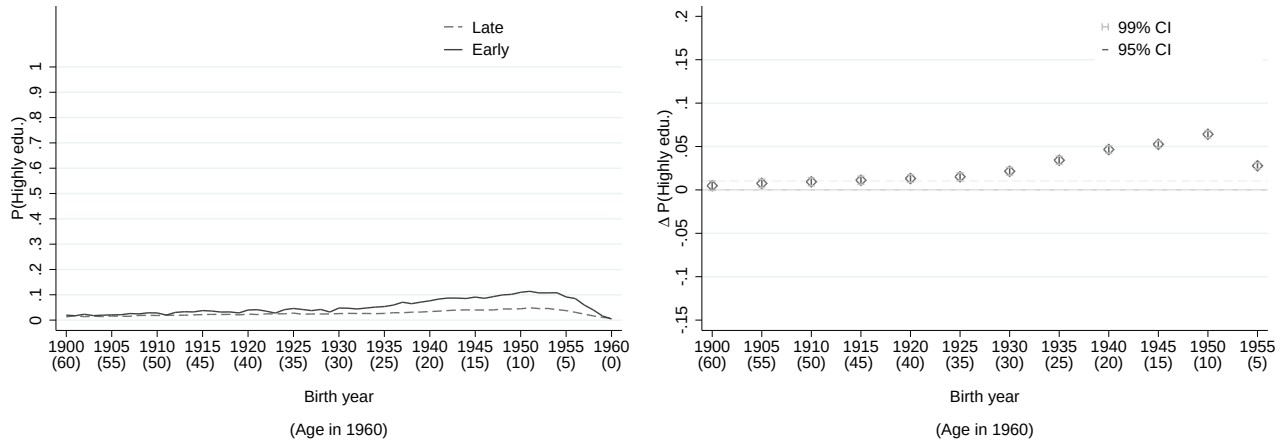
	Working	Working given ever mar.	Part-time given working	House-wife	Ever married	Divorced given ever mar.	Less edu.	Highly edu.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Suffrage at								
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	–0.013*	–0.006	0.003	0.013	0.016**	–0.013**	–0.001	–0.007
	(0.007)	(0.005)	(0.009)	(0.009)	(0.008)	(0.005)	(0.008)	(0.005)
Conservative x	–0.022***	–0.014*	0.016*	0.024***	–0.007	–0.012***	0.065***	0.006**
age_{17-20}	(0.007)	(0.007)	(0.008)	(0.007)	(0.006)	(0.004)	(0.011)	(0.003)
age_{21-25}	–0.026**	–0.012	0.026**	0.025**	0.033***	–0.014*	0.006	–0.012***
	(0.011)	(0.010)	(0.010)	(0.011)	(0.009)	(0.007)	(0.013)	(0.004)
Conservative x	–0.018**	–0.013*	0.017**	0.018**	–0.023**	–0.025***	0.092***	0.013***
age_{21-25}	(0.007)	(0.006)	(0.008)	(0.007)	(0.009)	(0.006)	(0.014)	(0.003)
age_{26-35}	–0.048***	–0.029*	0.044***	0.047**	0.037***	–0.034***	0.022	–0.010*
	(0.016)	(0.015)	(0.015)	(0.019)	(0.009)	(0.009)	(0.023)	(0.006)
Conservative x	–0.008	–0.004	0.015**	0.009	–0.031***	–0.016***	0.124***	0.018***
age_{26-35}	(0.007)	(0.008)	(0.006)	(0.008)	(0.008)	(0.005)	(0.015)	(0.003)
age_{26-35}	–0.091***	–0.066***	0.049**	0.087***	0.042***	–0.052***	0.025	–0.006
	(0.024)	(0.021)	(0.021)	(0.026)	(0.012)	(0.012)	(0.034)	(0.008)
Conservative x	0.033***	0.033***	0.001	–0.034***	–0.055***	0.007**	0.138***	0.027***
age_{36-58}	(0.008)	(0.007)	(0.008)	(0.009)	(0.009)	(0.003)	(0.020)	(0.004)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep.	0.55	0.47	0.50	0.32	0.77	0.09	0.38	0.07
No. of obs.	849,962	653,890	464,216	849,962	849,962	653,890	849,962	849,962
No. of clusters	26	25	25	26	26	25	26	26
R^2	0.19	0.17	0.08	0.11	0.15	0.06	0.24	0.08

Notes: Sample of Swiss females living in birth municipality. Municipalities are categorized into liberal and conservative ones according to men's voting behavior in the first federal referendum on women's right to vote in 1959. Controls include indicators for individuals' religious denomination. Standard errors are clustered at the cantonal level and reported in parentheses.
Significance levels: * $.05 < p < .1$, ** $.01 < p < .05$, *** $p < .01$.
Data source: Swiss population census individual data, 1980-2010.

Table A4: Female suffrage and women's life choices: Effect heterogeneity for Swiss women in cantons 'forced' to accept female suffrage at the federal level

	Working	Working given ever mar.	Part-time given working	House-wife	Ever married	Divorced given ever mar.	Less edu.	Highly edu.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Suffrage at								
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	–0.014**	–0.006	0.012**	0.015**	0.015***	–0.014***	0.022*	–0.003
	(0.005)	(0.004)	(0.004)	(0.006)	(0.003)	(0.004)	(0.011)	(0.004)
Forced x	–0.014	–0.003	0.003	0.012	0.005	–0.004	0.031	0.006**
age_{17-20}	(0.010)	(0.009)	(0.007)	(0.010)	(0.004)	(0.004)	(0.018)	(0.003)
age_{21-25}	–0.023***	–0.011	0.030***	0.020***	0.021***	–0.020***	0.037***	–0.006*
	(0.007)	(0.006)	(0.007)	(0.007)	(0.004)	(0.004)	(0.013)	(0.003)
Forced x	–0.004	–0.003	0.003	0.003	–0.002	–0.006	0.059***	0.007**
age_{21-25}	(0.012)	(0.012)	(0.008)	(0.013)	(0.004)	(0.007)	(0.020)	(0.003)
age_{26-35}	–0.041***	–0.025*	0.044***	0.036**	0.026***	–0.032***	0.054**	–0.005
	(0.012)	(0.012)	(0.008)	(0.014)	(0.004)	(0.006)	(0.024)	(0.006)
Forced x	–0.002	–0.011	–0.020	–0.000	–0.016**	–0.008	0.076**	0.010**
age_{26-35}	(0.018)	(0.021)	(0.012)	(0.021)	(0.007)	(0.008)	(0.030)	(0.004)
age_{26-35}	–0.059***	–0.039**	0.054***	0.052***	0.024***	–0.038***	0.049	0.003
	(0.017)	(0.017)	(0.011)	(0.017)	(0.006)	(0.009)	(0.031)	(0.007)
Forced x	0.007	–0.018	–0.049***	–0.009	–0.027**	–0.002	0.061*	0.007
age_{36-58}	(0.018)	(0.023)	(0.017)	(0.018)	(0.012)	(0.008)	(0.035)	(0.005)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep.	0.55	0.49	0.54	0.34	0.82	0.09	0.35	0.07
No. of obs.	2,462,685	2,021,168	1,355,494	2,462,685	2,462,685	2,021,168	2,462,685	2,462,685
No. of clusters	26	25	25	26	26	25	26	26
R^2	0.19	0.17	0.08	0.11	0.15	0.06	0.24	0.08

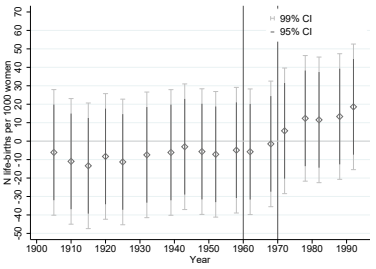
Notes: Main sample of Swiss women. Cantons are categorized into two groups: Cantons in which a majority of men voted in favour of female suffrage at the federal level (Supportive) in 1971 and those cantons in which the majority of men voted against its introduction (Forced). Controls include indicators for individuals' religious denomination. Standard errors are clustered at the cantonal level and reported in parentheses.
Significance levels: * $.05 < p < .1$, ** $.01 < p < .05$, *** $p < .01$.
Data source: Swiss population census individual data, 1980-2010.



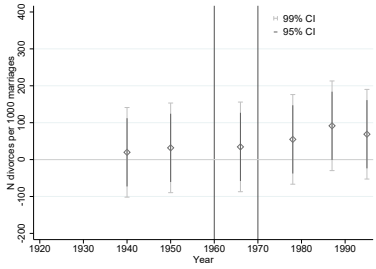
(a) Average probability of being highly educated

(b) Cohort differential

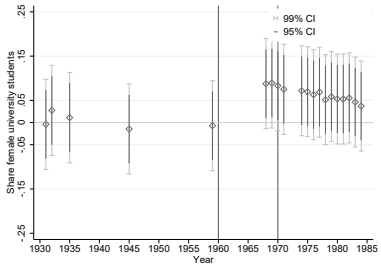
Figure A2: Graphs (a) and (b) visualize the evolution of the probability of being highly educated measured in 1980 for cohorts of Swiss women in cantons introducing female suffrage early (up to 1960) and late (after 1960).



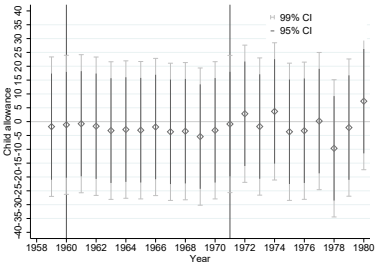
(a) Number of life births per 1,000



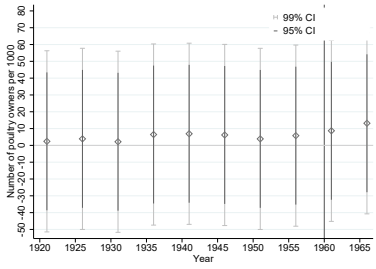
(b) Number of divorces per 1,000 marriages



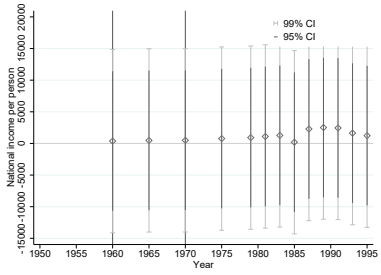
(c) Fraction of female university students by canton of origin



(d) Child allowance



(e) Number of poultry holders per 1,000



(f) National income per capita

Figure A3: Cantonal trends for cantons introducing female suffrage early (up to 1960) and late (after 1960). These graphs show the average deviation form the difference between early and late adopting cantons with respect to the first year of observation.

Table A5: Event study of female suffrage on electoral outcomes

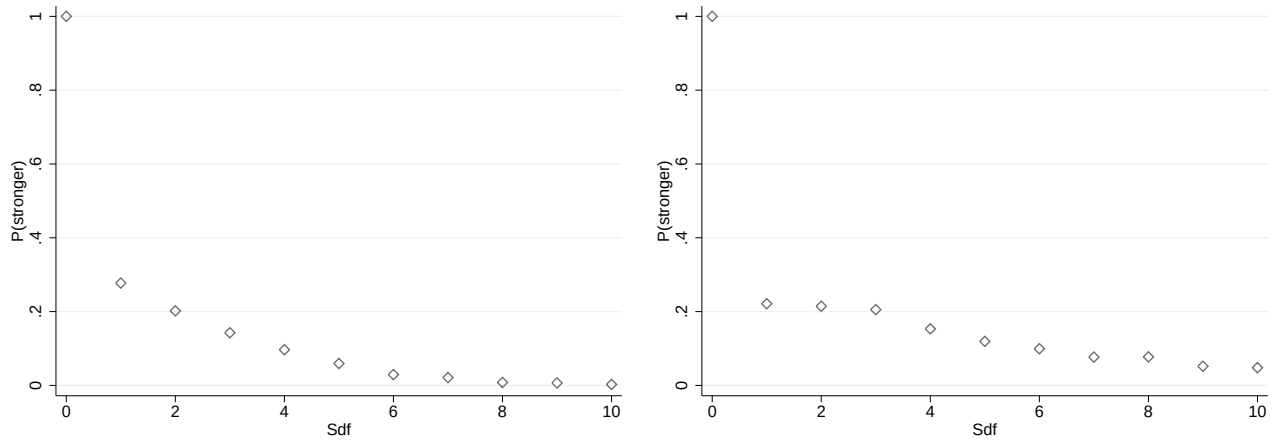
Dep. var.: *Vote share of the Social Democratic Party*	(1)	(2)	(3)
$Time_{-5}$	–2.183	0.842	1.090
	(3.529)	(1.985)	(2.388)
$Time_{-4}$	–0.497	1.264	1.516
	(3.410)	(1.912)	(2.296)
$Time_{-3}$	0.786	0.896	1.147
	(3.308)	(1.852)	(2.252)
$Time_{-2}$	–0.097	0.938	1.188
	(3.467)	(1.947)	(2.319)
$Time_{-1}$	Ref.	Ref.	Ref.
$Time_0$	0.952	1.081	0.854
	(3.357)	(1.882)	(2.201)
$Time_1$	3.785	3.894**	3.635
	(3.308)	(1.852)	(2.210)
$Time_2$	–0.581	–0.471	–0.118
	(3.308)	(1.852)	(2.153)
$Time_3$	–2.362	–2.252	–0.568
	(3.308)	(1.852)	(2.390)
$Time_4$	–3.712	–3.603*	–2.477
	(3.308)	(1.852)	(2.164)
$Time_5$	–2.431	–2.321	–2.528
	(3.308)	(1.852)	(2.048)
Canton FE	No	Yes	Yes
Decade FE	No	No	Yes
No. of obs.	264	264	264
R^2	0.02	0.72	0.72
F	0.59	18.64	17.04

Notes: Event study estimates for the vote share of the Social Democratic Party in cantonal elections around the year of introduction of female suffrage in Swiss cantons. The estimation range covers the five elections before, and the six elections after the introduction. The reference category is set to the election before the introduction ($t = -1$) and $t = 0$ is the first election after the introduction of female suffrage. Standard errors are reported in parentheses.
Significance levels: * $.05 < p < .1$, ** $.01 < p < .05$, *** $p < .01$.

Table A6: Summary of placebo simulations for Swiss women

Dependent variable	Mean	Std. dev.	Median	Min.	Max.	Obs.
Working						
Suffrage late						
Est. with actual date	−0.060					1
Simulated coef.	−0.012	0.021	−0.012	−0.067	0.040	1,500
P(stronger)	0.004			0	1	1,500
Part-time given working						
Est. with actual date	0.052					1
Simulated coef.	0.010	0.014	0.010	−0.039	0.053	1,500
P(stronger)	0.001			0	1	1,500
Housewife						
Est. with actual date	0.053					1
Simulated coef.	0.012	0.026	0.011	−0.054	0.077	1,500
P(stronger)	0.060			0	1	1,500
Ever married						
Est. with actual date	0.023					1
Simulated coef.	0.007	0.009	0.007	−0.031	0.040	1,500
P(stronger)	0.051			0	0	1,500
Divorced given ever married						
Est. with actual date	−0.039					1
Simulated coef.	−0.009	0.010	−0.009	−0.034	0.026	1,500
P(stronger)	0			0	1	1,500
Less education						
Est. with actual date	0.061					1
Simulated coef.	0.017	0.038	0.016	−0.094	0.136	1,500
P(stronger)	0.131			0	1	1,500
Little control over life events						
Est. with actual date	0.838					1
Simulated coef.	0.122	0.391	0.116	−1.221	1.761	1,500
P(stronger)	0.036			0	1	1,500
Voting participation						
Est. with actual date	−0.107					1
Simulated coef.	−0.024	0.050	−0.028	−0.196	0.185	1,500
P(stronger)	0.035			0	1	1,500

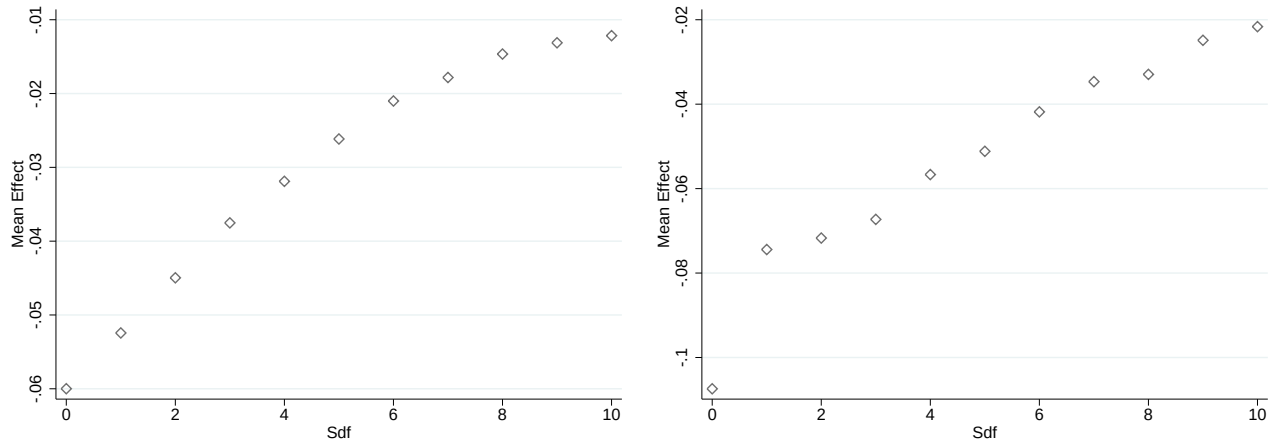
Notes: Main sample of Swiss women. The simulations are based on 1,500 runs.
Data source: Swiss population census individual data, 1980-2010.



(a) Probability stronger coef. working

(b) Probability stronger coef. voting

Figure A4: Graphs (a) and (b) visualize the likelihood to observe a stronger coefficient than using the actual introduction years of female suffrage in our placebo simulations for increasing standard deviations in the normal distribution of simulated introduction years.



(a) Coef. on working

(b) Coef. on voting

Figure A5: Graphs (a) and (b) visualize the average coefficient in 1,500 simulation runs for the group experiencing the introduction of female suffrage the latest in our placebo simulations for increasing standard deviations in the normal distribution of simulated introduction years.

Table A7: Female suffrage and the life choices of Swiss women: Women born before introduction

	Working	Working given ever mar.	Part-time given working	House-wife	Ever married	Divorced given ever mar.	Less edu.	Highly edu.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Suffrage at								
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	–0.009**	–0.003	0.014**	0.009**	0.006*	–0.011**	0.013**	0.002
	(0.003)	(0.004)	(0.005)	(0.003)	(0.003)	(0.004)	(0.006)	(0.002)
age_{21-25}	–0.018***	–0.008	0.032***	0.015***	0.010***	–0.017***	0.030***	–0.002
	(0.006)	(0.006)	(0.008)	(0.005)	(0.004)	(0.004)	(0.010)	(0.002)
age_{26-35}	–0.034***	–0.020*	0.047***	0.031***	0.012***	–0.029***	0.050**	0.001
	(0.010)	(0.010)	(0.008)	(0.011)	(0.004)	(0.006)	(0.021)	(0.004)
age_{36-58}	–0.051***	–0.034**	0.060***	0.045***	0.013**	–0.035***	0.050	0.009
	(0.016)	(0.015)	(0.011)	(0.016)	(0.005)	(0.010)	(0.030)	(0.006)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep.	0.53	0.48	0.55	0.35	0.84	0.09	0.37	0.07
No. of obs.	2,312,081	1,947,848	1,235,288	2,312,081	2,312,081	1,947,848	2,312,081	2,312,081
No. of clusters	26	26	26	26	26	26	26	26
R^2	0.17	0.17	0.07	0.11	0.11	0.05	0.20	0.06

Notes: Main sample of Swiss women restricted to women born before the introduction of female suffrage (age at introduction ≥ 0). Standard errors are clustered at the cantonal level and reported in parentheses. Controls include indicators for individuals' religious denomination. Significance levels: * $.05 < p < .1$, ** $.01 < p < .05$, *** $p < .01$.

Data source: Swiss population census individual data, 1980-2010.

Table A8: Female suffrage and the life choices of Swiss women: Including cohort language region effects

	Working	Working given ever mar.	Part-time given working	House-wife	Ever married	Divorced given ever mar.	Less edu.	Highly edu.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Suffrage at								
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	–0.019***	–0.011*	0.000	0.023***	0.011***	–0.013***	0.043**	–0.006
	(0.006)	(0.006)	(0.005)	(0.006)	(0.004)	(0.003)	(0.016)	(0.004)
age_{21-25}	–0.038***	–0.028**	0.009	0.040***	0.014***	–0.026***	0.071***	–0.008*
	(0.010)	(0.010)	(0.008)	(0.009)	(0.003)	(0.004)	(0.018)	(0.004)
age_{26-35}	–0.070***	–0.058***	0.022*	0.075***	0.017***	–0.044***	0.114***	–0.004
	(0.013)	(0.014)	(0.012)	(0.014)	(0.004)	(0.005)	(0.028)	(0.007)
age_{36-58}	–0.095***	–0.080***	0.034**	0.099***	0.013**	–0.052***	0.129***	0.007
	(0.018)	(0.017)	(0.016)	(0.019)	(0.005)	(0.009)	(0.032)	(0.009)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Language region x birth year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep.	0.55	0.49	0.54	0.34	0.82	0.09	0.35	0.07
No. of obs.	2,462,685	2,0211,68	1,355,494	2,462,685	2,462,685	2,021,168	2,462,685	2,462,685
No. of clusters	26	26	26	26	26	26	26	26
R^2	0.18	0.17	0.08	0.12	0.16	0.05	0.21	0.07

Notes: Main sample of Swiss women restricted to women born before the introduction of female suffrage (age at introduction ≥ 0). Standard errors are clustered at the cantonal level and reported in parentheses. Controls include indicators for individuals' religious denomination. Significance levels: * $.05 < p < .1$, ** $.01 < p < .05$, *** $p < .01$.

Data source: Swiss population census individual data, 1980-2010.

Table A9: Female suffrage and the life choices of Swiss women: Cluster wild bootstrap confidence bounds

	Working	Working given ever mar.	Part-time given working	House-wife	Ever married	Divorced given ever mar.	Less edu.	Highly edu.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Suffrage at								
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	–0.015	–0.006	0.013	0.016	0.017	–0.014	0.024	–0.003
	[-.030, -.004]	[-.019, .004]	[.004, .028]	[.003, .033]	[.007, .022]	[-.026, -.006]	[-.007, .043]	[-.014, .007]
	(0.0175)	(0.1771)	(0.0129)	(0.0215)	(0.0017)	(0.0025)	(0.1139)	(0.5558)
age_{21-25}	–0.024	–0.011	0.033	0.021	0.022	–0.021	0.042	–0.006
	[-.045, -.012]	[-.028, .004]	[.019, .055]	[.006, .041]	[.008, .029]	[-.034, -.0043]	[-.004, .074]	[-.017, .005]
	(0.0123)	(0.0758)	(0.0003)	(0.0288)	(0.0043)	(0.0313)	(0.0702)	(0.1415)
age_{26-35}	–0.042	–0.025	0.045	0.038	0.026	–0.034	0.064	–0.004
	[-.075, -.010]	[-.058, .011]	[.030, .072]	[-.007, .077]	[.013, .037]	[-.0515, -.010]	[-.023, .130]	[-.022, .021]
	(0.0296)	(0.084)	(0.0006)	(0.0667)	(0.0041)	(0.014)	(0.1065)	(0.5736)
age_{36-58}	–0.060	–0.040	0.052	0.053	0.023	–0.039	0.061	0.004
	[-.110, -.030]	[-.088, -.006]	[.024, .083]	[.009, .107]	[.005, .039]	[-.068, -.015]	[-.036, .161]	[-.017, .034]
	(0.008)	(0.0359)	(0.009)	(0.0322)	(0.0186)	(0.0085)	(0.11)	(0.548)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age x canton FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Birth year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton x year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municip. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep.	0.55	0.49	0.54	0.34	0.82	0.09	0.35	0.07
No. of obs.	2,462,685	2,021,168	1,355,494	2,462,685	2,462,685	2,021,168	2,462,685	2,462,685
No. of clusters	26	26	26	26	26	26	26	26

Notes: Main sample of Swiss women. 95 % Confidence bounds calculated using the cluster wild bootstrap procedure following Cameron et al. (2008) are reported in square brackets, the respective p-value is 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. Controls include indicators for individuals' religious denomination. As stata runs into numerical issues with the number of observations and covariates, we exploit the Frish-Waugh-Lovell theorem and residualize all variables before the bootstrap procedure.
Data source: Swiss population census individual data, 1980-2010.

Table A10: Female suffrage and the probability to work: Fixed effects relevance

	Working	Working	Working	Working	Working	Working
	(1)	(2)	(3)	(4)	(5)	(6)
Suffrage at						
age_{0-16}	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
age_{17-20}	–0.087***	–0.138***	–0.160***	–0.023***	–0.015***	–0.015***
	(0.007)	(0.012)	(0.008)	(0.006)	(0.004)	(0.005)
age_{21-25}	–0.136***	–0.163***	–0.170***	–0.035***	–0.024***	–0.024***
	(0.012)	(0.011)	(0.008)	(0.008)	(0.005)	(0.006)
age_{26-35}	–0.220***	–0.256***	–0.284***	–0.065***	–0.041***	–0.042***
	(0.014)	(0.021)	(0.012)	(0.014)	(0.009)	(0.011)
age_{36-58}	–0.398***	–0.349***	–0.400***	–0.110***	–0.060***	–0.060***
	(0.007)	(0.036)	(0.018)	(0.024)	(0.014)	(0.016)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	No	Yes	No	No	No	No
Age x						
canton FE	No	No	Yes	Yes	Yes	Yes
Birth year FE	No	No	No	Yes	Yes	Yes
Canton x						
year FE	No	No	No	No	Yes	Yes
Municip. FE	No	No	No	No	No	Yes
Mean Dep.	0.55	0.55	0.55	0.55	0.55	0.55
No. of obs.	2,462,685	2,462,685	2,462,685	2,462,685	2,462,685	2,462,685
No. of clusters	26	26	26	26	26	26
R^2	0.10	0.15	0.16	0.17	0.17	0.18

Notes: Main sample of Swiss women. Standard errors are clustered at the cantonal level and reported in parentheses. Controls include indicators for individuals' religious denomination.
Significance levels: * $.05 < p < .1$, ** $.01 < p < .05$, *** $p < .01$.
Data source: Swiss population census individual data, 1980-2010.