

Harka, Elona; Nunziata, Luca; Rocco, Lorenzo

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The Alabaster Ceiling: The Gender Legacy of the Papal States

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Elona Harka

University of Bergamo

Luca Nunziata

University of Padua and IZA

Lorenzo Rocco

University of Padua and IZA

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IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

The Alabaster Ceiling: The Gender Legacy of the Papal States*

We investigate the legacy of the former Papal States on modern female condition by comparing Italian municipalities located in a narrow band across the border between the former Papal States and the former Grand Duchy of Tuscany. While in the Papal States gender inequality was particularly severe, the Grand Duchy of Tuscany experienced a relatively stronger female emancipation. We find that one century after the fall of the Papal States, in the municipalities formerly ruled by the Pope, there is lower female labour market participation and employment when compared to their counterparts in Tuscany, while we do not detect any discontinuity for males. We also find that in the former Papal States there is less political support for the legal right to divorce, historically advocated by women emancipation movements.

JEL Classification: N9, J12, P48, Z12, Z13

Keywords: papal states, gender equality, female condition, divorce, religion, labour

Corresponding author:

Lorenzo Rocco
Department of Economics and Management
University of Padova
del Santo, 33
Padova
Italy
E-mail: lorenzo.rocco@unipd.it

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1 Introduction

According to the Global Gender Gap Report by the World Economic Forum, the gender gap between women and men in areas such as health, education, the economy and politics is wider in Italy than in many other OECD countries ([World Economic Forum, 2020](#)). Despite gender equality has been improving in recent years at a faster pace than the European average, Italy is traditionally one of the worst performers in Europe in those dimensions.

Women's disadvantage can be partly traced back to the patriarchal family model prevalent in Italy for centuries ([Bertocchi and Bozzano, 2019](#)). In addition, in Italy the Catholic Church played a disproportionate role compared to other countries because of the direct centuries-long rule of the Papacy on a significant portion of the country, which contributed to the promotion of its patriarchal cultural norms ([Bokenkotter, 2004](#); [Seguino, 2011](#)). In this paper, we investigate the role played by the Papal States' historical institutions in the establishment of a gender gap between women and men that persists to this day, exploiting the geographical discontinuity in its pre-unity borders.

Italy is a very heterogeneous country as regards values, dialects, and economic and social patterns. This heterogeneity was reflected in the fragmentation of its political map until the second half of the XIX century. Within this variegated landscape, the Papal States stood as a key political entity for about one thousand years in an ample area of Central Italy, until they were finally and completely annexed into the Kingdom of Italy in 1870.

The Papal States were a unique example of a theocracy in Europe, being an independent secular power ruled by a high prelate, the Pope, head of the Catholic Church.¹ Such ecclesiastical imprinting largely influenced the political, economic and social institutions of the Papal States. The traditional exclusion of women from the Catholic Church hierarchy, and the overlapping of secular and religious institutions, relegated women to a social condition which was worse than what they experienced in others parts of Italy and Europe.

Admittedly, women's discrimination was non limited to the Papal States in the Middle Ages and the Modern Era, but it was definitely less ubiquitous elsewhere. Indeed, it was not that uncommon that women either ruled their countries (such as Isabella of Castile, Elisabeth of England, Catherine of Russia, Victoria of England, or Maria Theresa of Austria), or they had

¹The case of England after the English Reformation is quite the opposite: there, a lay ruler, the king, is also head of the Anglican Church.

a strong public influence as king's wife (such as Catherine de Medici in France). A number of historical prominent female public figures can be found in Italy as well, such as Matilda of Canossa, who ruled a vast territory in Central and Northern Italy and was also a relevant military leader, Isabella d'Este and Lucrezia Borgia who, together with their husbands, ruled Mantua and Ferrara, respectively. Moreover, all kingdoms or principalities were characterized by the presence of a queen, either ruling or consort, whose public profile could serve as role model for other women. In addition, women played an important role at court, in networks and in the patronage system. Not so in the Papal States, where queens did not and could not exist, and the court was essentially composed of male high prelates, who were forbidden to marry.

Our aim is to investigate whether such long-standing women's subordinate place in the Papal States' society survived their demise and persisted, to some extent, in modern days. Employing a robust regression discontinuity design ([Cattaneo et al., 2020](#)), we investigate whether gender inequality is still more prevalent within the former Papal States' borders about one hundred years after their fall with respect to neighbouring areas.

As in most literature on gender gap, our outcomes of interest are female labour force participation, employment and years of education that we contrast with the corresponding male outcomes in the same years. In addition, we analyse the share of votes in favor of divorce in a key referendum held in 1974. This latter outcome is relevant to our analysis for a number of reasons. First, the institution of indissoluble marriage is strongly connected with the historical persistence of traditional gender roles, with the husband embodying the role of head of the family and the wife forced into a submissive role. In the traditional Christian view, the bond of marriage is sacred and can not be broken. We therefore conjecture that the sacrality of marriage, being part of the official doctrine of the clerical Papal States, remained embedded in the values of the people living in those territories more than elsewhere, even after the end of the Papal rule. Second, the Referendum is considered the watershed moment marking the beginning of a process of secularization of customs and social norms in Italy since it sanctioned the continuation of the right to divorce, an historical social conquest obtained by the women's emancipation movement in 1970. Third, female participation in the labour market and attitude toward divorce are not independent outcomes. Staying in the marriage is the only option left to women who are economically dependent on their husbands. Viceversa, the option to divorce may affect women's choice to become financially independent, and viceversa.

Among the multiple former borders of the Papal states, we focus on the one with the Grand Duchy of Tuscany, a border that develops across hundred kilometers in central Italy, covering the areas of five contemporary regions (one fourth of the total number of Italian regions), i.e. Emilia-Romagna, Tuscany, Marche, Umbria and Lazio. This border has several distinctive advantages. First, both states survived for centuries and their border remained largely stable over time, differently from other areas where the border changed across the centuries. Second, the border with Tuscany is the longest and offers the opportunity of exploiting a relatively large sample of municipalities. Third, all other Papal States' former borders, i.e. the ones with the Duchy of Modena, the Kingdom of Lombardy–Venetia and the Kingdom of the Two Sicilies, divide the Italian territories mainly along the North-South axis. This may complicate the interpretation of our findings, since in Italy socio-economic outcomes tend to vary much from North to South, for a number of complex historical stratifications. The border with the Grand Duchy of Tuscany is instead located in a wide and fairly economically homogeneous area in central Italy and follows an arc that develops longitudinally along the peninsula, i.e. to the North, West and South of the former Papal States. Finally, the Grand Duchy of Tuscany's tradition of relatively liberal institutions and policies which were in sharp contrast to those of the Papal States, allows for a neat comparison of the historical legacy of markedly different social norms for what concerns gender equality.

All our outcomes are defined at the municipality level and we compare municipalities within a narrow band across the border. Outcomes are observed between the early Fifties to the early Seventies of the XXth century, a period which predates the institution of Italian regions as local administrative authorities. This is to avoid the problem of compound treatments, as regional borders overlap to a large extent (though not perfectly) with those of the pre-unity states. Although regions have no competence on family or employment matters, in principle they could still have indirect effects throughout their competences in other domains.

We find that within an optimally determined bandwidth, female labour force participation and employment are significantly lower in the municipalities belonging to the former Papal States (3.5 and 3.2 percentage points, respectively). No such gap is detected for men, for whom the estimated difference are practically zero. These asymmetric results between genders support our hypothesis that the gap in female labor outcomes is a consequence of different institutional traditions as regards gender equality rather than the mechanical consequence of

a differential level of economic development between the former Papal States and the Grand Duchy of Tuscany. We do not find any difference in years of education across the border for either gender, but this is little surprising. In 1971, very few pupils continued schooling after mandatory education. Instead, we find evidence that in the former Papal States there is a significantly lower political support for the legal right to divorce, with the share of pro-divorce votes being 6 percentage points lower.

We interpret these findings as evidence of the persistence of the Papal States' values in favor of a traditional submissive role of females. Such unique cultural context was the product of the Papal States' theology and male-centered institutions and its lack of a modern class of industrious merchants, analogous to the one thriving in the Grand Duchy of Tuscany, who were traditionally characterized by a more favourable attitude towards gender equality and a higher female participation to the labour market.

We provide complementary evidence which supports this view. We find a 1.2 percentage point higher share of religious marriages in the former Papal States, compared to the neighbouring areas formerly belonging to the Grand Duchy of Tuscany. This indicates that religious customs are more extensively rooted in the former, as a result of inter-generational transmission of the cultural norms and religious beliefs that were at the basis of the Papal States existence. In addition, we show that in the former Papal States the employment shares in industry and trade are respectively 2 and 3.8 percentage points lower than in the former Grand Duchy of Tuscany, while the employment share in agriculture is around 8 percentage points higher. This suggests that the kind of economic specialization historically prevailing in the Papal States, which discouraged female participation to the labour market, continues to some extent to characterize these areas today.

To support the validity of our findings, we perform a series of balancing tests over pre-determined variables. They all support the hypothesis that the areas across the border are homogeneous as regards geography and previous historical stratification. We also test placebo borders without finding, reassuringly, any evidence of discontinuity. Finally, we investigate the issue of spatial heterogeneity as in [Keele and Titiunik \(2015\)](#), by focusing on four points along the border and estimating the extent of the discontinuity for all our outcomes at these points. We document the existence of some heterogeneity, although our findings are broadly confirmed.

The rest of the paper is organised as follows. In [Section 2](#), we review the relevant literature.

[Section 3](#) provides a brief historical background. [Section 4](#) illustrates the data and [Section 5](#) details the empirical strategy. Our empirical findings are presented in [Section 6](#) and a number of robustness checks and specification tests are discussed in [Section 7](#). Finally, [Section 8](#) concludes.

2 Related Literature

Our paper contributes to the literature on the origins of gender gaps, but it also adds to the understanding of the legacy of past institutions. Today’s female condition has been associated to a number of historical determinants. For example, [Alesina et al. \(2013\)](#) find that societies practicing plough agriculture in the pre-industrial era, that improves men’s labour productivity, are now characterized by a lower female participation in the labour market, in politics, and in entrepreneurial activities. Similarly, [Fredriksson and Gupta \(2020\)](#) associate the presence of irrigation in ancient times with lower female labor participation today. [Hansen et al. \(2015\)](#) document a clear negative relationship between an early occurrence of the Neolithic Revolution, i.e. the prehistorical transition from a hunter-gatherer to an agricultural society, and female labor force participation and other indicators of gender equality today.

[Teso \(2018\)](#) shows how, in Sub-Saharan African communities where the slave trade between the 15th and the 19th centuries forced women to substitute for men in traditionally male tasks and roles, females are more likely to be employed, have lower fertility and contribute more to household decisions today. Such persistence across generations, through inter-generational transmission, has also been documented by [Fernández et al. \(2004\)](#), and [Fernández \(2007\)](#), among others, who point out that working mothers or more empowered mothers tend to influence sons’ and daughters’ preferences towards more equal gender roles. [Anderson \(2018\)](#) documents how in Sub-Saharan Africa the institutions introduced by the colonizers affect female HIV prevalence today, finding that in civil law regimes, that are typically characterized by stronger women’s rights (e.g. recognition of household work, joint ownership of all property within marriage, and protection to wives in case of marital dissolution), female HIV prevalence today is much lower than in common law regimes.

[Bertocchi and Bozzano \(2020\)](#) review the evidence on gender gaps in education from an historical perspective and identify three main factors behind them. First, the expansion of trade and financial development in the Modern Era increased the demand for literacy and numer-

acy and pushed females to acquire education. Indeed, in merchant communities women were frequently in charge of business operations, particularly when their husbands or fathers were engaged in years-long business travels.² Second, marriage institutions affect parents' investment in human capital. The diffusion of consensual marriage supported cultural values favorable to gender equality. Women started marrying at a later age and were encouraged to acquire human capital and participate to the labour market. On the contrary, in patriarchal societies, where marriages are the results of parents' choices and women abandon their ancestral family only to join their husband's family, parents tend to underinvest in their daughters' education. Third, religious practices and beliefs largely affect female education. While Protestantism's emphasis on the personal reading of the Bible favored female education after the Reformation, Catholicism's reliance on sermons was a less positive motive for female education. Moreover, the Bible, as other religious texts, tends to portray women as subordinate to men, resulting in a strong influence on parents' differential investment in sons over daughters through history. This is especially the case for those religions that are based on a deep patriarchal and hierarchical structure, such as Catholicism which is one of the religious denominations which is more interlinked with the traditional male breadwinner conception (Algan and Cahuc, 2006).³

Indeed, Bertocchi (2011) documents that the early movements in favor of women's rights were most opposed in Catholic countries. Even within non-predominantly Catholic countries, such as the US and New Zealand, the Roman Catholic Church was the religious group that most consistently opposed women's suffrage. Bozzano (2017) uses the share of religious marriages over total marriages across Italian provinces as an indicator of attachment to traditional Catholic values and shows that there exists strong negative correlation between religious marriages and women share in political offices and high-ranking jobs. Her interpretation is that a higher degree of religiosity is associated with a more conservative perception of women's traditional position within the family and in society.

For what concerns our methodology, many previous contributions analyze the long-lasting effects of past institutions by means of a spatial regression discontinuity design. For example,

²See also Bertocchi and Bozzano, 2016b.

³According to Bertocchi and Bozzano (2020), "Specific religious denominations have been among the most relevant retarding and constraining forces affecting female education". Inglehart (1981) finds that women in Catholic countries tend to be less engaged in political discussion, and Wilcox (2006) finds that Catholic affiliation is a significant predictor of opposition to gender equality and that Catholic countries tend to be largely less in favour of gender equality. Similar findings are provided by Wilcox and Felen (1993).

Dell (2010) studies the long-lasting effects of the mining labour system on household consumption and children well-being in South America, Lee and Schultz (2012) study the socio-economic consequences of British and French colonization of Cameroon, and Becker et al. (2016) show that the territories residing within the historical border of the former Habsburg Empire in central-eastern Europe are characterized by higher trust in local public services and less corruption today. Bukowski (2019) exploits the historical partition of Poland between Austria, Prussia and Russia, showing that the promotion of the Polish identity by the Austrian Empire is associated with better students' test scores today. Fujiwara et al. (2019) show how slavery affected income inequality in modern Brazil using the border discontinuity between the historical Portuguese dominions (where slavery was permitted) and the Spanish dominions (where slavery disappeared around 1600).

Guarnieri and Rainer (2018) is the paper that is more closely related to ours since they exploit the spatial sharp discontinuity represented by the former colonial border between the British and French Cameroon to investigate the effect of the two regimes on female condition in Cameroon after independence. They find that women in former British territories, traditionally more liberal and relatively gender-equal, are 30 percent more likely to be in paid employment than in former French territories, traditionally more elitarian and male-dominated. In addition, as a consequence of a “male backlash” they are also 30 percent more likely to be victims of domestic violence.

3 Historical and Institutional Background

In the 19th Century, before political unification took place in 1861, Italy was divided in a number of smaller political entities.⁴ Among the pre-unitary states, the Papal States were a unique sovereign power, ruled by the maximum authority of the Catholic Church and based on an original mixture of religious and secular administration.⁵ In comparison with other pre-unitary Italian states, the clergy maintained control over key political positions, appointed the secular administrators, with the Ministers' decisions being approved by the Pope, and enjoyed numerous privileges. In addition, Papal States were characterized by a severe limitation of

⁴A number of territories were only later annexed to the Kingdom of Italy: Venezia Euganea in 1866, Lazio in 1870 and Trentino-Alto Adige and Venezia Giulia in 1918-1919.

⁵See Appendix A for a brief account of Papal States history.

individual liberties and an inefficient and corrupt administration ([Daniele, 2019](#)). Here is how French magistrate, philosopher and politician Charles de Brosses describes Rome in one of his letters to the family, written in Italy between 1739 and 1740 ([De Brosses, 1946](#)):

The form of government is the worst one can imagine. Nicolò Machiavelli and Tommaso Moro conceived a utopia; here reality is the exact opposite. Imagine what may come from [...] a state whose sovereign, always old, whose government lasts shortly, often not able to act individually, is surrounded by siblings intent on their own interests as much as they can; and a state where [...] new thieves replace those who are already satisfied; a state that ensures impunity to whoever might disrupt social order, as long as he is a powerful person's friend, or he is in a sacred asylum.

During its centuries-long history, the Papal States remained a relatively backward economy, mostly agrarian and dominated by low-productivity large estates. The capital city of Rome, stood out and largely benefited from being the heart of Catholicism. Nevertheless, Papal administration, both in the capital and the provinces, was traditionally quite inefficient.⁶

The history of the Grand Duchy of Tuscany was rather different. It was the heir of the Republic of Florence, first established in the early XII century, and emerged from the struggles with the Duchy of Milan and the other Tuscan free cities as the most eminent political entity in Tuscany.⁷ Since the XIII century, Tuscany was a major industrial, trade, and financial hub, producing and exporting wool textile and importing raw wool from distant areas, including Britain and Northern Europe. Banking and financial services were extremely developed and several Tuscan cities were the seat of important banks. [Bertocchi and Bozzano \(2016b\)](#) document that the cities of Arezzo, Florence, Pisa and Siena were located on major trade routes while Florence, Pistoia, Lucca and Siena hosted banking institutions.⁸ However, in the XVII century, due to the rising competition of England, France and Netherlands, coupled with major

⁶Colonel Serristori, who compiled a pre-unity states statistical compendium in 1839, wrote “We deem it convenient to inform the Reader that no research or inquiry was spared in order to obtain exact and complete information for compiling the Statistics of the Papal States, but that most of our efforts were unsuccessful” ([Serristori, 1839](#)).

⁷We provide a brief account of the history of Tuscany in Appendix A.

⁸In the Papal States, only Rome and Perugia were located on trade routes, although Ferrara and Senigallia hosted international fairs.

exogenous shocks, both textile industry, exports and financial services sharply declined (Cipolla, 1952), marking the end of Tuscan prosperity.⁹

The Papal States and Tuscany differed in legal, social and economic institutions, including those governing gender roles. Porri and Schiavoni (1988) remark that due to their Catholic imprinting, Papal States legal institutions used to distrust women, who were considered a source of moral troubles. The Bishops' courts had the power of summarily imprisoning anyone, and especially women, on the grounds of immorality. For their *infirmetas* and *levitas animi*, women needed to be protected from themselves, their autonomy had to be limited and they had to be put under the supervision of the father or the husband (Feci, 2004).¹⁰ In Tuscany, since the XV century, women could inherit up to one quarter of family wealth - although this was more likely the case in rural areas and among the less wealthy families (Emigh, 2003). Conversely, Delmedico (2016) documents that women patrimony rights were much restricted in the Papal States. Women could not inherit and were only assigned a dowry at the time of marriage, whose value was appropriate to the bride's social class.

The expansion of trade that characterized the Tuscan economy between the end of the 13th century and the 14th century propelled a parallel development of the typical skills required by merchants, such as arithmetic, bookkeeping, reading, and writing. As documented by Bertocchi and Bozzano (2016b), using data from Black (2007) and Ulivi (2008), until the 16th century Tuscany was characterized by the largest diffusion of Abacus merchant schools in Italy.¹¹ In this period women were typically in charge of family businesses while their husbands were away in their years-long business travels. As a result, they had to invest in education, which was typically provided to girls from wealthy families in the so-called *conservatori*.¹² Three centuries later, during the first half of the 19th century in Italy, the proportion of female schools was the highest in the Grand Duchy of Tuscany (47%), a position that was maintained well after the unification up to the early XXth century (Vigo, 1971).

⁹During the so-called Castro wars the Grand Duchy defeated Pope Urban the VIII in 1643 but the huge war costs sustained by the Tuscan public finances resulted in a collapse of the economy.

¹⁰This was the result of a strict interpretation of the holy scriptures. For example, St. Paul's Epistle to the Ephesians recites "*Wives, submit to your own husbands, as to the Lord. For the husband is the head of the wife even as Christ is the head of the church, his body, and is himself its Savior. Now as the church submits to Christ, so also wives should submit in everything to their husbands*" (Ephesians 22-24)."

¹¹Daniele (2019) reports that the illiteracy rate at the unification in 1861 was lower in Tuscany (74%) compared to any region formerly belonging to the Papal States, i.e. Emilia-Romagna (77.6%), Marche (83%) and Umbria (83.8%).

¹²Special institutions managed by nuns, which did not require religious vows.

Nothing similar occurred in the Papal States, where the only way for women to get advanced education was that of taking religious vows (Groppi, 2002). In addition, while universities existed in all major Italian cities by the XIII century, and despite women could attend and could in principle even hold chairs (although in practice very few women did so), this was typically not the case in the Papal States' universities.¹³ Cicarelli and Weisdorf (2018) estimate that in 1851, the female to male literacy ratio was 54 percent in Tuscany, compared to 45 percent in the bordering Papal States regions of Marche and Umbria.¹⁴

The industrial and commercial tradition of Tuscany opposed to the agricultural specialization of the Papal States is still evident at the end of the XIX century. According to Felice (2011), the employment share in agriculture in 1891 was 56 percent in Tuscany compared to, respectively, 69 and 73 percent in the bordering regions of Marche and Umbria.¹⁵ Cicarelli and Fenoaltea (2013) document that in 1871 in Tuscany the ratio between the share of industrial value added (out of the national industrial value added) and the share of male adult population (out of national male population) was 1.07, a value which indicates a certain degree of specialization in the industrial sector. The same index was as low as, respectively, 0.83 and 0.68 in the Marche and Umbria and equal to 0.96 in the province of Rome. In 1871, at the beginning of the process of modern industrialization in Italy, Tuscany was second only to the relatively developed north-west (Piedmont, Lombardy and Liguria).

In 1871, according to the first post-unification census, the female to male ratio among the ecclesiastics was 0.38 in the former Papal States compared to 0.21 in Tuscany suggesting that in the Papal States the option of entering the convent was much more attractive to girls than in Tuscany, because of a lack of alternative opportunities. While the female to male ratio was rather similar in the two areas as regards agriculture (0.55 in the Papal States vs 0.49 in Tuscany), the differences were remarkable in other sectors: 0.45 vs 0.60 in industry, 0.01 vs 0.04 in the public administration, and 1.09 vs 1.41 in education, respectively.¹⁶ Finally, the female to male inactivity ratio was 2.23 in the former Papal States compared to 2.17 in Tuscany.

¹³Interestingly, the University of Bologna, a city that was added to the Papal States only in 1506, hired the world first female university professor, Laura Bassi. This unique event was the result of the pressures of Prospero Lambertini, the Archbishop of Bologna (later Pope Benedict XIV) who noted Bassi's talent and became her patron.

¹⁴Not surprisingly, in Rome, the seat of the highest ranks of the clergy and monastical orders, such ratio was instead 58 percent.

¹⁵The employment share in agriculture was instead 53 percent in the province of Rome.

¹⁶The public administration in the province of Rome included 25 females only and almost 7000 males.

As a result of these contrasting socio-economic patterns, Tuscany and the Papal States developed a different tradition of attitude towards women, that was transmitted across generations, generating a typical mechanism of persistence of institutions across the centuries ([Bertocchi and Bozzano, 2016a](#)).

4 The Data

We use contemporary census and administrative data from the Italian municipalities which were formerly part of the Papal States and the Grand Duchy of Tuscany. A graphical visualization of these territories and their border is displayed in [Figure 1](#). The historical border used in the analysis overlaps (to a large extent but not perfectly) with the administrative borders of five current regions, i.e. Emilia-Romagna, Tuscany, Marche, Umbria and Lazio. However, regions started being operational only in 1972, and it was not until further reforms were approved in 1975 and 1977 that they became fully functional with competences in the local economy, health, education, but not family rights.¹⁷

We focus on a number of outcomes related to gender equality, measured at the municipality level.¹⁸ These are female and male labor force participation and employment rate in 1951, 1961 and 1971, average years of education in 1971,¹⁹ and the share of votes supporting divorce in the 1974 national referendum. In the referendum, Italian citizens were asked to express their vote on whether they wanted to repeal Law 898/1970, which introduced the right to divorce in the Italian legal system in 1970. Those voting “No” opposed the repeal of the Law.²⁰ The share of votes supporting divorce is defined as the share of valid votes in favor of retaining the right to divorce (i.e., the ratio of “No” votes to valid votes). The referendum represented a landmark in the process of secularization in Italy. It also represented the culmination of a long political and cultural process in favor of women emancipation. Further details about the referendum are provided in the appendix.²¹

¹⁷The constitution adopted the regional boundaries drawn by Pietro Maestri back in 1860. Maestri was the head of the Statistical Office at the time, and his purpose was that of dividing the country into sub-areas for statistical purposes. This is the reason he named these regional areas as “Statistical Compartments”. His classification adapted previous partitions based on both geographical and ethnolinguistic criteria.

¹⁸In Italy, the municipality is the lowest administrative level.

¹⁹These data are from the census. While labour market outcomes are digitally available since 1951, years of education are available since 1971 only.

²⁰[Figure A.1](#) in the appendix shows an example of the ballot used in the referendum.

²¹This process toward female emancipation started with the seminal contribution of [Morelli \(1869\)](#), soon after

All data are provided by ISTAT, the Italian Statistical Institute, except for the share of pro-divorce votes, which are provided by the Ministry of the Interior - Historical Elections Archive (Archivio Storico delle Elezioni). Summary statistics referring to all municipalities formerly included in the Papal States and the Grand Duchy of Tuscany are reported in [Table 1](#). In our analysis, we will focus on a subset of these municipalities, i.e. those located within a given optimal and outcome-specific distance from the border between the two pre-unity states. Hence, for each outcome the actual sample used in the analysis varies as we detail in the estimation tables. [Figure 2](#) displays an example of optimal bandwidth highlighting the municipalities located in either side of the border.

We observe that on average the proportion of votes supporting divorce is much higher in the municipalities formerly belonging to the Grand Duchy of Tuscany (0.67) than in the former Papal States (0.56). Instead, labour force participation, employment rates and average years of education are relatively similar, regardless of gender. We observe a marginally higher number of years of education in Tuscany and marginally higher labor force participation and employment in the former Papal States.

Other municipality characteristics that we use in the analysis are the proportion of religious marriages, as in [Checchi \(2008\)](#) and [Bozzano \(2017\)](#), and the economic specialization at the municipality level, defined as the share of employment in agriculture, industry and trade and retail. Our controls include altitude, a dummy which indicates areas with medium to high seismicity, the distance to Rome and the presence of Roman roads in the municipality area. Data on altitude and seismic classification are from the ISTAT, while the indicator on major Roman Roads was constructed through GIS (Geographic Information System) programming using Roman Road network data from [McCormick et al. \(2013\)](#). As placebo outcomes, we consider a dummy which takes 1 for municipalities which used to be roman cities, the distance from the nearest roman city and the distance from the nearest ancient port. Information on Roman cities are from [Hanson \(2016b,a\)](#), while data on ancient ports and harbors are from [de Graauw \(2014\)](#); [de Graauw, A. et al \(2014\)](#). The summary statistics for these variables are all reported in [Table 1](#).

the Italian unification ([Seymour, 2005](#)).

5 Research Design

We investigate whether the women’s subordinate condition that characterized the Papal States for centuries persisted, to some extent, in modern days. We implement a spatial discontinuity design which identifies the effect of the former Papal States’ institutions by comparing municipalities located in a narrow band across the border with Tuscany. The border between the Papal States and the Grand Duchy of Tuscany has several advantages which make it suitable for our analysis, including the fact that it remained stable for centuries, it is located in a fairly homogeneous area in central Italy, and its main direction is North-South, which minimizes the concern that our findings are influenced by the North-South development gradient that in Italy is particularly marked.

We implement an optimal-bandwidth local polynomial border regression discontinuity with robust inference as described in [Cattaneo et al. \(2020\)](#). This procedure, also adopted in the recent contributions of [Fujiwara et al. \(2019\)](#) and [Burgess et al. \(2019\)](#), differs from the more traditional approaches by [Dell \(2010\)](#), [Becker et al. \(2016\)](#), [Dell et al. \(2018\)](#) and [Guarnieri and Rainer \(2018\)](#), among others, in two aspects. First, the bandwidth is optimally determined, rather than being arbitrary chosen. The optimal choice trades off two contrasting goals. On the one hand, the bandwidth should be the narrowest possible to minimize the approximation error which arises when a polynomial is used in place of the unknown function linking the running variable and the potential outcomes. On the other hand, the bandwidth should be the largest possible to increase the number of observations and minimize sampling variance. The optimal bandwidth solves the trade off by minimizing the sum of the squared approximation bias and the sampling variance (i.e. the mean squared error, MSE). Second, as the approximation bias is minimized but not erased, inference should be corrected. In particular, confidence intervals have to be centered around the RDD point estimate net of the estimated bias and should account for the fact that the estimated bias embodies a sampling error.²² The resulting confidence intervals are known as robust confidence intervals.

Formally, our baseline empirical specification is the following:

$$y_m = \alpha + \beta PS_m + f(\text{DIST}_m) + \delta_b + \gamma X_m + \epsilon_m \quad (1)$$

²²The bias itself is estimated by means of a local polynomial RDD based on a different MSE optimal bandwidth.

where y_m is the outcome of interest for municipality m . The dummy PS_m is equal to one if municipality m is located on the former Papal States and zero otherwise. $f(\text{DIST}_m)$ denotes the polynomial of distance from the border which is allowed to differ in either side of the border. X_m represents a vector of control variables at the municipality level including altitude, seismic classification, distance from Rome and an indicator of whether a major ancient Roman road traversed the municipality area. Finally, δ_b is a vector of 5, equal length, border segment dummies which account for possible unobserved heterogeneity along a border that is several hundreds kilometers long. The model is estimated by a local linear regression with a triangular kernel to provide more weight to the observations close to the border and, as discussed, the bandwidth is MSE optimal.

6 Empirical Findings - Baseline

We start with a graphical inspection of the data. In [Figure 3](#), we plot for each outcome the non-parametric conditional expectation of the outcome at each distance from the border and the corresponding linear prediction derived from a parametric model. In each case the analysis refers to the set of municipalities located within the optimal band across the border. The figure reveals discontinuities in female labour force participation and employment rates and in the share of pro-divorce votes. In all cases, outcomes are lower in the former Papal States than in the former Grand Duchy of Tuscany. Instead, we do not detect any discontinuity in both male labour outcomes and in the average years of education, for both genders.

These findings are fully confirmed by our robust RDD analysis. As shown in [Table 2](#), female labour force participation and female employment rate are, respectively, 3.5 and 3.2 percentage points lower in the former Papal States than in the former Grand Duchy of Tuscany and statistically significant at the 5 percent level. In both cases the *robust* p-values are between 0.06 and 0.07. On the contrary, we do not observe any statistically significant difference for males. In addition, in areas belonging to the former Papal States the share of pro-divorce votes is around 6 percentage points lower than in Tuscany. This difference is highly statistically significant, even when the robust inference described above is adopted. As for education, measured by the average years of education in 1971, we do not find any significant difference across the border for both genders.

Overall, our evidences support the hypothesis that a more traditional view of gender roles persisted in the former Papal States long after their demise. They also indicate that labour market outcomes for males are very close across the border, ruling out the concern that a differential level of economic development is responsible for the gap we observe among females. Along the same lines, the absence of any significant effect on education supports the claim that the level of economic development across the former border is similar. This is mainly the result of the establishment of primary compulsory education lasting three years in the Kingdom of Italy for both boys and girls since 1877 (through the Coppino law), gradually extended up to 8 years of compulsory schooling with the reform of 1963. Until 1971 (and at least for another decade) the vast majority of Italians used to abandon schooling upon completing compulsory education with the result of drastically reducing the variability in this outcome across the border.²³

Such findings can be interpreted through three related mechanisms. First, as the result of the persistence of the Papal States' religious values, rooted in a rigid interpretation of the holy scriptures, in favor of a traditional submissive role of females in all aspects of society. Second, as the result of the long-lasting effects of male-centered institutions prevailing in the former Papal States resulting from the exclusion of women from the Catholic Church hierarchy and the concentration of political offices in the hands of male ecclesiastics. And third, as the result of the Papal States' constraints on the development of a modern class of industrious merchants, analogous to the one thriving in the Grand Duchy of Tuscany, who were traditionally characterized by a more favourable attitude towards gender equality and higher female participation to the labour market.

Each of these channels can be brought back to the theocratic nature of the Papal States and the traditional concentration of power in the hands of the religious clergy. The resulting set of gender-related beliefs and cultural norms attaining to each of the two pre-unity states were then transmitted across generations, generating a typical mechanism of persistence of institutions across the centuries. Our findings strengthen the conclusions in Bertocchi and Bozzano (2015, 2016a,b) who show that areas with an historical long-standing tradition of trade and industry in the Middle Ages tend to be characterized by a more favourable attitude towards gender

²³According to the 1971 census, in Central Italy only 10.7 percent of residents in school age achieved a high school diploma or a bachelor.

equality, and, viceversa, areas with deeper religiosity tend to assign women a lesser role.

We provide some indirect evidence on the mechanisms behind our main findings and the differential development paths followed by the two pre-unity states by investigating whether today we can observe discontinuities in religiosity and the occupational structure across the border. As a proxy of religiosity, we consider the proportion of religious marriages in 1971.²⁴ As shown in Table 3, we find that municipalities belonging to the former Papal States are characterized by a significantly higher proportion of religious marriages (1.2 percentage points), confirming the hypothesis that religious customs are more extensively rooted in those areas, as a result of inter-generational transmission of the cultural norms and religious beliefs that were at the basis of the Papal States existence.

We also estimate our model using as outcome variables the share of employees in agriculture, industry, and trade, measured between 1951 and 1971. We find that in the former Papal States employment in agriculture is 8 percentage points higher and employment in trade is 2.3 percentage points lower. The point estimate for industry is also negative, although not statistically significant. Our findings confirm that, still today, the municipalities formerly belonging to the Papal States are less specialized in those sectors, i.e. trade and industry, that since the Middle Ages were traditionally associated with a stronger female emancipation. We conclude that the legacy of the Papal States in terms of gender equality can therefore be related to both its religious traditions and its lack of a merchant and industrial heritage.

7 Specification Tests, Robustness Checks and Extensions

We provide a set of robustness checks to test the validity of our findings. We first analyze the balancing of covariates across the border. By means of a strategy akin to that adopted in the baseline analysis, we test whether there is any discontinuity in the covariates across the border. Results are reported in Table 4, where we find no evidence of discontinuity in altitude, seismic classification, and presence of Roman Roads.²⁵

We also perform a balancing test on other predetermined area characteristics, dating back

²⁴Data are derived from the census.

²⁵Distance from Rome is continuous by construction.

to the Roman times, which might have affected the successive historical development of those areas. We examine whether there is any significant difference across the border as regards whether a municipality was a Roman city, the distance from the nearest Roman city, and the distance from the nearest ancient port or harbor. As displayed in [Table 5](#), we do not find any statistically significant effect on any of these variables.

To assess the robustness of our findings, we carry out two placebo tests. First, we estimate the model by employing placebo borders obtained by moving the original border inward and outward the territories of the Papal States by 30 km.²⁶ In columns (1) to (3) of [Table 6](#), we report the estimates when we move the border 30km outward the Papal States, resulting in a comparison between two areas both belonging to the Grand Duchy of Tuscany, located across the placebo border. Treated units are the municipalities located within 30km of the original border and control units those located further away. For all our outcomes of interest, we find no evidence of significant discontinuities at this placebo border. We repeat the same exercise and move the border 30km inward the territory of the former Papal States. Control units are the municipalities located within 30km of the original border and treated units those located further away. Again, estimates indicate that there is no evidence of discontinuity (see columns 4 to 6).²⁷

Second, we use as placebo the ancient border of the Roman province of Etruria, which was roughly located in the area of modern Tuscany and part of Lazio and that does not overlap with the border of the former Papal States (see [Figure A.2](#) in the appendix). As shown in [Table 7](#), we do not find any significant discontinuity, whatever the outcome considered.

We further assess the robustness of our findings by estimating a semi-parametric RD where we include the municipalities' latitude and longitude, akin to [Dell \(2010\)](#). We estimate our baseline model under alternative bandwidths, i.e. 30, 40 and 50 kilometers from the border. Results are qualitatively similar to those of the baseline analysis. As shown in Panel A and B of [Table 8](#), negative and significant gaps emerge for female labour force participation and employment. Similarly, the share of pro-divorce votes is significantly lower in the former Papal

²⁶Given the longitudinal placement of the border and the relatively narrow shape of the Italian peninsula, ampler displacements would dramatically reduce the number of observations on either side of the border, limiting the power of the placebo test.

²⁷We find a marginally significant effect when we consider the share of pro-divorce votes, with a robust p-value equal to around 0.065. This finding is possibly explained by the fact that, as a result of moving the border inward the Papal States, we end up comparing areas that are closer to the more urbanized Via Aemilia and the Adriatic coast with less developed countryside areas on the Apennines.

States regardless of the bandwidth considered.

Finally, we estimate a geographical RD as proposed in [Keele and Titiunik \(2015\)](#), whose purpose is that of analysing effects heterogeneity along the border. We choose four boundary points which represent the portion of the border between Tuscany and Lazio (Point 1), Tuscany and Umbria (Point 2), Tuscany and Marches (Point 3) and, finally, Tuscany and Emilia-Romagna (Point 4), as depicted in [Figure A.3](#). We compute the distance from each of these points for all municipalities. Next, we implement the same procedure adopted throughout the paper, the robust RDD, to check whether there is any discontinuity at each of these four points. [Table 9](#) combines our findings. Female labour force participation and employment rate estimates are always negative and statistically significant in points 2 and 4. They are negative, but not statistically significant in point 3. Not surprisingly, the effect is instead positive in point 1, i.e. for the former Papal States area that is closer to Rome that, as we discussed in the historical section, was always characterized by a higher employment and labour market participation, for both males and females, and both before and after unification. The share of pro-divorce votes is instead significantly lower in the former Papal States at all points.

8 Conclusions

We contribute to the rising literature on the historical determinants of gender inequality by documenting the long-lasting legacy of the Papal States on female condition in Italy. Being the secular dominion of the Pope, the head of the Catholic Church, the Papal States were a unique example of a theocracy in Europe and the most ancient state in the XIX century Italy. Such ecclesiastical imprinting largely influenced the political, economic and social institutions of the state introducing various forms of discrimination against women which were stronger than in others parts of Italy and Europe. The latter included limiting women’s personal liberties, their access to patrimony rights, and their role at a court which was mainly composed of male high prelates who were forbidden to marry. In contrast, the Grand Duchy of Tuscany emerged from a long-standing tradition of industry and trade since the XIII century and was subject to a more liberal governance over the centuries. As a consequence of its commercial status, traditionally more open to women, and of the presence of a less powerful Catholic Church compared to that of the neighboring Papal States, it was characterized by a certain degree of social and economic

emancipation of females.

We investigate whether such long-standing women’s subordinate place in the Papal States’ society compared to the Grand Duchy of Tuscany survived their demise and persists, to some extent, in modern days. By means of a spatial regression discontinuity analysis, we find that in the early Seventies of the Twentieth century, i.e. about one century after the fall of the two pre-unity states, women labour market participation and employment is significantly lower in the areas belonging to the former Papal States if compared to the areas of the former Grand Duchy of Tuscany. Conversely, we do not observe any discontinuity in male participation and employment, suggesting that the gap in female labor outcomes is a consequence of different institutional traditions as regards gender equality rather than the mechanical consequence of a differential level of economic development.

In addition, we find a significantly lower political support for the right to divorce, expressed by the “No” votes at a Referendum called by conservative parties and originally aimed at abrogating divorce in 1974. Our results are robust to a number of checks and tests including checking any discontinuity at placebo borders and for pre-determined placebo outcomes, and implementing the robust inference procedure suggested by [Cattaneo et al. \(2020\)](#).

We interpret our findings as the result of the Papal States’ strict religious traditions and male-centered institutions and its lack of a merchant and industrial heritage, traditionally characterized by a more favourable attitude towards gender equality. We provide some indirect evidence on these mechanisms documenting that municipalities belonging to the former Papal States are indeed characterized by a significantly higher proportion of religious marriages in the 1970s, confirming the hypothesis that religious customs are more extensively rooted in these areas. In addition, we show that the municipalities formerly belonging to the Papal States tend to be more specialized in agriculture and less in trade and industry.

Our contribution provides further evidence that past institutions have long-lasting effects on modern socio-economic outcomes and, more specifically, on gender equality and gender roles. Despite the evidence of a constant social progress toward gender equality in Italy, our findings indicate that deep cultural norms and values regulating the female condition, typically transmitted from generation to generation, tend to resist such historical developments and persist across centuries.

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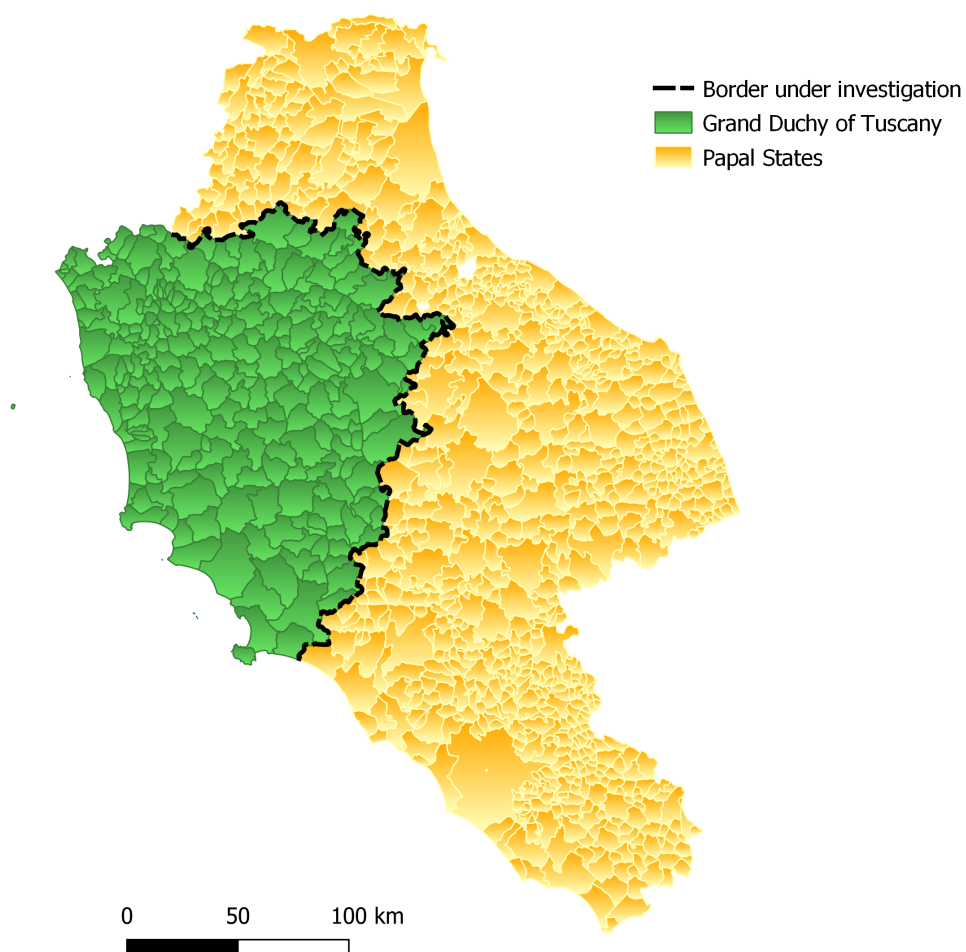
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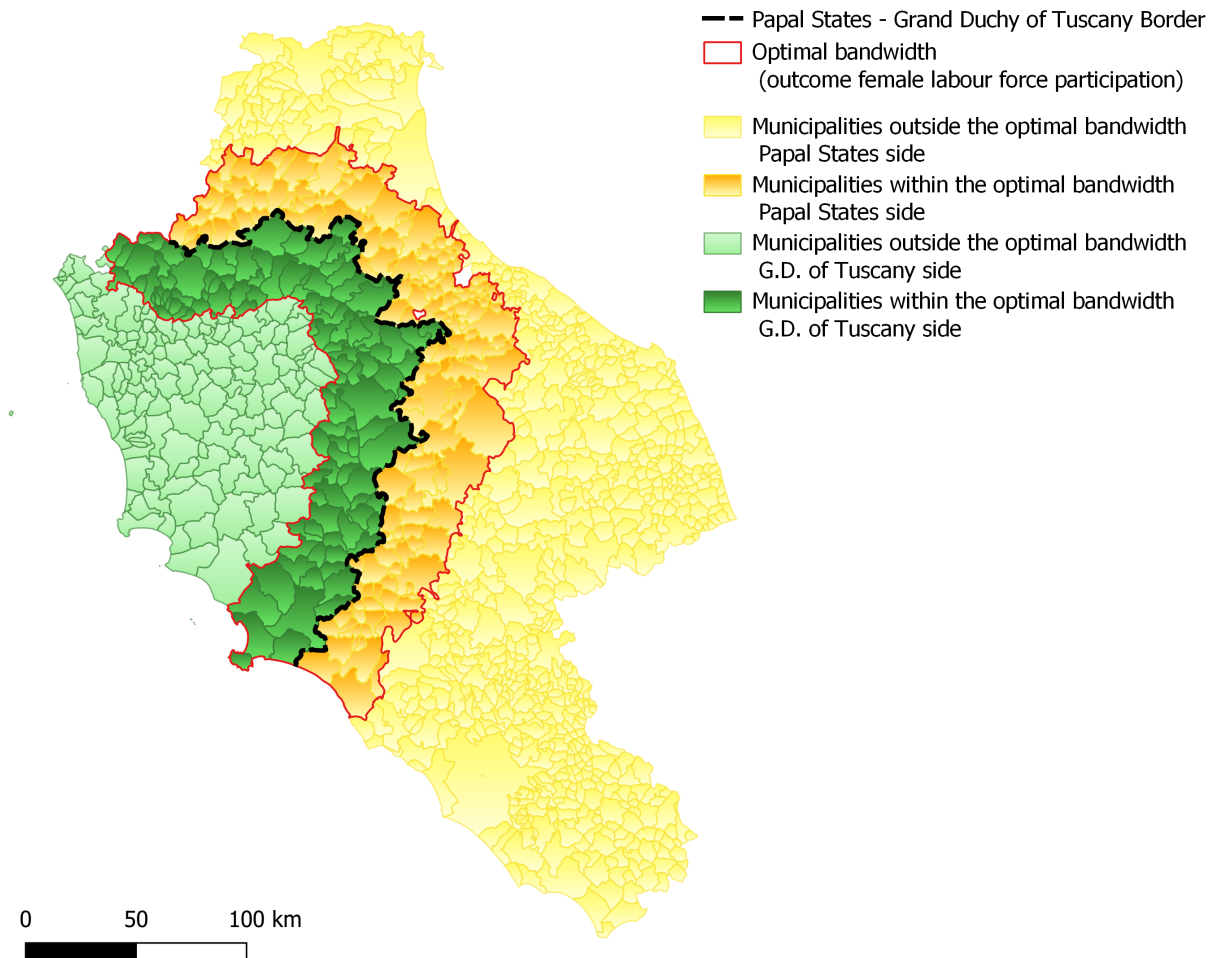
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Figure 1: The Papal States and the Grand Duchy of Tuscany



Note: The map shows the former territories of the Papal States and the Grand Duchy of Tuscany. The black line represents the former border between the two pre-unitary states. The smallest areas represent municipalities.

Figure 2: Border Discontinuity: optimal bandwidth for female labour force participation



Note: The black line represents the former border between the Papal States and the Grand Duchy of Tuscany. The red lines show the optimal bandwidth when the outcome of interest is female labour force participation.

Figure 3: Regression Discontinuity plots

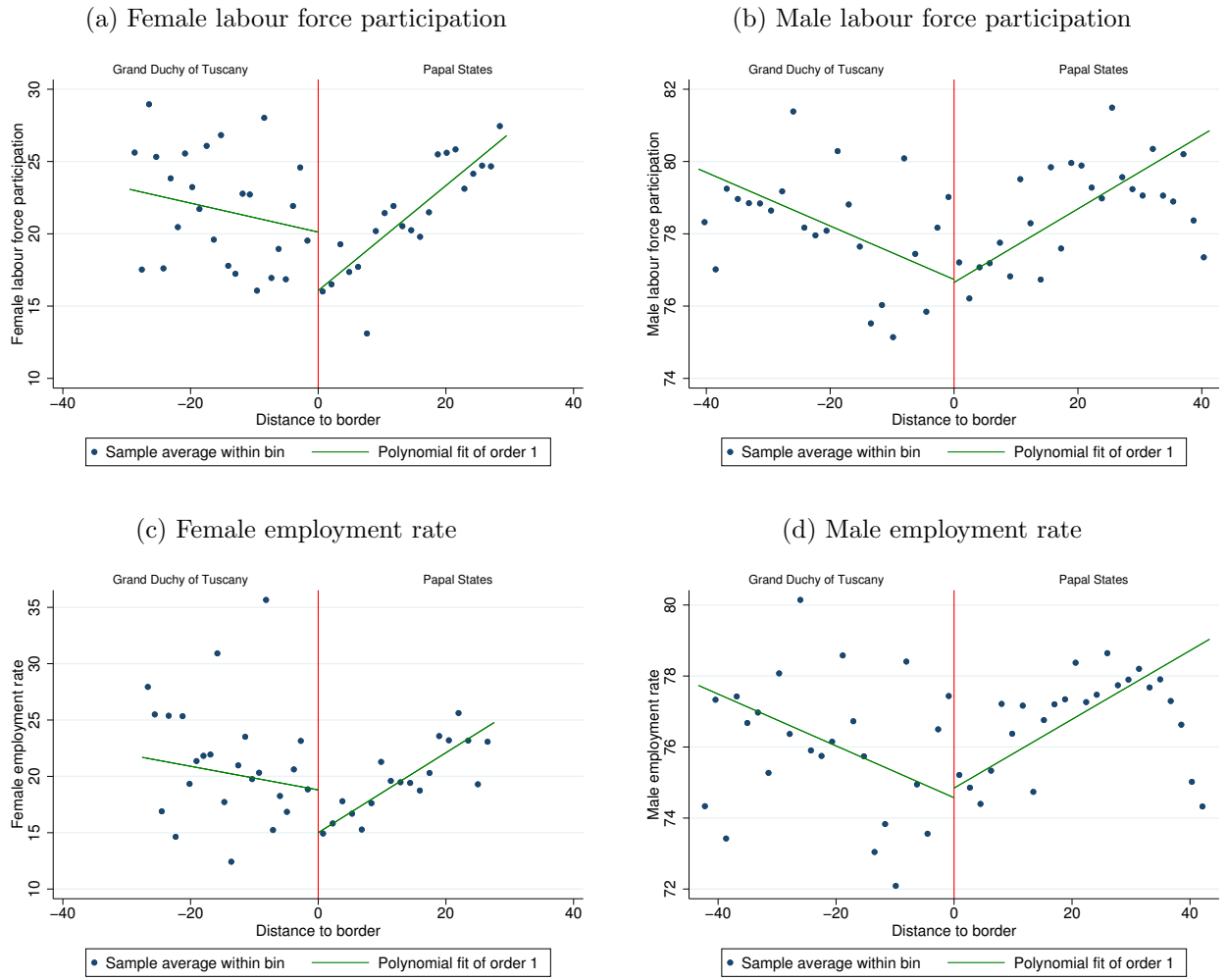
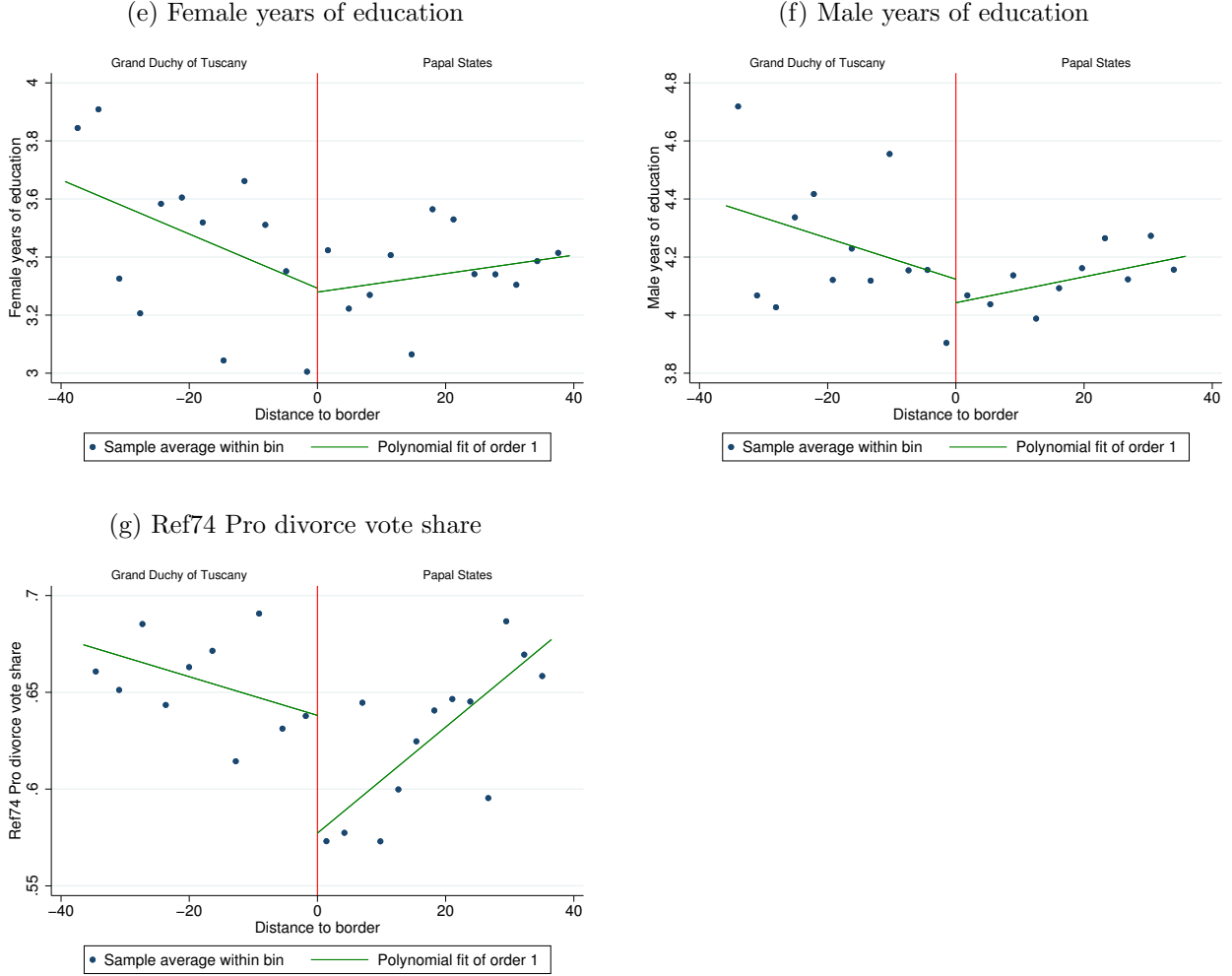


Figure 3: Regression Discontinuity plots (cont.)



Note: The figure shows the RD plots of the outcomes. Panel (a) and (b) displays the RD plots of female and male labour force participation, respectively, while Panel (c) and (d) show the RD plots of the female and male employment rate, respectively. Panel (e) and (f) show the average female and male years of education, respectively. RD plots for the share of votes in favor to retain the right to divorce in the national referendum of 1974 is shown in Panel (g). The green lines show the linear polynomial fit for the optimal bandwidths reported in [Table 2](#) and a triangular kernel. The dots show the observed average values within bin. Plots obtained using `rdplot` command from [Cattaneo et al. \(2020\)](#).

Tables

Table 1: Descriptive Statistics by State

	G. D. Tuscany		Papal States	
	mean	sd	mean	sd
Female labour market participation	22.23	8.373	24.79	13.52
Male labour market participation	78.02	6.802	77.48	7.252
Female employment rate	21.04	8.228	23.53	13.46
Male employment rate	75.86	6.739	75.08	7.891
Female years of education	3.487	0.686	3.188	0.665
Male years of education	4.330	0.608	4.139	0.567
Ref74 Pro divorce vote share	0.672	0.0959	0.559	0.131
Religious marriages	0.981	0.0325	0.985	0.0372
Occupation Agriculture	39.86	22.78	51.06	21.41
Occupation Industry	38.37	17.39	28.63	14.19
Occupation Trade and Retail	9.369	4.969	7.714	4.364
Altitude	268.5	216.8	338.7	226.6
Seismicity	0.637	0.482	0.753	0.432
Distance Rome	213.4	45.62	142.1	88.85
Roman roads	0.215	0.412	0.232	0.422
Roman city	0.0677	0.252	0.147	0.355
Distance Roman city	17.91	7.907	9.595	7.025
Distance ancient ports	48.97	26.59	37.52	23.42

Note: The table displays the summary statistics for the whole sample, by State. Data on the pro-divorce vote share are from the Ministry of Interior. The variable Roman roads is constructed from data by [McCormick et al. \(2013\)](#). Data source for Roman cities: [Hanson \(2016b,a\)](#). Data source for ancient ports and harbors: [de Graauw \(2014\)](#); [de Graauw, A. et al \(2014\)](#). All the other data are from the National Institute of Statistics.

Table 2: Baseline RD Estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Female	Male	Female	Male	Female	Male	Ref74
	labour force	labour force	employment	employment	years	years	Pro divorce
	participation	participation	rate	rate	education	education	vote share
RD Estimate	-3.461** (1.523)	-0.0823 (0.780)	-3.199** (1.534)	0.206 (0.880)	-0.0876 (0.125)	-0.142 (0.118)	-0.0599*** (0.0222)
Robust CI	[-8.436 ; .294]	[-2.256 ; 1.84]	[-7.812 ; .179]	[-2.205 ; 2.337]	[-.45 ; .2]	[-.447 ; .114]	[-.123 ; -.019]
Robust p-value	0.0675	0.842	0.0612	0.955	0.451	0.244	0.00770
Bandwidth	29.49	41.23	27.53	43.29	39.34	35.83	36.49
Observations	836	1171	774	1216	375	339	355
Mean Outcome	21.45	78.33	19.91	76.29	3.405	4.183	0.638
Border FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes			
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: All estimations include the linear distance to the border and border fixed effects. All regressions are estimated with a triangular kernel and optimal bandwidth. Other controls include: altitude, seismic classification, distance from Rome, Roman roads. In columns (1)-(4), estimations include year fixed effects. Conventional standard errors are reported in parenthesis. In columns (1)-(4), standard errors are clustered at the municipality level. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust CI and Robust p-value refer to confidence intervals and p-value under robust inference as described in [Cattaneo et al. \(2020\)](#).

Table 3: Religious marriages and occupational structure

	(1)	(2)	(3)	(4)
	Religious marriages	Occupation Agriculture	Occupation Industry	Occupation Trade & Retail
RD Estimate	0.0122** (0.00558)	7.958*** (2.800)	-3.768 (2.612)	-2.312*** (0.812)
Robust CI	[.003 ; .029]	[.109 ; 14.017]	[-8.714 ; 3.186]	[-4.538 ; -.868]
Robust p-value	0.0136	0.0465	0.363	0.00390
Bandwidth	43.17	51.26	38.24	40.11
Observations	406	1434	1081	1144
Mean Outcome	0.983	45.73	33.08	8.756
Border FE	Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes
Other Controls	Yes	Yes	Yes	Yes

Note: All estimations include the linear distance to the border and border fixed effects. All regressions are estimated with a triangular kernel and optimal bandwidth. Other controls include: altitude, seismic classification, distance from Rome, Roman roads. In columns (1)-(3), estimations include year fixed effects. Conventional standard errors are reported in parenthesis. In columns (1)-(3), standard errors are clustered at the municipality level. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust CI and Robust p-value refer to confidence intervals and p-value under robust inference as described in [Cattaneo et al. \(2020\)](#).

Table 4: Balancing of covariates

	(1) Altitude	(2) Seismicity	(3) Roman roads
RD Estimate	-6.097 (53.812)	-0.143 (0.119)	-0.183 (0.119)
Robust CI	[-117.492 ; 135.769]	[-.442 ; .117]	[-.499 ; .084]
Robust p-value	0.888	0.255	0.163
Bandwidth	18.54	21.47	18.11
Observations	168	196	165
Mean Outcome	411.0	0.704	0.145
Border FE	Yes	Yes	Yes

Note: All estimations include the linear distance to the border and border fixed effects. All regressions are estimated with a triangular kernel and optimal bandwidth. Conventional standard errors in parenthesis. Robust CI and Robust p-value refer to confidence intervals and p-value under robust inference as described in [Cattaneo et al. \(2020\)](#).

Table 5: Placebo effects of Papal States historical affiliation

	(1) Roman city	(2) Distance Roman city	(3) Distance ancient ports
RD Estimate	-0.0784 (0.0880)	-0.854 (1.450)	3.936 (3.735)
Robust CI	[-.302 ; .12]	[-3.79 ; 2.949]	[-3.194 ; 14.878]
Robust p-value	0.400	0.807	0.205
Bandwidth	34.37	35.94	22.03
Observations	322	342	207
Mean Outcome	0.102	13.49	53.93
Border FE	Yes	Yes	Yes
Other Controls	Yes	Yes	Yes

Note: All estimations include the linear distance to the border and border fixed effects. All regressions are estimated with a triangular kernel and optimal bandwidth. Other controls include: altitude, seismic classification, distance from Rome, Roman roads. Conventional standard errors in parenthesis. Robust CI and Robust p-value refer to confidence intervals and p-value under robust inference as described in [Cattaneo et al. \(2020\)](#). Data source for Roman cities: [Hanson \(2016b,a\)](#). Data source for ancient ports and harbors: [de Graauw \(2014\)](#); [de Graauw, A. et al \(2014\)](#).

Table 6: Pseudo Borders: Moving historical border outward and inward Papal states

	Outward			Inward		
	Papal States			Papal States		
	(1)	(2)	(3)	(4)	(5)	(6)
Female		Female	Ref74	Female	Female	Ref74
labour force participation		employment rate	Pro divorce vote share	labour force participation	employment rate	Pro divorce vote share
RD Estimate	-1.652 (2.379)	-2.425 (2.221)	-0.000419 (0.0278)	-0.980 (1.806)	-0.742 (1.840)	0.0381 (0.0232)
Robust CI	[-6.121 ; 4.27]	[-6.955 ; 3.158]	[-.079 ; .06]	[-4.71 ; 4.757]	[-4.642 ; 5.06]	[-.003 ; .108]
Robust p-value	0.727	0.462	0.795	0.992	0.933	0.0647
Bandwidth	10.48	12.75	22.77	15.79	15.44	23.19
Observations	257	293	158	521	509	254
Mean Outcome	18.99	17.99	0.627	19.44	18.06	0.626
Border FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes		Yes	Yes	
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes

Note: All estimations include the linear distance to the border and border fixed effects. All regressions are estimated with a triangular kernel and optimal bandwidth. Other controls include: altitude, seismic classification, distance from Rome, Roman roads. In columns (1),(2), (4) and (5) estimations include year fixed effects. Conventional standard errors in parenthesis. In columns (1),(2), (4) and (5), standard errors are clustered at the municipality level. Robust CI and Robust p-value refer to confidence intervals and p-value under robust inference as described in [Cattaneo et al. \(2020\)](#).

Table 7: Falsification test: RD estimates at Etruria border

	Etruria Border		
	(1) Female labour force participation	(2) Female employment rate	(3) Ref74 Pro divorce vote share
RD Estimate	0.0670 (1.305)	0.0531 (1.271)	-0.0179 (0.0189)
Robust CI	[-2.209 ; 3.815]	[-2.057 ; 3.471]	[-.057 ; .034]
Robust p-value	0.601	0.616	0.624
Bandwidth	32.34	33.40	26.97
Observations	1126	1150	311
Mean Outcome	19.89	18.61	0.603
Border FE	Yes	Yes	Yes
Year FE	Yes	Yes	
Other Controls	Yes	Yes	Yes

Note: All estimations include the linear distance to the border and border fixed effects. All regressions are estimated with a triangular kernel and optimal bandwidth. Other controls include: altitude, seismic classification, distance from Rome, Roman roads. In columns (1) and (2) estimations include year fixed effects. Conventional standard errors in parenthesis. In columns (1) and (2), standard errors are clustered at the municipality level. Robust CI and Robust p-value refer to confidence intervals and p-value under robust inference as described in [Cattaneo et al. \(2020\)](#).

Table 8: Alternative specification: Two dimensional RD

	Distance to border is:		
	$\leq 30\text{km}$	$\leq 40\text{km}$	$\leq 50\text{km}$
Panel A: Dependent variable is: Female labour force participation			
Papal States	-2.676** (1.158)	-2.158** (1.060)	-1.858* (1.009)
Observations	842	1135	1392
No. Cluster	283	381	467
R^2	0.318	0.326	0.336
Panel B: Dependent variable is: Female employment rate			
Papal States	-2.565** (1.127)	-2.107** (1.034)	-1.823* (0.985)
Observations	842	1135	1392
No. Cluster	283	381	467
R^2	0.310	0.321	0.331
Panel C: Dependent variable is: Ref74 Pro divorce vote share			
Papal States	-0.0416** (0.018)	-0.0439*** (0.017)	-0.0423*** (0.016)
Observations	283	381	467
R^2	0.319	0.302	0.303

Note: All regressions estimated with a triangular kernel and include linear polynomials in latitude and longitude and border fixed effects. Other controls include: altitude, seismic classification, distance from Rome, Roman roads. In panel (A) and (B) regressions include also year fixed effects. Standard errors in parentheses. In panel (A) and (B) standard errors are clustered at the municipality level. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 9: Alternative specification

	Boundary Points			
	P.1	P.2	P.3	P.4
Panel A: Dependent variable is: Female labour force participation				
RD Estimate	6.461** (3.114)	-13.10*** (3.549)	-0.415 (3.185)	-7.999** (3.550)
Robust CI	[-1.617 ; 15.995]	[-23.781 ; -6.547]	[-8.523 ; 5.966]	[-17.313 ; 1.432]
Observations	251	286	330	161
Panel B: Dependent variable is: Female employment rate				
RD Estimate	6.491** (2.996)	-12.93*** (3.566)	-0.541 (3.044)	-7.130** (3.326)
Robust CI	[-1.391 ; 15.683]	[-23.677 ; -6.285]	[-8.248 ; 5.72]	[-15.384 ; 2.731]
Observations	234	283	339	197
Panel C: Dependent variable is: Ref74 Pro divorce vote share				
RD Estimate	-0.133*** (0.0337)	-0.0794** (0.0343)	-0.121** (0.0599)	-0.0745** (0.0294)
Robust CI	[-.221 ; -.084]	[-.185 ; -.012]	[-.262 ; .08]	[-.177 ; -.017]
Observations	93	31	95	130

Note: The points P.1, P.2, P.3 and P.4 refer to the four boundary midpoints shown in [Figure A.3](#). All estimations include the linear distance to the boundary point. All regressions are estimated with a triangular kernel and optimal bandwidth. Other controls include: altitude, seismic classification, distance from Rome, Roman roads. In panel (A) and (B) regressions include also year fixed effects. Conventional standard errors in parenthesis. In panel (A) and (B) standard errors are clustered at the municipality level. Robust CI refers to confidence intervals under robust inference as described in [Cattaneo et al. \(2020\)](#). Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix

A A Brief History of the Papal States and Tuscany

A.1 Papal States

“Status Pontificius”, the ancient Latin denomination for the Papal States, was the most ancient state in XIX century Italy, since it lasted from around 757 to 1870 in various forms. Since the Roman Emperor Constantine I’s Edict of Milan the Church started accumulating properties in the peninsula, as a private landowner. After the collapse of the Roman Empire, the Pope gradually became a political authority until Charlemagne formally assigned the Pope the Duchies of Rome, Ravenna and other territories.

The Papal States went through various historical phases, with continuous clashes with the Empire over who ruled whom. However, after the end of Hohenstaufen’s dynasty, Papal States acquired more de-facto independence and after the conflict between Guelphs and Ghibellins, the Treaty of Venice in 1177 sanctioned its official independence from the Holy Roman Empire.

A process of uniformation of civil law across the States took place through the promulgation of the *Constitutiones Sanctae Matris Ecclesiae* in 1357, maintained until 1816. After an expansion of territories during the Renaissance, the State of the Church became the larger state in Italy.

In the 18th Century, Papal States were the most economically and politically backward territories in Italy, administered according to an almost feudal system. Where land was marshy, malaria was a social plague, while brigandage and beggary were other pressing social issues. After the Napoleonic turmoil and the Restoration between 1796 and 1814, the Pope regained control of the Papal States, embarking in a series of reactionary policies.

Garibaldi’s “Mille” (the Thousand) victorious expedition against the Bourbons in the South of Italy ignited a series of rebellions in the Papal States, and finally the unified Kingdom of Italy was established in 1861 under the Savoia dynasty ruling. The whole region of Lazio, including Rome, remained under Papal control, until it was later annexed in 1870. As a result, the Pope retired to the Vatican hill until the State of the Vatican City was established through the Lateran Treaty with Italy in 1929.

A.2 Tuscany

The republic of Florence was established in the XII century and slowly became the leading power in Tuscany. Since the XV century Florence was ruled by the Medici, a family of merchants and patrons of artists and scientists, from the 16th Century until 1737. Its merchant traditions, the enterprise of its economic actors, the vastness of its international relations and the cultural flurry made Tuscany the cradle of European Renaissance. The stability of Tuscany's institutions, from the Medici ruling until the end of the Duchy, was based on a compromise between aristocratic families and new emerging social classes inserted in public professions ([Carpanetto and Ricuperati, 1994](#)).

As regards religion, although Catholicism was the state religion, the Medici rulers supported tolerance toward other religions and in cities like Florence and Livorno non-Catholic communities, such as Jewish, Protestant, Muslim, were traditionally present.

In 1737, the Medici were succeeded by the House of Habsburg-Lorraine whose ruling proved to be similarly enlightened. Leopold, son of Maria Theresa, implemented important economic, financial and judicial reforms. Furthermore, he proposed a set of radical reforms in his ecclesiastical policy, inspired by jurisdictional principles of separation between secular and religious powers.²⁸ In 1786 the Grand Duchy of Tuscany was the first state in the world to abolish torture and the death penalty.

The distinction between spiritual and secular power was a major driver of Leopold's policies. Here's what Scipione de' Ricci, Jansenist bishop and Leopold counsellor, writes to the Grand Duchy in 1786:

It will be established as a principle that in all schools of the Grand Duchy catholic doctrine will be taught on the ground of distinction of the two powers, as Jesus Christ did not give to the Church pure spiritual power, and temporal power being given by God to sovereigns independently from it.

Similarly to the Papal States, the Napoleonic era represented a temporary political break, until Restoration brought the Habsburg-Lorraine dynasty back in power. Nevertheless, during Restoration Tuscany was not characterized by persecutions and purges, and the House of

²⁸These reforms included the cancellation of those religious orders of no public interest, the limitation of ecclesiastical properties, the state control of the formation of the clergy, and the suppression of the Inquisition. Leopold also tried to impose Tuscan as the official language of public religious acts and to condemn the cult of relics, but had to abandon its intent because of the opposition of the population.

Habsburg-Lorraine maintained its reforming attitude. Ferdinand III abrogated the Napoleonic code, but was careful in perfecting previous codes by Leopold, and he further reformed commerce and the fiscal system, granting pre-unity Tuscany a certain institutional continuity.

B The 1974 Referendum on Divorce

The fast economic progress and the spread of civil rights movements after the Second World War paved the way to a steady transformation of family arrangements and the role of women in Italy (Inglehart and Norris, 2003). However, this process was not uniform across the country: the central regions led the way while Northern and Southern regions followed. One of the single major transformation in Italian family law was the right to divorce granted to both spouses, which decreed the *de facto* end of patriarchal families and pushed ahead gender parity. The law was introduced in 1970 and was promoted by the two secular Socialist and Liberal parties (Law 898/70). The new legislation was against one of the fundamental tenets of the Catholic religion, i.e. the indissolubility of the sacred bond of marriage, and as a result, it met immediate strong opposition from the Catholic hierarchy and many believers.

Soon after, in 1971, as allowed by the Italian Constitution, 1,370,134 citizens deposited their signatures in favor of a referendum to repeal the law. Two parties, the centrist DC, “Democrazia Cristiana” (Christian Democracy), and the post-fascist right-wing MSI, “Movimento Sociale Italiano” (Italian Social Movement), were in favour of a “Yes” vote, i.e. of abrogating the law. The Catholic Church and the media close to the Vatican were strongly in favour of a “Yes” vote as well. However, Italian Catholics were divided. Various Catholic movements were in favour of freedom of choice (Christian base communities, Democratic Catholics) and against the imposition of the Church doctrine to the Italian society as a whole. Various priests in favour of “No” were punished by the Church, in some cases with “suspension a divinis”, i.e. they were entirely or partially deprived of the benefits of their office. For example, in Venice, the federation of Catholic university students, whose position was in contrast with the Catholic church, was disbanded by the Catholic Patriarca. Even the National Council of “Azione Cattolica” (Catholic Action) a major Catholic association, issued a document in favour of divorce that was immediately censored by the Episcopal Conference.

The referendum was held on May 12 1974. It was the first referendum ever held in the

Italian Republic after its constitution in 1946. The campaign was harsh and represented one of the moments of highest political conflict in the country. Eventually, 40.7% of voters voted “Yes” and 59.3% voted “No”, sanctioning the continuation of the right to divorce and contributing to the process of secularization of customs and social norms in the country.

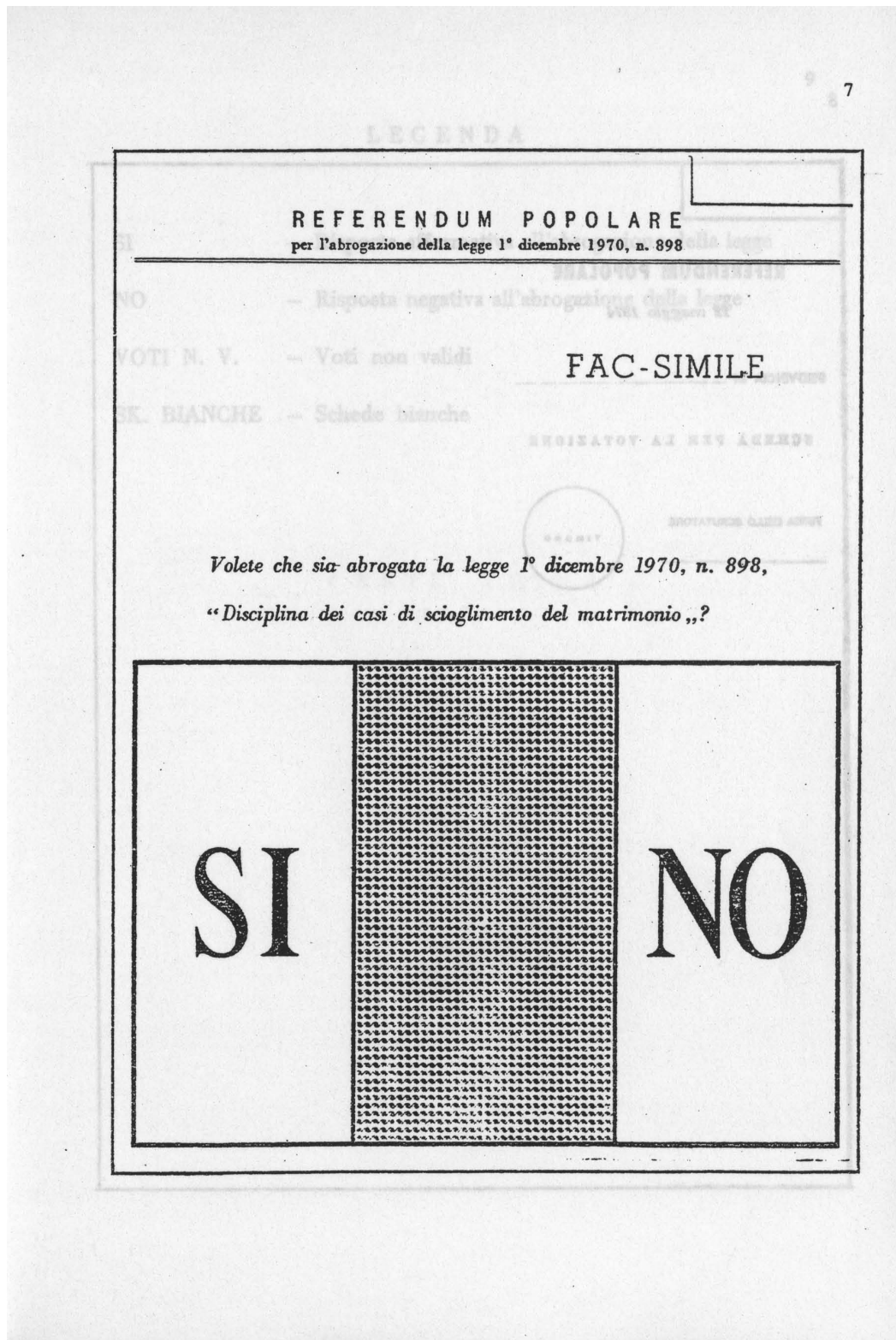
Most women voted “No” with the intention of warranting a victory for female emancipation in a society that was still characterized by a deeply rooted gender inequality. For example, an archaic norm such as the so-called “delitto d’onore” (honor killing), was repealed in 1981 only. The latter allowed relatively minor punishments for a man killing his wife or her lover caught in flagrant adultery, or in case she “dishonored” the family and the man himself, legitimate consort and guardian of honor (Mussini, 2018).²⁹ Even today, evidence from the Italian Statistical Institute shows that the vast majority of conjugal separations are filed by women (Istat, 2018).³⁰

The vote was not homogeneous across Italian regions, as the Centre supported the divorce much more than the North and the South. Moreover, even within areas and regions, the vote was very heterogeneous across provinces and municipalities.

²⁹The Italian legislation considered the crimes of sexual assault and violence as crimes against the public morality and not against a single individual up to 1996 (Law 66 promulgated on November 15th, 1996). Punishments for those crime were indeed very mild, as those for related crimes such as “ratto a fine di matrimonio” (abduction for marriage) and “ratto a fine di libidine” (abduction for libido).

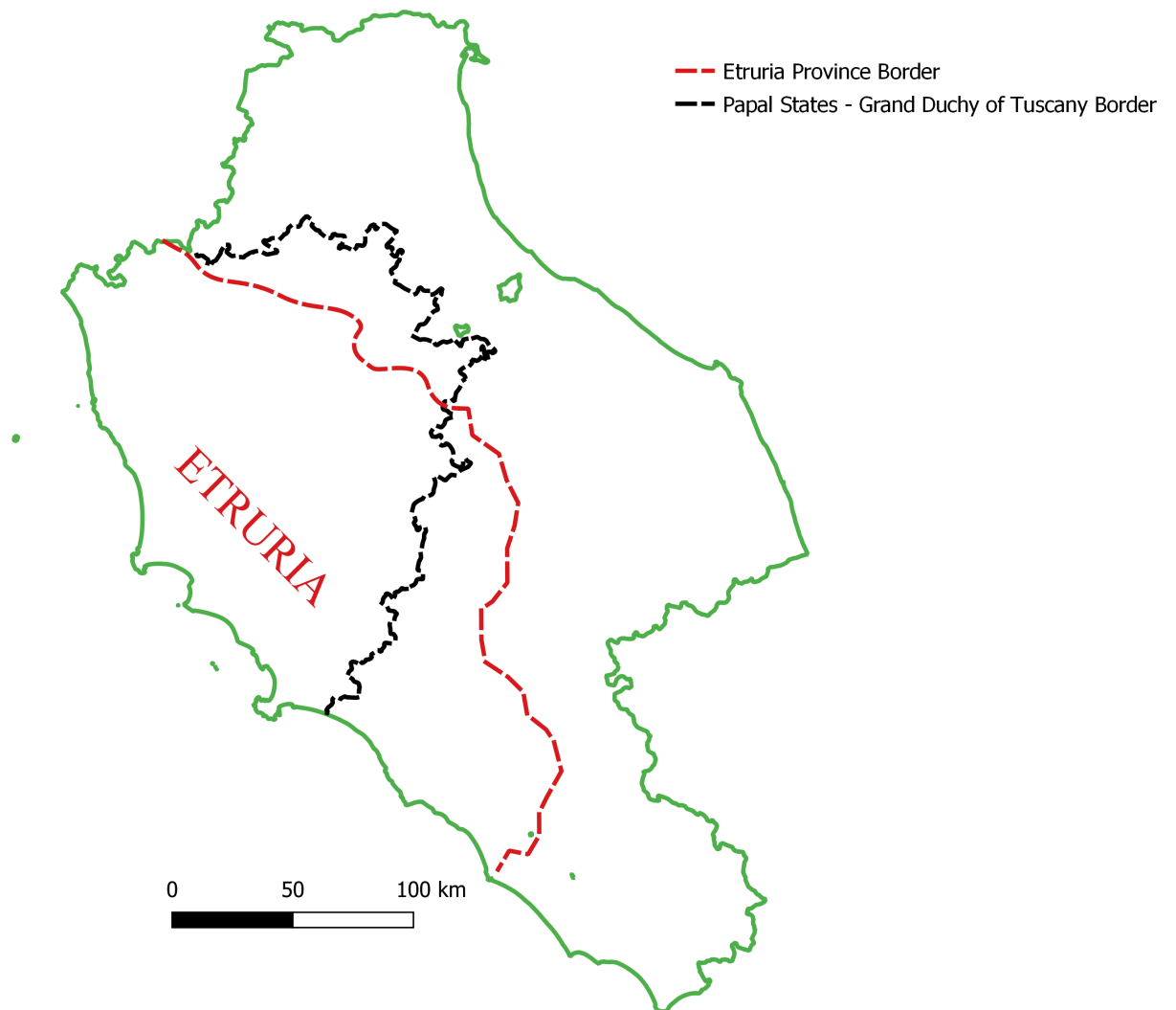
³⁰Similar patterns on divorces are found in other countries such as the US (Brinig and Allen, 2000) and the UK (Office for National Statistics, 2012).

Figure A.1: Ballot of the referendum on divorce



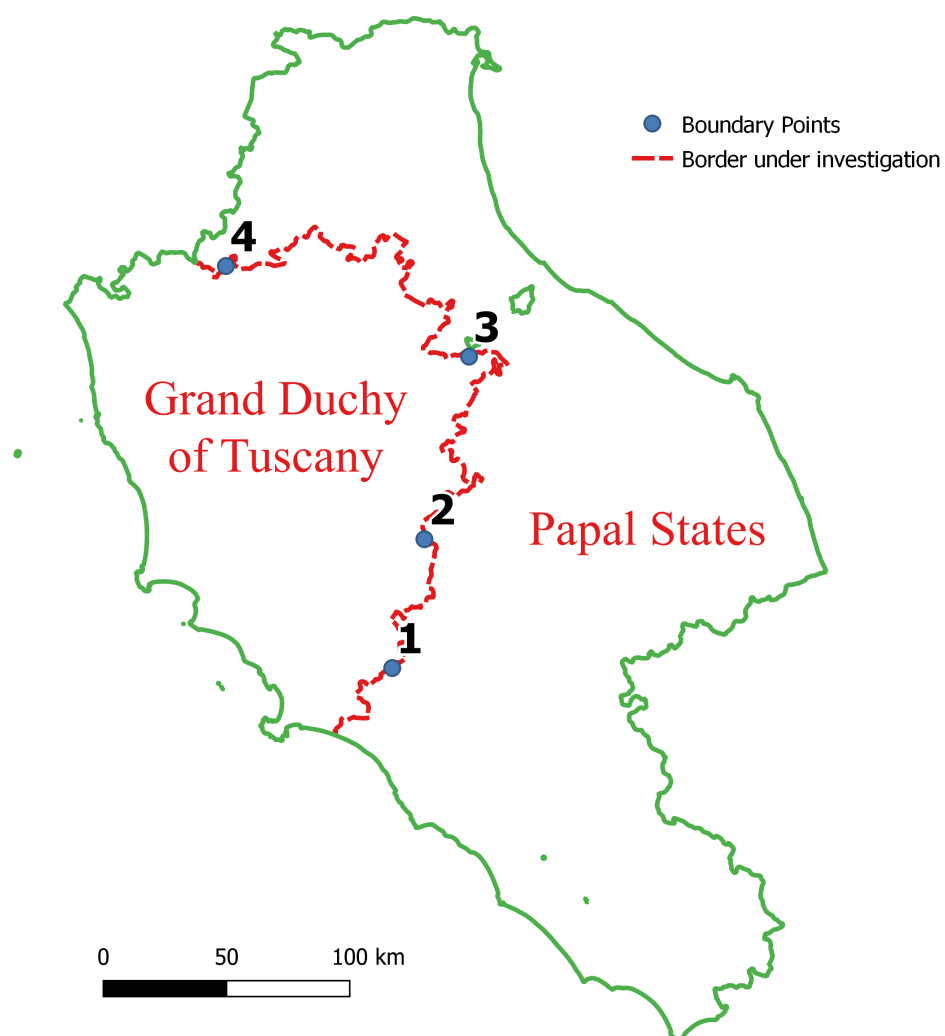
Note: the ballot of the referendum on divorce held in 1974. Italian citizens were asked to express their vote on whether they wanted to repeal Law 898/1970 which introduced the right to divorce in the Italian legal system in 1970. Those voting "No" opposed the repeal of the law (i.e., were in favor of the right to divorce).

Figure A.2: Etruria Border



Note: The map shows the boundary of the Roman province of Etruria. Source: Authors elaboration based on data on Roman provinces boundaries from Ancient World Mapping Center.

Figure A.3: Boundary Points



Note: The map shows the former border between Papal States and Grand Duchy of Tuscany. The blue dots depict the four boundary midpoints used to estimate the geographical RD as described in [Keele and Titiunik \(2015\)](#).