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## How Vatican II influenced female enfranchisement: A story of rapid cultural change

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Center for Research in Economics, Management and the Arts

How Vatican II influenced female  
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A story of rapid cultural change

Working Paper No. 2017-07

# How Vatican II influenced female enfranchisement: A story of rapid cultural change<sup>\*</sup>

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**Abstract:** The importance of culture for human behavior is well established in the economic literature. So far, most authors have emphasized the long persistence of cultural traits. In contrast, this paper deals with an important case of a rapid update of culturally rooted beliefs and behavior. Using a newly composed historical dataset (1919-1984), this paper provides evidence that the Second Vatican Council (1962–1965) had a rapid effect on Catholics' voting behavior pertaining to female enfranchisement in Switzerland. In various difference-in-differences settings, the Second Vatican Council turns out to increase the acceptance of women's suffrage in Catholic municipalities, when compared to Protestant municipalities.

**Keywords:** Catholic Church, Second Vatican Council, rapid cultural change, female enfranchisement

**JEL classification:** N34, Z12, D72

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# 1 Introduction

Several empirical studies have analyzed channels of cultural influence on economic outcomes such as growth, trade, trust, or political preferences (see for example Alesina and Giuliano, 2015; Luttmer and Singhal, 2011; Tabellini, 2010; Guiso et al., 2009; or Miller and Shanks, 1996). The majority of empirical studies define culture, according to Guiso et al. (2006), as “those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation.” These studies focus their attention on the persistent aspects of culture. Astonishingly, research taking into account comparatively rapid cultural change and its effects on economic outcomes is rather scarce. This paper shows that culture is not always inert but can be subjected to systematic rapid change. To test the possibility of accelerated cultural change, the present paper concentrates on a change in religious culture triggered by a change in Catholic doctrine due to the Second Vatican Council.<sup>1</sup> The surprising announcement of Vatican II in 1959 by the newly elected Pope John XXIII (who was elected Pope in October 1958 but already died in June 1963), which was not even anticipated by the Curia, led to major modernizing changes in Catholic doctrine and religious life that were recognized all over the world. A major purpose of the Council was to work on an update “of the Code of Canon Law” (Alberigo and Sherry, 2006:1). During 1962–1965, four sessions with up to approximately 3000 participants<sup>2</sup> from all over the world were conducted in Rome. In 1964, women entered the council as members for the first time (see Meiers, 2012). Vatican II brought major changes that were immediate and visible for Catholics around the world, and it was frequently debated and followed with great interest in the media. Just five years after the announcement of the council, Catholics celebrated the Holy Mass in their mother tongues for the first time (e.g., Alberigo and Sherry 2006).

A particularly instructive case offering deeper insight into the role of Vatican II in affecting culturally shaped preferences and actions is the introduction of Swiss women’s suffrage in the last century. The political debate, campaign, and voting patterns, among other aspects of the movement, were shaped by conservative and traditional role models also associated with Catholic values. In the Swiss case, the voting process was characterized by approximately 100 cantonal and two federal popular votes on women’s suffrage in the period between 1919 and 1990.<sup>3</sup> Therefore, the direct democratic voting process allows for the observation of repeated

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<sup>1</sup> From here on referred to as Vatican II.

<sup>2</sup> Besides the bishops and Periti, members of other Christian Churches were also invited as observers.

<sup>3</sup> The covered timespan is 1919–1984 as there is no municipal data for the last votes on enfranchising women. Those votes were held in the canton Appenzell Innerhoden. Appenzell Innerhoden uses cantonal assemblies for cantonal and municipal matters; therefore, municipal voting data is only available for the two federal votes.

voting behavior of Swiss municipalities on the same issue over the course of time. The empirical literature suggests that Catholicism on average is a barrier to female enfranchisement (see Eichenberger and Koukal, 2017 and Bertocchi, 2011). For the Swiss case, instructive examples are given by Ruckstuhl (1989), who describes the opposing role of the Swiss Catholic Women's Association and the opposing position of Catholic Bishops toward women's suffrage. An objective of this paper is to shed light on the conditions under which the restraining effect of Catholicism on the introduction of women suffrage evaporates. This is done by answering the question of whether Swiss Catholics did indeed follow their shepherd in the modernizing transformation of Vatican II.

The present analysis is based on an original dataset covering the voting behavior and sociodemographic characteristics of Swiss municipalities. The observation period encompasses the enfranchisement process between 1919 and 1984. This results in a rich dataset with approximately 10,000 observations. According to the data, Vatican II influenced the revealed preferences of Catholic municipalities. The results suggest that Vatican II led to an increase of acceptance toward female enfranchisement in Catholic municipalities of around 3 to 5 percentage points when compared to their Protestant counterparts. This result is robust when other potential explanations, such as the "68 movement", Catholic-specific time trends, or placebo treatments are controlled for. This finding is a clear indication that cultural influence may change more rapidly than is generally assumed.

This paper is organized as follows. The next section briefly reviews the related literature. Section 3 provides a short overview on the role of Catholics in the enfranchisement process and describes the main characteristics of Vatican II. Section 4 presents the structure of the historical dataset while Section 5 introduces the empirical strategies employed and offers an overview of descriptive statistics. Section 6 presents and discusses first results. Section 7 concludes.

## 2 Related Literature

The economic literature on culture and its effects on economic outcomes is vast. A sizeable portion of this literature emphasizes the strong persistence of cultural traits on economic outcomes. Several authors use the cases of the free city-states in medieval Italy and investigate the long-term persistence of the positive shock they represent on different outcomes such as civic capital (Guiso et al. 2016), trust (Putnam et al. 1993), or self-efficiency beliefs (Guiso et al. 2016), whereas Luttmer and Singhal (2011) work on the persistent significance of culture in terms of redistribution preferences. Williamson (2000) argues that culture is the most persistent institution; however, the mechanisms and conditions for the modification or persistence of culture are not evaluated in detail.

Another branch of the literature analyzes the persistent effects of culture on trade. Guiso et al. (2009) prominently establish the role of trust and the long persistence of cultural similarities; other authors focus on the role of a common language (Egger and Lassmann 2015) or a common historical experience (see for example Redding and Sturm, 2008 or Beestermöller and Rauch, 2014). According to Guiso et al. (2008), one explanation for the persistence of cultural influence may be the trustworthy transmission processes of culture. In these processes, parents try to prevent their children from committing costly mistakes; to that end, they tend to transmit rather conservative priors related to cooperation. If a society is caught in a low trust equilibrium, a positive shock can have permanent effects. Finally, Guiso et al. (2008) raise questions about policy implications for the case of a society trapped in such an equilibrium.

In addition to the literature on the persistence of cultural traits, some authors further analyze cultural change (see for example Bisin and Verdier, 2001 or Guiso et al. 2008). Alesina and Giuliano (2015) explicitly distinguish between empirical and theoretical definitions of culture, whereby their theoretical approaches to culture are channeled through beliefs or values. In terms of cultural change, beliefs may be affected by experimentation or former generations. Applying an overlapping generations model, Guiso et al. (2008) work on the process of transmitting and modifying individual beliefs. Initially, beliefs are acquired by cultural transmission; with growing experience, these beliefs are slowly updated from generation to generation. The priors children receive from their parents are slowly updated with their own experiences. In this environment, multiple equilibria are possible, where a shock might trigger a move toward a new equilibrium. The time range for this sort of cultural change is indicated as about two to three generations.

Among other pertinent cultural traits, religion is commonly discussed. A starting point for the analysis of the role of religion in economic outcomes is the seminal work of Weber (1905), which evaluates the role of Protestantism in the success of industrialization. Putnam et al. (1993) revive the role of religion in economic outcomes and analyze the link between trust, religion, and economic development. Examining Italian regions, they claim that Catholicism as a hierarchical religion discourages trust. Using cross-country data from the World Value Survey, this claim is supported by La Porta et al. (1996) and Inglehart (1999), who find lower levels of trust for hierarchical religions such as Catholicism, which negatively impact outcomes such as civic participation or government efficiency. Meanwhile, Cantoni (2015) resumes research on the role of Protestantism in economic development and finds no effect.

Guiso et al. (2003) also work with the World Value Survey data (covering the period 1981–1997) and analyze the relationship between religion and economic attitudes. When compared to Protestants, Catholics are found to attend church more often, to be less trustful, and to have a slightly more conservative attitude toward women’s rights. Applying the intergenerational transmission idea, Guiso et al. (2003) note that Catholic education as well as the raising of Catholic families may have been affected by Vatican II because it might have changed the priors parents transmit to their children. Guiso et al. (2003) find first evidence that Catholics who grew up after 1960 are more trusting and less intolerant. Following an instrumental variable approach using Vatican II, Gihleb and Giuntella (2013) examine the causal effects of Catholic schooling on the educational level in the U.S. and do not find any positive effects of Catholic schooling on pupils’ performance.

So far, the literature has mainly focused on the persistence of cultural traits and rather slow changes of cultural influences; hence, the aim of this paper is to shed light on the possibility of immediate change in culturally shaped preferences and to contribute by investigating the accelerating effects of the unexpected call of Vatican II as a shock to Catholic’s revealed preferences toward women’s suffrage. Two different aspects are therefore highlighted: first, the question of how promptly culturally shaped preferences might react to a credible statement by the current cultural leadership and second, by providing evidence of the role of Catholicism on the way to women’s suffrage in general.

## **3 Historical Background**

### ***3.1 Female Enfranchisement in Switzerland***

With respect to women's suffrage, Switzerland has been an enclave of male resistance for decades. While the first cantons enfranchised women for cantonal policy decisions, i.e., cantonal elections and referendum votes in the late 1950s, the last canton introduced women's suffrage only in 1990 after being forced by the Federal Court to do so. Compared to neighboring countries, this is rather late. A particularity of the Swiss enfranchisement process is that suffrage was not granted by politicians but by the male voters themselves. Moreover, suffrage had to be instituted separately at all federal levels (municipal, cantonal, and federal). This institutional setting consisted of approximately 100 cantonal votes over the period 1919.. to 1990. and two federal votes in 1959 and 1971.

The fact that it took twelve years to have a second federal vote on women's suffrage is an indicator of the strong resistance to providing suffrage at this level. Nevertheless, the attempt to install women's suffrage first at lower federal levels was for many years not successful. For more than 30 years, no vote was accepted at the cantonal level. Table A1 in the appendix provides an overview of the introduction of obligatory municipal and cantonal suffrage.

### ***3.2 Role of Catholicism on the way to women's suffrage***

The role of Catholic men and authorities mainly took on the character of a skeptical position toward women's suffrage. Studer (2015) notes that conservative Catholics and their respective constituencies were resolute opponents of women's suffrage in Switzerland.

Not only Catholic men but also Catholic women adopted opposing positions toward women's suffrage. In 1929, a petition in favor of women's suffrage was launched and signed by thirteen supporting women's associations. According to Ruckstuhl (1989:33), the Catholic Women's Association was the only one that refused to sign the petition and expressed their position as against the enfranchisement of women. This position was welcomed and supported by at least part of the Swiss bishops (see Herdinger, 2004:49). Even in 1945, when Pope Pius XII sent an unprecedented message to members of various Catholic Women's Associations in Europe indicating that women "must compete with men for the good civic life, in which she is, in dignity, equal to him" Marchione (2004:65), the traditional role model for women still kept its priority in Catholic doctrine. A Swiss bishop, Franziskus von Streng, prevented the



distribution of the original version of this papal statement with its connection to women's suffrage in Switzerland (see Ruckstuhl 1989:50).

The following 1956 statement of Pope Pius XII again emphasizes womanhood as the prior of female action and might capture the existing Catholic role model of that time:

...there is no field of human activity that must remain closed to woman. Her horizons reach out to the regions of politics, work, the arts, sports—but always in subordination to the primary functions fixed by nature itself. (Marchione, 2004: 67)

The action of Bishop Franziskus von Streng against the publication of the statement in 1945 seems to indicate that Catholic forces in Switzerland exhibited rather conservative attitudes even in comparison with Catholics in other countries. Summing up, there is a lot of evidence that Catholicism represents traditional role models for men and women. When compared to their Protestant fellow citizens, Catholics appear to be more skeptical toward women's suffrage. This assumption is also supported by the few empirical studies on women's enfranchisement. Bertocchi (2011) assumes that the costs of disenfranchisement are determined by culture, in particular, family culture. Based on an analysis using cross-country data, Catholicism is shown to be a barrier to female enfranchisement. This result is confirmed by Eichenberger and Koukal (2017), who find Catholicism in general to be a barrier to Swiss female enfranchisement. Moreover, the descriptive statistics of Guiso et al. (2003) show that, over the period 1981–1997, Catholics in Switzerland attended church more often and raised their children more religiously than Protestants. In other words Catholicism seems to be a barrier to enfranchising women compared to Protestantism.

### ***3.3 Vatican II: “Let some fresh air in”***

In 1959, less than ninety days after his election, Pope John XXIII made a surprising and unexpected announcement to the world: the decision to conduct the Second Vatican Council. Given that Pope John XXIII was elected when he was almost 80 years old and was expected to be a transition pope, this announcement was a shock to the Curia, not least because even the Holy Office was not aware of this plan. An episode mentioned by Alberigo and Sherry (2006:6) offers anecdotal evidence of how surprising the announcement was even for the inner Vatican circle. Before the announcement, the pope invited cardinals and monks to St. Paul's. One cardinal reacted with the following statement and did not join the meeting: “What

sort of important thing could he say on such an occasion? He will give an exhortation to the monks, nothing more.” (Alberigo and Sherry, 2006:6)

During 1962–1965, four periods were held in Rome in order to discover how the Catholic Church could adapt to the contemporary world. Before Vatican II began, expectations about the council’s direction and power were unclear. According to Wilde (2007:5), the key moment of Vatican II occurred in the first period when progressive leaders surprisingly managed to receive more time in order to discuss and define their positions by winning a tight vote. After this event, the bishops felt that change was possible (see Greely 2005). After the completion of this very important first period, Pope John XXIII passed away. Therefore, in September 1963, the second period of the council was opened by Pope John the VI.

The following three periods were characterized by the opposing positions of conservative and reform-oriented powers, but this gap became less important, especially during the last session. During the first two periods, women were not part of the Council. This changed in 1963, when the Council focused on women as a key concern for modernization. As of the third session, female auditors were integrated into the council and contributed in working groups (see Meiers, 2012). Various documents of the Council contain important statements for women’s role in society. A significant outcome of Vatican II was the pastoral constitution “*Gaudium et spes*” which describes the role of humans in the actual world, and was passed during the fourth period. It is stated that women should have and demand equal rights and factual equality (see Meiers, 2012). From the Swiss perspective of lacking women’s suffrage, this pastoral constitution represents a major change when compared to the statement by Pope Pius XII.

Beyond its importance to the Catholic religious world, Vatican II was highly visible in the media and in Catholic life. In 1962, Pope John XXIII was even elected *TIME*’s man of the year. However, even more unexpected than the announcement of the council itself were the major changes Vatican II brought with it. Wilde (2007) notes that just five years after the announcement of the council, Catholics around the world celebrated the Holy Mass in their mother tongue for the first time. Even though Vatican II did not bring progress toward the ordination of women, it revealed the urgent need for renewal. Vatican II was highly visible in the media and in the churches and was very likely to impact the life of individual Catholics. For Switzerland Altermatt (1991) notes, that Vatican II changed Catholicism in Switzerland remarkably .An indicator of the impacts of Vatican II is provided by Greely (2005), who presents descriptive results from survey data for the years 1963 and 1974 regarding Catholic

daily life and beliefs of priests and the laity. For example, Greely (2005:39) finds that beliefs about birth control tended to be less negative in 1974 when compared to 1963. The aim of this paper is to answer the question of whether the impact of Vatican II affected real-world decisions of believers when voting about enfranchising women and, if so, how rapid that effect was.

## **4 Data**

The empirical analysis is based on a new historical dataset that covers the Swiss enfranchisement process and votes on women's suffrage between 1919 and 1984. This makes possible the analysis of revealed preferences of municipalities regarding the same question (i.e., granting suffrage to women) over the course of time.

The composed dataset consists of approximately 10,000 observations covering approximately 2200 Swiss municipalities and 68 different votes. Votes on women's enfranchisement were conducted at different federal levels. At the cantonal level there were votes on women's suffrage at the cantonal level as well as at the municipal level (facultative or obligatory) or both. At the federal level there were votes on women's suffrage specifically for the federal level. Due to the Swiss system of direct democracy, only in the two federal votes conducted in 1959 and 1971 did all Swiss municipalities participate. The remaining 65 votes in the sample were cantonal votes in which only municipalities in the respective canton took part. More than a third of the observations refer to those two federal votes, while the remaining observations cover cantonal votes. Cantonal votes themselves can be divided as follows: votes which aimed at obligatorily (6 votes) or optionally (13 votes) introducing women's suffrage at only the municipal level; 34 votes which aimed at women's suffrage both at the cantonal and the municipal level; and 7 cantonal votes that aimed at the cantonal level only.

Data was collected from a variety of sources. As the cantonal votes are not centrally listed, there is a need to obtain an overview of the cantonal vote history. Many but not all the votes on female suffrage are listed by Ruckstuhl (1989). This list was the starting point for the data collection, and was completed with missing votes. As the observation period dates back to the early 20<sup>th</sup> century, the data had to be collected at the cantonal level and to be digitalized.

Variables that measure sociodemographic factors at the municipality level are taken from available census data.

The dataset provides rich variation in many dimensions, for example, in terms of language spoken, degree of urbanization, religious structure, and institutions. Concerning the scope of political decision-making, one would expect a tendency toward stronger opposition to women's suffrage at the federal level—the key level for voting on constitutional amendments. In 1959 the Swiss male electorate voted for the first time on female enfranchisement at the federal level, which resulted in rejection. It took until 1971 to conduct a second federal vote on women's suffrage, although at this time already 40 percent of the cantons had introduced some form of obligatory women's suffrage, and most cantons had experienced more than three votes on women's suffrage. A list of introductory dates for the municipal and cantonal levels can be found in Table A1 in the appendix. The late second federal vote is an indicator of strong resistance to providing suffrage at the federal level. However, the original attempt to introduce women's suffrage at lower levels, as some kind of test version, was not as successful as expected. For more than 30 years, no vote was accepted at the cantonal level.

#### ***4.1 Outcome variable: Acceptance toward women's suffrage***

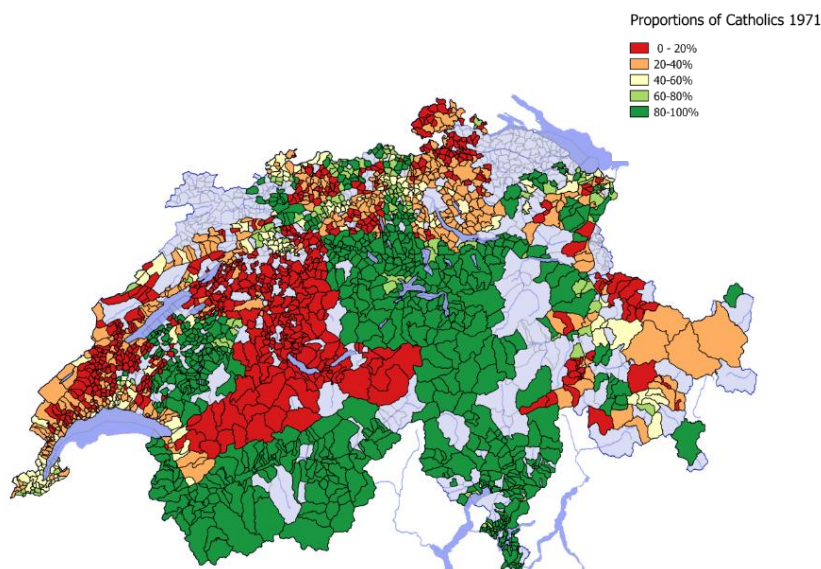
The endogenous variable  $Y_{mt}$  is the yes share of votes for women's suffrage, consisting of the yes share of the eligible men's votes in the observed municipality (m) and year (t). Descriptive statistics are listed in Table 1. As the two federal votes of 1959 and 1971 are of special interest in the following approach, Figures 2 and 3 provide a first picture of the geographical distribution in the two federal votes. Figures 2 and 3 illustrate both the inter-municipal and intertemporal variance that will be analyzed in the following section.

#### ***4.2 Measures of Catholicism***

Figure 1 shows the distribution of Catholics in Swiss municipalities in 1970 covered by the dataset. Note that in the observed time period, around 90 to 95 percent of the Swiss population claimed membership in a Christian church. For reasons of simplification in the

following analysis, the counterpart of a Catholic municipality will be defined as a Protestant municipality.<sup>4</sup>

*Figure 1: Proportions of Catholics, 1970<sup>5</sup>*



### *4.3 Control variables*

The data allows controlling for several socioeconomic factors (denoted by  $X_{mt}$ ) that have been mentioned in the economic literature or are important in the Swiss case. The control variables can be summarized in four groups: indicators of cultural aspects, urbanity, female characteristics, and democracy. As Switzerland is divided into three different language areas of which the largest two are the German and the French speaking parts, it is important to control for this cultural aspect, especially because the French cantons were first movers in terms of women's suffrage. By including population size (in logs), the share of agriculture, and the share of foreigners as covariates, the influence of urban structures is controlled for.

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<sup>4</sup> More correctly, the counterpart of a municipality with more than 50% Catholics consists of Protestants, a small percentage of people belonging to other religions, and people without religious affiliation. As those are negligibly small, they are not mentioned in the further analysis.

<sup>5</sup> The gray shaded municipalities are not missing in the dataset. As the data period dates back to the 70s, the geodatabase does not have the corresponding geo-information fitting the old municipality number of the Federal Statistics Office.

Figure 2: Yes share—Federal vote 1959<sup>6</sup>

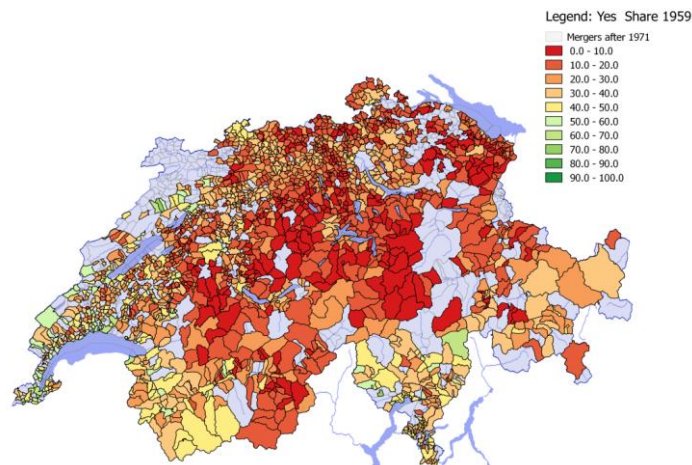
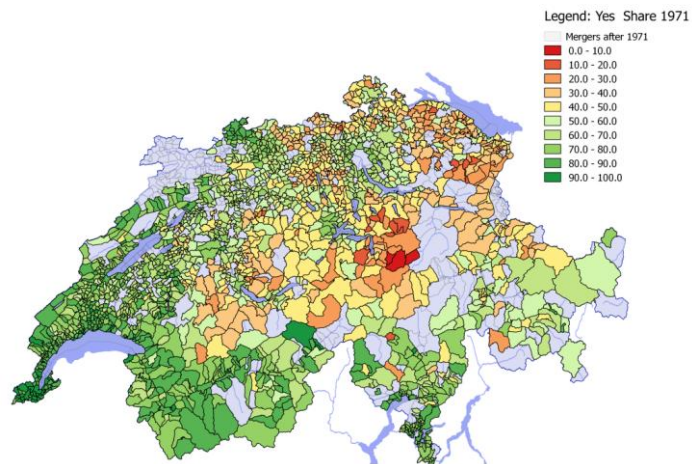


Figure 3: Yes share—Federal vote 1971



Moreover, these indicators may also map conservative attitudes. In order to take into account the female structure of the respective municipality, the share of women, the share of married individuals, and the share of working women are further added to the list of regressors. To control for cantonal characteristics, cantonal fixed effects are added in the estimation. In addition to the specific characteristics in terms of women's suffrage, this should further allow controlling for cantonal institutional settings, culture, and additional time-invariant dimensions. Table 1 provides an overview of the descriptive statistics.

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<sup>6</sup> As in Figure 1, the gray shaded municipalities in Figures 2 and 3 are not missing in the dataset. As the data period dates back to the 70s, the geodatabase does not have the corresponding geo-information fitting the old municipality number of the Federal Statistics Office.

Table 1: Descriptive statistics

<i>Variable</i>	<b>N</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Sd</b>
Yes Share	10 234	44,98	100	0	22,56
German Share	10 234	60,85	100	0	40,96
Population Size	10 234	2332,00	422640	19	12422,59
Catholic Share	10 234	46,96	100	0	37,42
Catholic (>50%)	10 234	0,43	1	0	0,49
Agricultural Share	10 234	12,02	86,11	0	9,44
Foreigners Share	10 234	8,69	69,71	0	8,42
Women Share	10 234	49,01	75,29	14,14	3,55
Female Working Share	10 234	26,76	60	0	8,11

## 5 Empirical Strategy and Descriptive Statistics

Since the process of enfranchising women in Switzerland proceeded on different federal levels, the yes share in Swiss municipalities was observed for a large number of cantonal referenda as well as the two federal votes. Due to the high degree of cantonal autonomy, the cantonal votes took place at different times. The repeated voting on women's enfranchisement makes possible an analysis of the role of Vatican II as a shock to culturally shaped preferences. To investigate this shock, the empirical analysis proceeds in six steps:

- (1) A descriptive analysis to obtain an initial idea of the potential effects of Vatican II
- (2) Applying a conventional difference-in-difference model for the full sample
- (3) Narrowing and balancing the sample to the two federal votes in 1959 and 1971
- (4) Further narrowing and balancing the sample on votes shortly before and after Vatican II but before the '68 movement.
- (5) Conducting a propensity scores approach for DD (see for example Lechner, 2010 and Stuart et al., 2014) in order to rule out potential violations of the common trend assumption.
- (6) Placebo treatments for the canton of Zurich

### 5.1 A differential effect of Vatican II on Catholic's preferences

To identify the treatment of Vatican II, a variable is constructed that indicates whether a vote took place before or after Vatican II. This binary variable is called *Vatican II* and takes on the

value of 1 for observations after the completion of Vatican II in 1965<sup>7</sup> and is equal to 0 before 1962.

In order to identify Catholic municipalities, different specifications are used. First, the degree of Catholicism present in a municipality is measured as the proportion of Catholics in a municipality as illustrated in Figure 1. The respective estimates are listed in Table A3 in the appendix. Second, a binary variable, *majority Catholics*, is created and set equal to 1 if more than 50 percent of the municipal population is Catholic and 0 otherwise. Third, a robustness check is carried out in which only municipalities that are strongly Catholic (>80%) are compared to municipalities that are strongly Protestant (>80%). The change in the specification of Catholics does not affect the results.

Using the conventional DD approach, the following model is estimated:

$$\begin{aligned}
 \text{Yes share}_{mt} = & \alpha + \beta_1 \text{Catholics}_{mt} + \beta_2 \text{Vatican II}_t + \beta_3 \text{Catholics} \\
 & * \text{Vatican II}_t + \theta X_{mt} + \delta \text{canton} + \gamma \text{canton} * \text{year} + \epsilon_{mt}
 \end{aligned} \tag{1}$$

The variance of Catholicism between municipalities and not the change in Catholicism between different votes is of central interest. Hence, a model with cantonal fixed effects ( $\delta$ ) and canton-year effects ( $\gamma$ ) is chosen as the preferred specification.<sup>8</sup> To address potential serial correlation from within canton variation, standard errors are clustered at the municipality level. To further address the concerns raised by Bertrand et al. (2004), just one pre- and one post-period are used from Step 3 onwards. When estimating with the reduced samples “federal votes” and “votes before ’68,” there is one observation per municipality before and after the treatment.

## 5.2 Characterization of Steps 2 to 5

A potential problem in terms of interpreting the effect of Vatican II on Catholics’ revealed preferences toward women’s suffrage are other shocks that could distort the results. To rule out other potential explanations, different subsamples are used. As a starting point (Step 2),

<sup>7</sup> During the four periods of the council, no vote on female enfranchisement was conducted. Therefore, no votes are excluded from the sample.

<sup>8</sup> As an additional robustness check, a model with municipal Fixed Effects is listed in the appendix in Table A6.



the estimations are conducted with the full sample (1919–1984). In Step 3, a subsample consisting of the two federal votes is useful to analyze the role of Vatican II for two reasons. First, almost all Swiss municipalities were observed, and second, Vatican II took place between the two federal votes of 1959 and 1971. This results in a relatively balanced panel.

An event close to Vatican II that could raise further concerns was the '68 movement. However, it seems difficult to argue that the '68 movement was a Catholic-specific positive shock toward modernization. Moreover, when compared to other European countries, the Swiss '68 movement was relatively weak, with a peak of political mobilization in 1975 (see Tackenberg, 2016). In order to exclude the unlikely '68 bias in Step 4, the dataset offers sufficient observations of municipalities that voted on the same question before Vatican II and after Vatican II but prior to the Swiss '68 movement, starting in June 1968 with the Globus riots in Zurich. These riots occurred after the attack on Rudi Dutschke, the spokesman of the German Students Movement on April 11<sup>th</sup>, 1968. For the period of 1948 to 1968 (February), this results in a total of around 1600 observations for Step 4, covering votes of five cantons that voted on the same question once before and once after Vatican II.

As Imbens and Wooldridge (2009) mention, a potential problem with the common DD approach could be that it only provides unbiased estimates under the assumption of common time trends for Catholics and Protestants in the absence of Vatican II. As this assumption is difficult to verify, another approach is used in Step 5 to confirm the results obtained with standard DD. Propensity score methods are a tool to handle this problem in a multiple treatment DD context as well (see for example Stuart et al., 2014). Although propensity score methods are mostly used in settings with two groups, some studies have recently extended the approach to cases with multiple groups (see for example Stuart et al., 2014; McCaffrey et al., 2013; and Zanutto et al., 2005). Following Stuart et al. (2014), a propensity score weighting strategy is applied, weighting the four resulting groups to be balanced according to a set of municipal characteristics:

$$\text{groups} \left\{ \begin{array}{l} 1) \text{ Catholics} = 1 \text{ and Vatican II} = 0 \\ 2) \text{ Catholics} = 1 \text{ and Vatican II} = 1 \\ 3) \text{ Catholics} = 0 \text{ and Vatican II} = 0 \\ 4) \text{ Catholics} = 0 \text{ and Vatican II} = 1 \end{array} \right.$$

The weights are constructed as follows. As the first step, a multinomial logit regression is fitted that predicts the probability of belonging to one of the four groups as a function of observed characteristics. These are population size, share of German-speaking population,

female working share, agricultural share, and the share of foreigners. This results in four probabilities for each observation:  $e_k(X_m)$  for  $k = 1, \dots, 4$ , and where  $\sum_{k=1}^4 e_k(X_m) = 1 \forall m$ . The weights are then computed as

$$w_m = e_1(X_m)/e_{g^m}(X_m) \quad (2)$$

In words: each observation's weight is set equal to its predicted probability of belonging to group 1 (the treatment group before receiving the treatment, which is comprised of Catholics before Vatican II) divided by its predicted probability of belonging to the group that it is actually in,  $g^m \in [1, \dots, 4]$ . In this way, a municipality that looks similar to a municipality in group 1 but different when compared to its own group will receive a higher weight. This approach makes it possible to control for the possibility of different time trends between Catholics and Protestants. Using the weights defined in equation (2) and applying a similar model such as shown in equation (1) results in consistent estimates, even if the common trend assumption is violated.

Additional robustness checks taking into account municipal fixed effects and a comparison of strongly Protestant and strongly Catholic municipalities are listed in the appendix in Tables A5 and A6.

### ***5.3 Step 6: Placebo Treatments—Canton of Zurich***

One could argue that Catholics might react differently to historical events in general or follow different time trends than Protestants. In the latter case, the challenge is to disentangle different time trends from additional differences concerning Vatican II. The first attempts to consider this issue are represented by the results obtained with the propensity scores approach. As an additional test, the canton of Zurich offers an ideal setting to conduct placebo tests. Over the period of 1920–1970<sup>9</sup> the canton of Zurich conducted five votes on enfranchising women for municipal and cantonal matters. Unlike most other cantons, Zurich rarely changed the character of the proposal. This allows for the comparison of voting behavior of Zurich municipalities over time concerning identical proposals.

In order to rule out that Catholics react differently to historic events than Protestants in general, three historical events are compared: World War II, Vatican II, and the '68

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<sup>9</sup> Those votes were conducted in 1920, 1947, 1954, 1966, and 1970.

movement. As Zurich was the Swiss city in which the '68 movement started (with the Globus riots), this placebo test seems to be placed in a reasonable environment, particularly for disentangling Vatican II from the '68 movement (see Tackenberg, 2016). To evaluate whether Catholics reacted differently to those events, the votes directly before and after those three events are used in the respective regressions.<sup>10</sup> For each event, the following model is estimated:

$$\begin{aligned}
 \text{Yes share}_{mt} = & \alpha + \beta_1 \text{Catholics}_{mt} + \beta_2 \text{historical event}_t + \beta_3 \text{Catholics} \\
 & * \text{historical event} + \theta X_{mt} + \delta \text{year} + \epsilon_{mt}
 \end{aligned} \tag{3}$$

In order to test whether Catholics react differently to those events, again the interaction term “Catholics \* historical event” is of central interest here. If Vatican II was different than other events and if Catholics did not follow different time trends in general,  $\beta_3$  should only yield significant positive results in the case of Vatican II. The results are listed in Table A4 in the appendix.

## 6 Results

### 6.1: Results for Step 1: Descriptive Analysis

The first descriptive approach to the potential effect of Vatican II is provided in Table 2 and Figure 4. Table 2 maps the evolution of yes share between the two federal votes in 1959 and 1971, split into mainly Catholic and Protestant municipalities. As Table 2 indicates, Protestant municipalities exhibit a considerably higher acceptance toward female enfranchisement in the first federal vote (1959). However regarding the second federal vote, Catholic municipalities catch up and even overtake Protestant municipalities in 1971. In other words, descriptive statistics indicate that Catholic municipalities increase their acceptance towards enfranchising women considerably, by around 6 percentage points, when compared to Protestants.

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<sup>10</sup> For the first vote in 1920, some control variables cannot be observed. The controls are restricted to: population in logs, share of women, share of German-speaking population, and agriculture share. For comparison reasons, those control variables are listed for all three tables. However, the results for the two later events, Vatican II and '68 movement, stay robust against introducing more control variables.

Table 2: DD descriptive picture—Federal votes

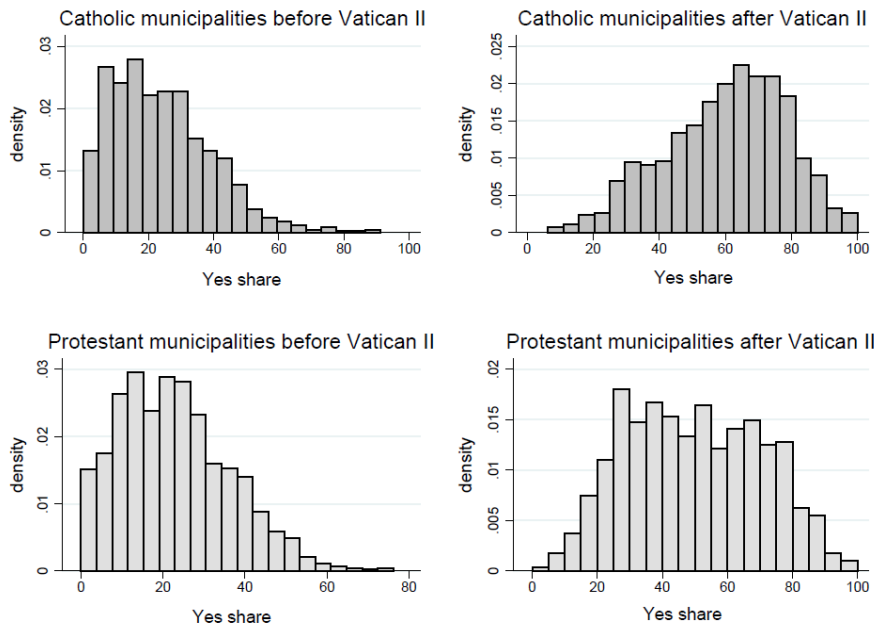
Federal votes: Acceptance per main religion

	Catholic municipalities	Protestant municipalities	$\Delta$ (Catholic-Protestant)
$\bar{\emptyset}$ yes share 1959	19,67	25,77	-6,1
$\bar{\emptyset}$ yes share 1971	56,34	55,85	0,49
$\Delta$ (1971-1959)	36,67	30,08	(+) 6,59

*Note: Catholic municipalities are measured as municipalities with more than 50% Catholic inhabitants. All municipalities covered in the two federal votes are considered for the computations.*

Figure 4 shows the distribution of yes share before (up to 1962) and after Vatican II (as of 1965) for Catholic and Protestant municipalities for the full sample. Catholic and Protestant municipalities in Figure 4 are identified as those municipalities having more than 70 percent Catholics (or Protestants) in their respective municipalities. Changing the thresholds does not affect the picture, as the mass of municipalities with a more equal share of Catholics and Protestants is low, and they do not drive the result. In this eyeballing exercise, it is interesting to note that before Vatican II, the distribution of yes share in the two groups looks relatively similar.

Figure 4: Histogram of yes share



Both groups face a right-skewed distribution of yes shares. After Vatican II, this changes. The distribution of the yes share for Protestant municipalities has moved towards a bell shape, whereas Catholic municipalities now show a left-skewed distribution having more mass in the “accept” area. In other words, both groups move towards a stronger acceptance of women’s suffrage, but the movement for the Catholic municipalities appears to be more pronounced. An additional graph can be found in the appendix in Figure A2. This graph maps the time trend of Catholic and Protestant municipalities between 1950 and 1970 by plotting the acceptance level toward women’s suffrage by vote and main religion. The descriptive analysis provides the first evidence that Vatican II might have had a different effect on Catholic preferences toward women’s enfranchisement.

## **6.2: Results for Steps 2–4**

As outlined in Section 5, three sets of conventional DD regressions have been conducted. Table A3 in the appendix summarizes the results of the DD estimations for Steps 2 to 4 for different specifications of municipal Catholicism. In order to take care of the influence of time in general, cantonal time effects are included in the specifications. Most importantly the interaction “*Catholics \* Vatican II*” is robust in all estimated specifications and models.

As a starting point for the analysis, the model is estimated using the full sample covering all votes and vote types between 1919 and 1984. The base effects of both variables measuring Catholicism are negative in all specifications, providing evidence for Catholicism being a barrier to women’s suffrage in general. Regarding Step 2 in Table A3 of the appendix, a Catholic municipality prior to Vatican II exhibits a yes share that is three to four percentage points lower when compared to a municipality with a majority of Protestants. The interaction term “*Catholics \* Vatican II*” is positive and significant in all specifications. For Step 2, this indicates that Catholic municipalities react with a stronger increase in the yes share when compared to Protestants. For Step 2 in Table A3, this effect varies between 1.5 and 2.5 percentage points. However, one might argue in the sense of Bertrand et al. (2004) that the results might be driven by the long panel structure. Therefore, further robustness checks are conducted. In Step 3, the sample is restricted and balanced to the two federal votes which took place in 1959 and 1971, both covering almost all Swiss municipalities voting on the exact same question. The results including results for the set of control variables are listed in Table

3 below. Table A2 in the appendix lists additional results for Step 3 regarding a linear specification of Catholic municipalities.

*Table 3: Results for Step (3)—Federal votes*

<i>Federal votes</i>				
VARIABLES	(1) yes share	(2) yes share	(3) yes share	(4) yes share
majority Catholics	-5.837*** (0.691)	-5.766*** (0.642)	-4.658*** (0.665)	-4.811*** (0.671)
Vatican II	16.411*** (3.082)	16.014*** (3.047)	16.054*** (3.037)	15.972*** (3.041)
majority Catholics*Vatican II	3.899*** (0.795)	3.202*** (0.802)	3.174*** (0.811)	3.256*** (0.810)
German share	-0.165*** (0.010)	-0.149*** (0.010)	-0.144*** (0.009)	-0.140*** (0.009)
population (logs)	3.336*** (0.165)	0.817*** (0.216)	0.340 (0.208)	0.241 (0.206)
agriculture share		-0.447*** (0.036)	-0.424*** (0.036)	-0.406*** (0.036)
foreigners share		0.138*** (0.037)	0.126*** (0.035)	0.129*** (0.035)
married share			0.127*** (0.039)	0.119*** (0.039)
women share			-0.013 (0.077)	-0.005 (0.076)
working women share			0.320*** (0.037)	0.307*** (0.037)
weak direct democracy				3.497*** (0.702)
Cantonal FE	✓	✓	✓	✓
Cantonal-Time FE	✓	✓	✓	✓
Observations	4,330	4,330	4,330	4,330
R-squared	0.817	0.836	0.842	0.843

*Robust standard errors clustered at the municipality level in parentheses*

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

Again, Catholicism before Vatican II turns out to be a barrier to women's suffrage, with an effect varying between 5 and 6 percentage points when compared to a Protestant municipality. Regarding the interaction term, the results in Table 3 indicate that Catholics again show a stronger and more positive reaction to Vatican II than Protestant municipalities. Regarding the

size of the estimates, Catholic municipalities react with an increase in acceptance toward women's suffrage of around 3 percentage points.

In terms of control variables, the different estimations provide a clear picture. As expected and observed, the higher the share of the German-speaking population in a municipality, the less the municipality agrees with women's enfranchisement. This result is obtained in all specifications and all models, indicating that due to the multilingual circumstances of Switzerland, it is important to control for language on the municipality level, as language borders do not follow cantonal borders. Controlling for the urban structure of a municipality reveals that with growing municipality size, the acceptance of female voting rights increases.

The positive effects of municipality size and foreigners present in a municipality could be interpreted as the influence of an urban environment, which turns out to be more open toward accepting female enfranchisement, whereas a strong agricultural environment seems to be a barrier to enfranchisement. The coefficient for the agricultural share is negative and significant in all specifications. The degree of agriculture in a municipality should also control for the existence of conservative and traditional attitudes in a municipality. The results indicate that an increase of 1 percent in the agricultural share reduces the acceptance toward female enfranchisement by 0.5 percentage points.

From Column 3 onward, variables taking into account the female structure of a municipality are integrated in Table 3. The share of women is not significant in the estimated models. This might also be due to the low variance of this variable across municipalities. With a growing share of married persons in a municipality, acceptance toward female enfranchisement increases. One potential explanation could be an expected team effect at the ballot box as well as lower fears about preference due to the heterogeneity of male and female preferences. Moreover, the share of working women positively influences the yes share in a municipality. For Table 3, a 1 percent increase in the female working share results in an increase in the yes share of around 0.3 percentage points. Again, the degree of integration in the labor market could serve as a proxy for an urban environment or a lower extent of traditional role models in the respective municipality.

Lastly, the degree of direct democracy is controlled for. As a proxy for the relative strength of direct democracy on the municipal level, this variable indicates whether a municipality employs town meetings with a secret ballot box system (weaker direct democracy), a parliament (weaker direct democracy), or a public vote (stronger direct democracy).

Compared to those with strong direct democracy, acceptance is higher in relatively weaker direct-democratic municipalities (for a detailed analysis, see Eichenberger and Koukal, 2017).

*Table 4 DD applying propensity scores*

<i>Propensity Scores: Federal votes</i>				
VARIABLES	(1) yes share	(2) yes share	(3) yes share	(4) yes share
majority Catholics	-4.757** (2.050)	-3.663*** (1.188)	-4.619*** (0.949)	-4.745*** (0.945)
Vatican II	9.104** (4.187)	8.668** (4.028)	9.158*** (3.297)	9.031*** (3.269)
majority Catholics*Vatican II	7.316** (3.138)	7.725** (3.033)	4.715** (1.912)	4.846** (1.912)
German share	-0.171*** (0.017)	-0.152*** (0.014)	-0.158*** (0.011)	-0.157*** (0.011)
population (logs)	3.789*** (0.549)	0.502 (0.844)	-0.693 (0.569)	-0.719 (0.571)
agriculture share		-0.500*** (0.093)	-0.528*** (0.092)	-0.523*** (0.092)
foreigners share		0.316*** (0.116)	0.156 (0.099)	0.158 (0.099)
married share			0.006 (0.031)	0.002 (0.031)
women share			-0.439* (0.236)	-0.438* (0.237)
working women share			0.607*** (0.080)	0.604*** (0.081)
weak direct democracy				1.567* (0.926)
Cantonal FE	✓	✓	✓	✓
Cantonal-Time FE	✓	✓	✓	✓
Observations	4,330	4,330	4,330	4,330
R-squared	0.774	0.811	0.836	0.837

*Robust standard errors clustered at the municipality level in parentheses*

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

Another concern about the obtained results is that other Catholic-specific shocks may bias the sample. The results are again robust against reducing the sample to votes shortly before and after Vatican II. This results in a narrow dataset, as only municipalities which voted twice on the same question are part of the sample. However, the dataset covers municipalities from five



cantons. The results for Step 5 are listed in the appendix in Table A3 and confirm the results. In terms of size, the additional effect of Vatican II on Catholic municipalities appears to be larger in the narrow dataset (around 7 to 9 percentage points) when compared to the broader samples. As mentioned in Section 5, it is possible to exclude the '68 movement from the results of Step 4.

### ***6.3 Step 5: Excluding Catholic-specific time trends: Propensity score estimations***

To rule out the concern that Catholic and Protestant municipalities follow per se different time trends, the estimates for the propensity scores model are presented in Table 4 below. The two federal votes offer a balanced panel for all Swiss municipalities and provide a valuable database in order to present the propensity score estimations.

The propensity score estimations again confirm the obtained results. Before Vatican II, Catholic municipalities exhibited a lower yes share of 4.6 and 4.7 percentage points in Columns 3 and 4, respectively. The interaction term is again positive and significant in all specifications and shows an effect of around 5 percentage points for Catholic municipalities when compared to Protestant municipalities. Regarding the main effects, these results do not much differ from the results presented in Table 3. With respect to the control variables, some minor changes can be observed. This provides additional evidence that Vatican II seems indeed to impact Catholic men when voting about enfranchising women.

### ***6.4: Results for Step 6 Placebo Treatments—Canton of Zurich***

The results for the placebo treatments conducted in Step 6 are listed in the appendix in Table A4. Interestingly, Catholics in Zurich do not seem to react significantly differently concerning World War II and the '68 movement. In both placebo tests, the interaction term does not yield significant results. As the Swiss '68 movement was especially visible in Zurich, Step 6 should operate as a severe challenge to results demonstrated in the preceding steps.

Regarding the treatment of Vatican II, the results obtained throughout this paper are replicated in Table A4. Catholics in Zurich seem to react specifically to Vatican II as compared to other historical events. The robustness checks conducted for the canton of Zurich confirm the results of this paper.

## 7 Conclusion

The findings presented in this paper provide the first evidence that Swiss Catholics followed their shepherd on the way toward modernization. Astonishingly, the Catholic Church, an institution known for its persistence and rigid doctrine, made an extensive and unexpected move toward modernization. When compared to their Protestant counterparts, the rapid reaction of Catholics is not only driven by the course of time, but seems to be connected to the Vatican's signal to open up toward modernization. This result stays robust against a variety of robustness checks, such as narrowing the sample, controlling for different time trends, and conducting placebo treatments. Concerning the sample of federal votes, the effect of Vatican II on the acceptance of female enfranchisement for Catholic municipalities varies between 3 to 5 percentage points.

In contrast to the large body of literature that focuses on the persistence of cultural traits on various economic outcomes, this paper provides evidence that a faster update of culturally shaped preferences is possible. When compared to the intergenerational transmission channel applied by Bisin and Verdier (2001) or Guiso et al. (2008), where parents transmit conservative priors that are updated by their children, the mechanism observed in this paper seems to be different. The drivers of this rather quick reaction to a change in culturally shaped preferences require further research. Concerning the relationship of Catholics' revealed preferences and Vatican II, the drivers might be a mixture of the following properties: the Catholic Church as a central and worldwide organization, the Pope's sovereignty, and a potential convergence of the believers' preferences. In this spirit, the movement toward common institutional organizations for religious groups, such as central councils, might be an interesting tool concerning future cultural change, democratization, and modernization.

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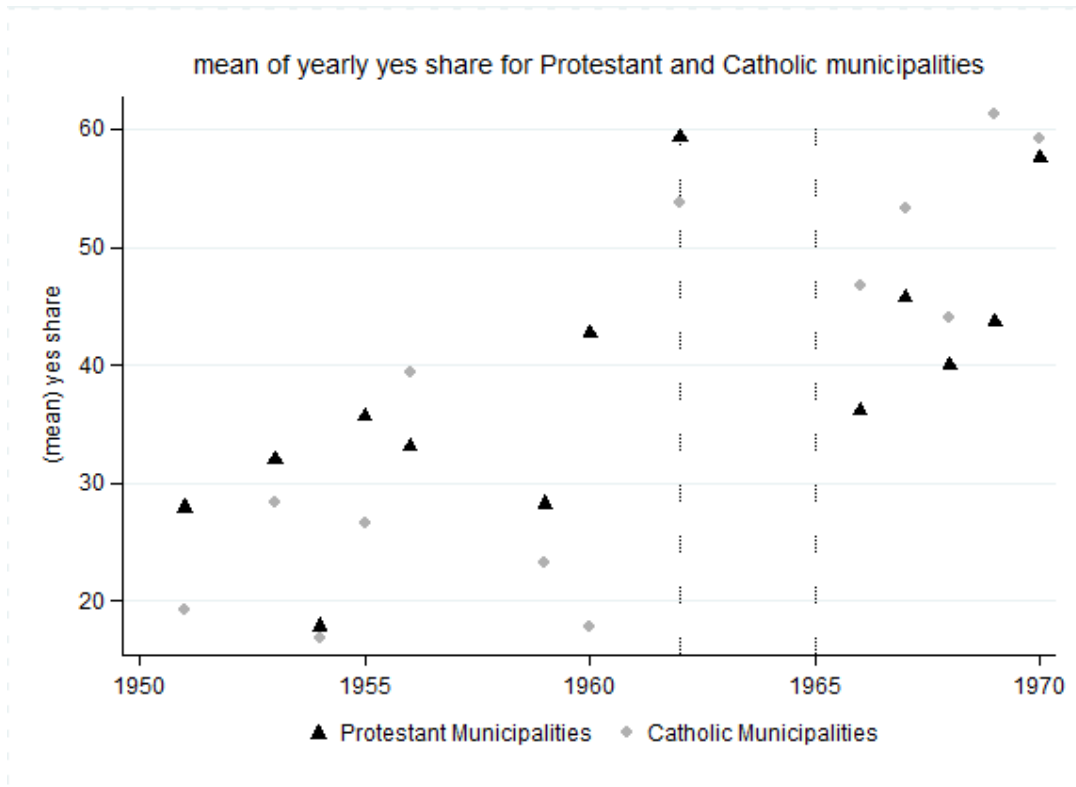
## 9 Appendix

*Table A1: Chronology of suffrage extension on the municipal level per canton*

<b>Acceptance date</b>	<b>canton</b>	<b>level</b>
February 1, 1959	Vaud	integral
September 27, 1959	Neuchâtel	integral
March 6, 1960	Geneva	integral
June 26, 1966	Basel-City	integral
May 19, 1968	Obwalden	municipal
October 19, 1969	Ticino	integral
April 12, 1970	Valais	integral
April 26, 1970	Nidwalden	municipal
September 9, 1970	Basel-County	muicipal
October 25, 1970	Lucerne	integral
November 15, 1970	Zurich	integral
February 7, 1971	all cantons	federal
February 7, 1971	Fribourg	integral
February 7, 1971	Zug	integral
February 7, 1971	Schaffhausen	integral
February 7, 1971	Aargau	integral
May 5, 1971	Glarus	integral
December 12, 1971	Bern/ Jura	integral
December 12, 1971	Thurgau	integral
January 23, 1972	St. Gallen	integral
April 30, 1972	Appenzell A.Rh.	municipal
March 5, 1972	Schwyz	integral
March 5, 1973	Uri	integral
March 2, 1980	Solothurn	municipal
February 27, 1983	Grison	municipal
November 27, 1990	Appenzell I.Rh.	integral

*Excluded are votes about facultative suffrage introduction on the municipal level and suffrage introduction for specific topics. Chronology is based on Ruckstuhl (1986)*

Table A2: Descriptive comparison of Catholic and Protestant municipalities 1950-1970<sup>11</sup>



<sup>11</sup> Catholic municipalities are defined by a threshold of 50% Catholics. It is not necessary for the message of this paper that Catholic municipalities overtake Protestant municipalities as the difference in acceptance before and after Vatican II is of main interest. The exception in Table A1, where Catholics show a higher acceptance toward women's suffrage, is an observation from the canton of Bern in 1956. Note, however, that this vote was about facultative enfranchisement at the municipal level only.

Table A3: Overview for Steps 2–4

<i>Full sample 1919-1984: Catholics share</i>					<i>Full sample 1919-1984: majority Catholics</i>				
VARIABLES	(1) yes share	(2) yes share	(3) yes share	(4) yes share	VARIABLES	(1) yes share	(2) yes share	(3) yes share	(4) yes share
Catholics share	-0.032*** (0.012)	-0.032*** (0.011)	-0.032*** (0.011)	-0.036*** (0.011)	majority Catholics	-4.094*** (0.761)	-3.986*** (0.715)	-3.038*** (0.715)	-3.255*** (0.698)
Vatican II	3.689*** (0.780)	3.961*** (0.875)	3.961*** (0.875)	0.399 (0.957)	Vatican II	4.312*** (0.667)	4.265*** (0.681)	4.550*** (0.737)	0.671 (0.837)
Catholics*Vatican II	0.035*** (0.011)	0.024** (0.011)	0.024** (0.011)	0.020* (0.011)	majority Catholics*Vatican II	2.672*** (0.705)	1.861*** (0.700)	1.544** (0.728)	1.401* (0.724)
culture	✓	✓	✓	✓	culture	✓	✓	✓	✓
urbanity		✓	✓	✓	urbanity		✓	✓	✓
female structure			✓	✓	female structure			✓	✓
democracy				✓	democracy				✓
Cantonal FE	✓	✓	✓	✓	Cantonal FE	✓	✓	✓	✓
Cantonal-time FE	✓	✓	✓	✓	Cantonal-time FE	✓	✓	✓	✓
Observations	10,114	10,114	10,114	10,114	Observations	10,114	10,114	10,114	10,114
R-squared	0.638	0.663	0.663	0.670	R-squared	0.639	0.657	0.664	0.671
Robust standard errors clustered at the municipality level in parentheses *** p<0.01, ** p<0.05, * p<0.1					Robust standard errors clustered at the municipality level in parentheses *** p<0.01, ** p<0.05, * p<0.1				
<i>Federal votes: Catholics share</i>					<i>Federal votes: majority Catholics</i>				
VARIABLES	(1) yes share	(2) yes share	(3) yes share	(4) yes share	VARIABLES	(1) yes share	(2) yes share	(3) yes share	(4) yes share
Catholics share	-0.059*** (0.011)	-0.067*** (0.010)	-0.053*** (0.010)	-0.057*** (0.010)	majority Catholics	-5.837*** (0.691)	-5.766*** (0.642)	-4.658*** (0.665)	-4.811*** (0.671)
Vatican II	15.018*** (3.222)	15.982*** (3.197)	15.143*** (3.210)	15.073*** (3.213)	Vatican II	16.411*** (3.082)	16.014*** (3.047)	16.054*** (3.037)	15.972*** (3.041)
Catholics*Vatican II	0.056*** (0.013)	0.034*** (0.013)	0.043*** (0.013)	0.043*** (0.013)	majority Catholics*Vatican II	3.899*** (0.795)	3.202*** (0.802)	3.174*** (0.811)	3.256*** (0.810)
culture	✓	✓	✓	✓	culture	✓	✓	✓	✓
urbanity		✓	✓	✓	urbanity		✓	✓	✓
female structure			✓	✓	female structure			✓	✓
democracy				✓	democracy				✓
Cantonal FE	✓	✓	✓	✓	Cantonal FE	✓	✓	✓	✓
Cantonal-time FE	✓	✓	✓	✓	Cantonal-time FE	✓	✓	✓	✓
Observations	4,330	4,330	4,330	4,330	Observations	4,330	4,330	4,330	4,330
R-squared	0.816	0.835	0.841	0.843	R-squared	0.817	0.836	0.842	0.843
Robust standard errors clustered at the municipality level in parentheses *** p<0.01, ** p<0.05, * p<0.1					Robust standard errors clustered at the municipality level in parentheses *** p<0.01, ** p<0.05, * p<0.1				
<i>votes before 68: Catholics share</i>					<i>votes before 68: majority Catholics</i>				
VARIABLES	(1) yes share	(2) yes share	(3) yes share	(4) yes share	VARIABLES	(1) yes share	(2) yes share	(3) yes share	(4) yes share
Catholics share	-0.087*** (0.028)	-0.101*** (0.027)	-0.094*** (0.027)	-0.104*** (0.027)	majority Catholics	-8.075*** (1.893)	-8.087*** (1.816)	-7.149*** (1.841)	-7.707*** (1.863)
Vatican II	0.768 (2.878)	3.492 (2.993)	6.147 (4.430)	6.817 (4.412)	Vatican II	0.140 (3.318)	2.750 (3.366)	5.646 (4.474)	6.360 (4.464)
Catholics*Vatican II	0.165*** (0.020)	0.158*** (0.019)	0.144*** (0.024)	0.146*** (0.024)	majority Catholics*Vatican II	9.939*** (1.661)	9.721*** (1.545)	7.246*** (1.901)	7.564*** (1.892)
culture	✓	✓	✓	✓	culture	✓	✓	✓	✓
urbanity		✓	✓	✓	urbanity		✓	✓	✓
female structure			✓	✓	female structure			✓	✓
democracy				✓	democracy				✓
Cantonal FE	✓	✓	✓	✓	Cantonal FE	✓	✓	✓	✓
Cantonal-time FE	✓	✓	✓	✓	Cantonal-time FE	✓	✓	✓	✓
Observations	1,604	1,604	1,604	1,604	Observations	1,604	1,604	1,604	1,604
R-squared	0.523	0.576	0.585	0.592	R-squared	0.520	0.573	0.582	0.590
Robust standard errors clustered at the municipality level in parentheses *** p<0.01, ** p<0.05, * p<0.1					Robust standard errors clustered at the municipality level in parentheses *** p<0.01, ** p<0.05, * p<0.1				

Step 2

Step 3

Step 4

Table A4: Placebo tests—Canton Zurich

Robustness check: Zurich Placebo test WW2				Robustness check: Zurich Vatican II treatment				Robustness check: Zurich Placebo test 68movement			
VARIABLES	(1) yes share	(2) yes share	(3) yes share	VARIABLES	(1) yes share	(2) yes share	(3) yes share	VARIABLES	(1) yes share	(2) yes share	(3) yes share
Catholic share	0.034 (0.066)	0.034 (0.067)	0.025 (0.064)	Catholic share	-0.201*** (0.066)	-0.191*** (0.072)	-0.194*** (0.072)	Catholic share	0.039 (0.110)	0.139 (0.165)	0.152 (0.176)
placeboWW2	-1.198 (0.818)	-1.197 (0.819)	-1.451* (0.809)	Vatican II	-1.143 (1.326)	-1.483 (1.371)	-1.531 (1.377)	placebo68	22.825*** (1.291)	22.825*** (1.293)	22.825*** (1.295)
placeboWW2*Catholic	0.074 (0.052)	0.074 (0.052)	0.076 (0.050)	Vatican II*Catholic	0.449*** (0.061)	0.523*** (0.088)	0.522*** (0.088)	placebo68*Catholic	0.005 (0.042)	0.005 (0.042)	0.005 (0.043)
population (logs)	1.670*** (0.389)	1.669*** (0.389)	1.884*** (0.366)	population (logs)	1.900*** (0.461)	1.919*** (0.461)	1.976*** (0.476)	population (logs)	1.696** (0.663)	1.665** (0.664)	1.455* (0.769)
agriculture (share)	-0.301*** (0.042)	-0.301*** (0.042)	-0.320*** (0.044)	agriculture (share)	-0.752*** (0.079)	-0.778*** (0.080)	-0.786*** (0.081)	agriculture (share)	-1.233*** (0.206)	-1.299*** (0.209)	-1.267*** (0.222)
German (share)		-0.002 (0.039)	0.001 (0.030)	German (share)		0.197 (0.184)	0.202 (0.183)	German (share)		0.258 (0.204)	0.236 (0.204)
women (share)			-0.243*** (0.084)	women (share)			-0.070 (0.125)	women (share)			0.276 (0.403)
Constant	3.299 (3.601)	3.540 (5.279)	14.445** (6.390)	Constant	17.127*** (4.199)	-1.922 (18.470)	0.882 (19.649)	Constant	26.601*** (6.163)	2.250 (20.321)	-8.393 (28.476)
Observations	307	307	307	Observations	315	315	315	Observations	316	316	316
R-squared	0.652	0.652	0.662	R-squared	0.749	0.751	0.751	R-squared	0.790	0.793	0.794
<i>Robust standard errors in parentheses clustered at the municipality level. This regression contains two votes in the canton of Zurich conducted in 1920 and 1947 about enfranchising women on the municipal and cantonal level.</i>				<i>Robust standard errors in parentheses clustered at the municipality level. This regression contains two votes in the canton of Zurich conducted in 1954 and 1966 about enfranchising women on the municipal and cantonal level.</i>				<i>Robust standard errors in parentheses clustered at the municipality level. This regression contains two votes in the canton of Zurich conducted in 1966 and 1970 about enfranchising women on the municipal and cantonal level.</i>			
*** $p < 0.01$ , ** $p < 0.05$ , * $p < 0.1$				*** $p < 0.01$ , ** $p < 0.05$ , * $p < 0.1$				*** $p < 0.01$ , ** $p < 0.05$ , * $p < 0.1$			



Table A5: Results for municipalities with more than 80% Protestants or Catholics

<i>Federal votes</i>					<i>Votes before 68: majority Catholics</i>				
VARIABLES	(1) yes share	(2) yes share	(3) yes share	(4) yes share	VARIABLES	(1) yes share	(2) yes share	(3) yes share	(4) yes share
majority Catholics	-6.937*** (0.994)	-7.496*** (0.937)	-6.300*** (0.954)	-6.671*** (0.964)	majority Catholics	-10.183*** (2.627)	-11.384*** (2.560)	-10.864*** (2.530)	-11.006*** (2.582)
Vatican II	16.091*** (3.218)	16.381*** (3.168)	15.597*** (3.228)	15.577*** (3.229)	Vatican II	-8.397** (4.182)	-4.468 (3.993)	-6.730 (4.934)	-7.543 (4.933)
majority Catholics*Vatican II	4.228*** (1.270)	2.891** (1.312)	3.558*** (1.309)	3.593*** (1.306)	majority Catholics*Vatican II	12.537*** (1.845)	12.718*** (1.707)	10.835*** (2.359)	11.129*** (2.330)
culture	✓	✓	✓	✓	culture	✓	✓	✓	✓
urbanity		✓	✓	✓	urbanity		✓	✓	✓
female structure			✓	✓	female structure			✓	✓
democracy				✓	democracy				✓
Cantonal FE	✓	✓	✓	✓	Cantonal FE	✓	✓	✓	✓
Cantonal-time FE	✓	✓	✓	✓	Cantonal-time FE	✓	✓	✓	✓
Observations	3,066	3,066	3,066	3,066	Observations	1,239	1,239	1,239	1,239
R-squared	0.801	0.818	0.827	0.829	R-squared	0.501	0.555	0.568	0.582
<i>Robust standard errors clustered at the municipality level in parentheses. Included are municipalities with more than 80% Protestants or Catholics</i>					<i>Robust standard errors clustered at the municipality level in parentheses. Included are municipalities with more than 80% Protestants or Catholics</i>				
*** $p < 0.01$ , ** $p < 0.05$ , * $p < 0.1$					*** $p < 0.01$ , ** $p < 0.05$ , * $p < 0.1$				

Table A6: Municipal fixed effects

*Federal votes: Municipal Fixed Effects*

VARIABLES	(1) yes share	(2) yes share	(3) yes share
Catholics share	-0.001 (0.057)	0.027 (0.062)	-0.003 (0.063)
Vatican II	31.146*** (0.550)	31.027*** (0.556)	33.705*** (0.763)
Catholics*Vatican II	0.068*** (0.009)	0.068*** (0.010)	0.059*** (0.010)
culture	✓	✓	✓
urbanity		✓	✓
female structure			✓
Municipal FE	✓	✓	✓
Time FE	✓	✓	✓
Number of municipalities	2165	2165	2165
Observations	4,330	4,330	4,330
R-squared	0.882	0.883	0.887

*Robust standard errors clustered at the municipality level in*

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