

Dondena Working Papers

Carlo F. Dondena Centre for Research on
Social Dynamics and Public Policy

Welfare State and Taxation Unit

The Impact of Gynecologists' Conscientious Objection on Access to Abortion in Italy

Tommaso Autorino

Francesco Mattioli

Letizia Mencarini

Working Paper No. 119

June 2018

Università Bocconi • The Dondena Centre

Via Guglielmo Röntgen 1, 20136 Milan, Italy

<http://www.dondena.unibocconi.it>

*The opinions expressed in this working paper are those of the author
and not those of the Dondena Centre, which does not take an
institutional policy position. © Copyright is retained by the author.*

ISSN-2035-2034

The Impact of Gynecologists’ Conscientious Objection on Access to Abortion in Italy

Tommaso Autorino ^{*,†} Francesco Mattioli ^{*,‡} Letizia Mencarini ^{*,§}

July 2018

Abstract

Abortion in Italy is free of charge and legal in a broad set of circumstances, but 71% of gynecologists refuse to perform abortions for reasons of conscientious objection. We assess whether the diverse prevalence of conscientious objection across Italian regions is linked to the inter-regional mobility of women seeking an abortion and to differences in terms of waiting time preceding the operation. Focusing on the period between 2002 and 2016, we perform a panel data analysis at the regional level, showing that a higher prevalence of objecting professionals is associated to a higher share of women having an abortion outside the region and to longer waiting times. Furthermore, using microdata on over one million abortions recorded in Italy in the same period, we find that conscientious objection is a significant driver of the individual decision of having an abortion out of the region of residence. All the models account for economic and demographic characteristics of regions, and for other possible determinants of inter-regional mobility. Overall, results suggest that conscientious objection can limit access to abortion at the local level.

*Carlo F. Dondeña Centre for Research on Social Dynamics and Public Policy, Bocconi University - Milan, Italy

[†]tommasoautorino@gmail.com

[‡]francesco.mattioli@unibocconi.it

[§]letizia.mencarini@unibocconi.it

1 Introduction

Since 1978, Italian law has permitted abortion in a broad set of circumstances, while granting healthcare personnel the right to abstain from performing abortions for reasons of conscientious objection. Most European countries allow conscientious objection, but the Italian case is noteworthy for its incredibly high prevalence, prompting a lively debate about its impact on the adequate provision of services for the voluntary termination of pregnancy. In fact, in 2016 more than 70% of gynecologists nationwide, and more than 85% in some regions, were objectors, and only 60% of hospitals with an obstetrics and gynecology ward offered abortions. Opponents argue that this practice is so pervasive that the lack of non-objecting personnel limits women's access to abortion, resulting in a limitation of reproductive healthcare. Conversely, the Italian Ministry of Health states that the number of providers is sufficient to grant easy access to the service and any difficulty in this respect is imputable to organizational shortcomings at the local level.

The issue of conscientious objection arises when healthcare providers and clinicians refuse to provide certain services due to their religious, moral or philosophical beliefs (Heino et al., 2013). Conscience-based refusal is claimed as a right to freedom, religion, conscience and thought, i.e. a basic human right, and it is commonly invoked with regards to abortion. United Nations human rights treaty-monitoring bodies have, however, raised concerns about the insufficient regulation of conscientious objection to abortion, recommending that the practice should be well-defined and regulated in order to avoid limiting women's access to reproductive healthcare (Zampas, 2013). Chavkin et al. (2013), in a white paper examining prevalence, consequences, and policy responses to conscientious objection and refusal in providing reproductive healthcare, sustain that it may have consequences for women's health outcomes and create inequalities between women of different areas with different availability of health personnel. Italy is characterized by considerable regional heterogeneity in terms of the percentage of objecting practitioners, and the high share

of women having an abortion outside of their region of residence suggests that abortions might be harder to obtain in certain parts of the country. However, the association between this abortion-related mobility and conscientious objection has never been analyzed, and there is no empirical evidence that confirms or rebuts a clear relation between conscientious objection and access to abortion. In fact, the literature tends to focus on the legal and ethical aspects of conscientious objection, but provides little quantitative analysis of its impact.

Italy offers an ideal setting for such an analysis, being one of the countries where the phenomenon is most widespread and best documented, since the Ministry of Health publishes every year aggregate figures on conscientious objection and abortion at the regional level. Data on abortion is available even at the individual level, as Istat (the Italian National Statistical Office) collects information, including characteristics of the woman and of the intervention, on every abortion performed in the country. Our study exploits both these sources of data in order to assess whether conscientious objection hampers access to abortion. Focusing on the period between 2002 and 2016, we conduct an OLS panel data analysis with regional level data on travel and waiting time that women experience in order to have an abortion, exploring the relation of these variables with the prevalence of conscientious objection, while controlling for economic, demographic and cultural characteristics of regions. We delve further into the analysis of abortion-related mobility analyzing individual data for over one million abortions recorded by Istat in the same period. Using a probit model, we estimate the relation between the probability that a woman has an abortion outside of the region where she resides and the percentage of objectors in that region, controlling for individual characteristics of women and for the regional context. To the best of our knowledge, we are the first to employ individual data on abortion to conduct a quantitative analysis of the impact of conscientious objection.

2 Abortion in Italy¹

2.1 Legal status and regulation

Abortion in Italy is regulated by Law 194 of 1978 “on the social protection of motherhood and the voluntary termination of pregnancy”². In the first 90 days of pregnancy, abortion is permitted in a broad set of circumstances, namely whenever pregnancy, birth or motherhood could undermine the mother’s physical or mental health – given her health, economic, social or familial conditions, the circumstances of conception, or the presence of fetal malformations. After the first trimester, abortion is allowed when childbearing may severely endanger the woman’s health. According to the Law, abortion is not intended as means of fertility control. A woman seeking an abortion must first consult with her regular doctor, or with a practitioner of a family counselling or another healthcare facility, who performs the relevant medical examinations and considers the reasons of the request. After informing the woman of possible alternative ways to overcome the difficulties that might have led to her decision, the doctor issues a document that certifies the pregnancy and requests its termination. Seven days after the certificate is issued, or immediately after in case of a certificate for urgency, the woman can demand an abortion in any authorized healthcare facility that provides the service. The same legislation applies in all regions of Italy, and women can have an abortion in any region, regardless of where they live or where the certificate was issued. Article 9 of the Law grants the healthcare personnel the right to refuse partaking in procedures specifically directed at the termination of pregnancy for reasons of conscientious objection. Objectors are not required to refer women to non-objectors, but they cannot refuse to perform an abortion when this is necessary to save a woman’s life, nor refuse assistance prior to or after an abortion. The Law does not specify the distinction between procedures specifically directed at the ter-

¹Data presented in this section are found in the 2017 Annual Report of the Italian Minister of Health on the implementation of Law 194 (Ministero della Salute, 2017b).

²Law No. 194, published in the Gazzetta Ufficiale N. 140, 22 May 1978.

mination of pregnancy and assistance prior to an abortion. Article 9 mandates Regions to grant adequate access to abortion at the local level, including by means of staff mobility.

The definition of abortion includes both surgical and medical abortions. Medical abortions – induced with either prostaglandins or mifepristone, or both – account for approximately 18% of the total. Both surgical and medical abortions must be provided in an authorized healthcare facility by a doctor specialized in gynecology and obstetrics. Only 6% of abortions nationwide take place in private hospitals, and in most regions the service is provided only by public facilities. However, there are a few regions (Apulia, Campania, Sardinia, and the Autonomous Province of Trento) where the share of interventions performed privately exceeds 15%. Emergency contraceptive pills – effective up to five days after intercourse – are available to the public in pharmacies, and since 2015 can be purchased by women over 18 without a medical prescription. In 2016, over 400,000 packages of emergency contraceptive pills were sold³. Emergency contraception is regarded as one of the factors contributing to the decline of abortion in Italy in recent years, but is not considered a form of abortion and is not included in abortion data collected by the Ministry of Health and used in our analysis.

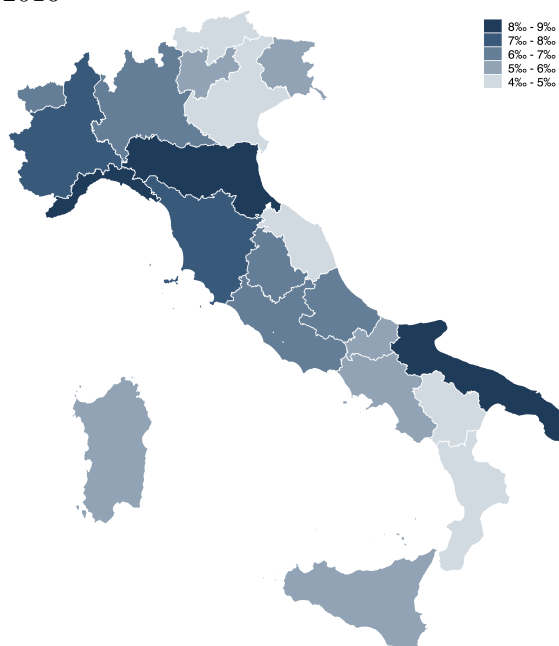
2.2 Abortion rates and interregional mobility

Following the liberalization of abortion in 1978, the use of abortion services in Italy progressively declined (Loghi et al., 2013). The abortion rate peaked to 17.2 cases per thousand women in childbearing age (15–49) in 1982, then dropped until reaching 6.5 in 2016. The abortion ratio sharply declined over time as well, from 380.2 voluntary abortions per thousand live births in 1982 to 182.4 in 2016. In the 15–44 age group, the abortion rate in Italy amounts to 8.0 cases per thousand women, higher than in Switzerland (6.3) and Germany (6.8) but lower than in Spain (10.4), the USA (14.6), England and Wales (16.0) and France

³This includes 214,532 packages of levonorgestrel and 189,589 packages of ulipristal acetate, the two types of emergency contraception available in Italy.

(18.1)⁴. However, there is considerable heterogeneity in terms of abortion rates at the regional level (Figure 1). In 2016, abortion rates ranged from 4.5 cases per thousand women in Basilicata to 8.8 in Liguria. These figures refer to legal abortions, and exclude clandestine interventions, that remain unreported. According to the last estimates by Istat and the National Institute of Health, between 10,000 and 13,000 illegal abortions took place in Italy in 2016.

Figure 1: Abortion Rates in Italian Regions, 2016



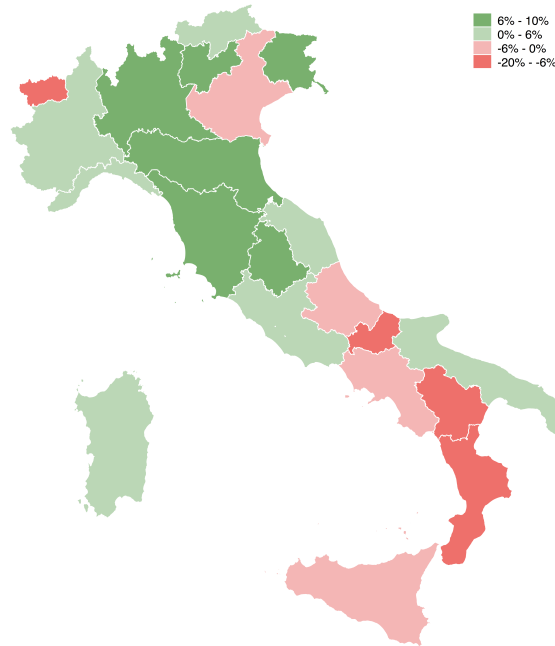
Source: Annual Report of the Italian Minister of Health on the implementation of Law 194 (Ministero della Salute, 2017b).

The regional abortion rate presented above, counting abortions on the basis of the region where they occur, might be a misleading indicator of abortion demand from a region's

⁴This comparison is based on the most recent available figures reported by the Ministry of Health. Figures refer to 2016 for England and Wales, Germany, Italy and Switzerland, 2015 for Spain, 2014 for the USA, and 2013 for France.

population, since women can obtain an abortion anywhere in Italy, possibly out of their region of residence (Ministero della Salute, 2017b, D’Errico et al., 2018). In fact, in 2016 more than 4,000 women had an abortion out of their region, accounting for over 5% of all abortions. An alternative measure of regional abortion use accounts for interregional mobility by counting abortions on the basis of the woman’s place of residence, rather than on the basis of where the abortion takes place. The percentage difference between abortions by region of occurrence and abortions by region of residence provides an indicator of the net inflow of women seeking an abortion in a given region. For some regions, particularly in the South, the abortion rate by place of occurrence is substantially lower than the rate by place of residence (for example, 14% lower in Molise and 20% lower in Basilicata), and this may signal difficulties in finding abortion providers. Conversely, other regions seem to attract women in search of an abortion. In Emilia-Romagna for instance, the net inflow is close to 10% (Figure 2).

Figure 2: Interregional Mobility for Abortions, 2016



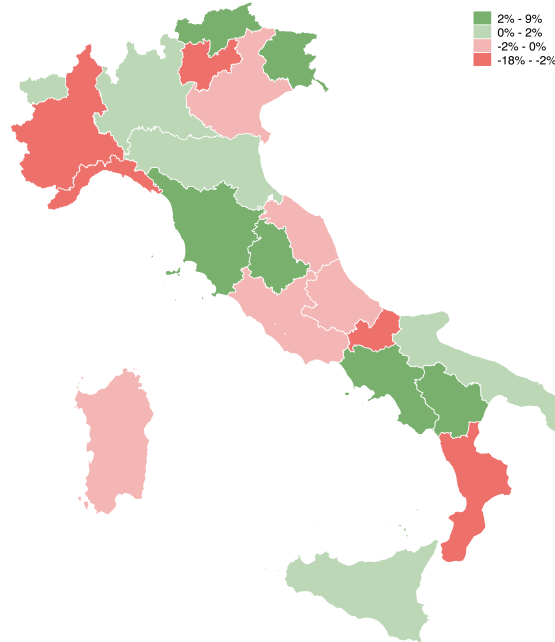
Source: Annual Report of the Italian Minister of Health on the implementation of Law 194 (Ministero della Salute, 2017b).

However, this inter-regional mobility may not be only a consequence of conscientious objection and provider availability, and other factors may induce women to travel to have an abortion. The Italian healthcare system is articulated in local facilities differing in terms of area of specialization, service quality and reputation, resulting in a certain degree of mobility across regions which varies according to the health service considered. Abortion-related mobility might be mirroring that for other services, in particular mobility for births given that birth and abortion operations have in common the need for a quality obstetrical and gynecological ward, and that the demand for both services is represented by women in childbearing age. Figure 3 shows how Italian regions differ in terms of birth-related mobility as of 2016⁵. The mobility patterns for birth and abortion provision appear only

⁵Data is retrieved from the *Annual Report on Hospitalization Activities* by the Ministry of Health. The

moderately correlated. They show opposite signs in half of the regions, suggesting that something other than considerations related to hospital quality drives women's decision of where to abort as opposed to where to give birth.

Figure 3: Interregional Mobility for Births, 2016



Source: Annual Report on Hospitalization Activities (Ministero della Salute, 2017a).

Social stigma related to local attitudes towards abortion might be another cause of mobility. Women who intend to have an abortion and wish to keep this choice private may want to avoid the local hospital, where they incur a higher risk of being recognized, and this may induce them to cross regional borders to access a more distant facility. Religiousness could be one of the major determinants of local attitudes towards abortion, as Catholicism

mobility variable depicted in the map is built as the difference between total births taking place in a certain region and births by women residing in that region occurring wherever, expressed as a percentage of the former.

has a highly critical stance against the voluntary termination of pregnancy. Another potential source of divergence between the two measures of abortion is inter-regional migration. In fact, women who are reported having an abortion out of their region may have already left that region to study or work elsewhere, without having changed their official place of residence. Moving to abort might also be a choice of convenience related to the proximity of women's place of residence to healthcare facilities located in other regions. Women living close to regions' borders are expected to be particularly exposed to this kind of mobility, given that the hospital closest to their living place could be located in a region other than the one of residence.

2.3 Prevalence of conscientious objection

The legal obligation for conscientious objectors to declare their stance formally allows the Ministry of Health to collect accurate data on conscientious objection. In 2016, 71% of Italian gynecologists were objectors. Considerable heterogeneity across regions exists also in this respect, with the percentage of objectors ranging from 18% in Aosta Valley to 97% in Molise (Figure 4). Objection is particularly predominant in the South, but it is widespread in all parts of the country. Anesthetists and non-medical staff of gynecology and obstetrics wards can also refuse to attend to abortions. In 2016, the percentage of objectors in these categories was 49% and 44% respectively. At the regional level, the share of objectors is highly correlated across professional categories. Although most European countries permit conscientious objection to abortion, Italy is one of those where the phenomenon is best documented, and lack of official data for other countries prevents comprehensive international comparisons. Chavkin et al. (2013) cite Italy as having one of the highest percentages of conscientious objectors. The percentage of objectors in Italy increased overtime, from below 60% in 2002 to over 70% in recent years. Objection is so widespread that in 2016 only 60% of healthcare facilities with gynecology and obstetrics wards provided abortions. In some regions, such as Liguria and Tuscany, nearly all hospitals offer the service. In

weekly⁶. To some extent, conscientious objection might be a career choice dictated by the perception that non-objecting gynecologists are professionally disadvantaged because they end up doing mostly abortions (Minerva, 2015). The Ministry of Health argues that the number of objectors in each region is compatible with the possibility for non-objectors to engage in activities other than abortion. The average number of abortions performed weekly by a non-objector is one or less in some regions, but substantially higher in others, with a maximum of nine in Molise. There are also single facilities where the weekly workload exceeds significantly the regional average, with over ten weekly abortions per practitioner in some cases.

These data indicate the existence of a gap between abortion regulation and the way this regulation is implemented. Reaching the same conclusion, Figà-Talamanca et al. (1986) argue that regional differences in availability and access to abortion services might explain why higher abortion rates, similar to those observed in other developed countries, can be observed only in regions where health services are more easily accessible and efficient. As a consequence of the non-homogeneous distribution of abortion services across regions, women looking for an abortion provider move out of regions where access to abortion is problematic (Spinelli et al., 2006). Grandolfo et al. (1991) claim that the insufficient availability of abortion services in part of the country (in the form of prevalent conscientious objection and long waiting times) is at the origin of the abortion-related migration, rather than privacy seeking. However, women living in disadvantageous socioeconomic conditions, hampered in terms of health seeking ability, are forced to either carry unwanted pregnancies to term or resort to illegal abortion (Figà-Talamanca et al., 1986).

While abortion is free of charge within the national healthcare system and legally available in most circumstances – to the extent that the United Nations consider abortion in

⁶The figure refers to population of age 6+. Data on religious observance can be found in the Istat data warehouse: <http://dati.istat.it/>.

Italy available on request⁷ – conscientious objection is so widespread that a substantial percentage of hospitals and a large majority of gynecologists do not provide it. Furthermore, abortion supply seems to be particularly scarce in some regions, and many women travel across regions to have an abortion.

3 Conscientious objection and abortion in previous studies

There are several studies on conscientious objection and abortion of a legal and ethical nature (eg, for Italy, Minerva, 2015). In contrast, empirical studies are very limited, partly because of the limited availability of data on conscientious objection in most countries. Moreover, none consider directly the question of how conscientious objection affects access to abortion. Conscientious objection is indeed rarely mentioned in the literature that is concerned with the determinants of demand and supply of abortions. Meier et al. (1996), analyzing the impact of twenty-three different state-level abortion restrictions put in place in the USA, found the “conscience clause” that allows physicians to refuse performing abortions to be irrelevant. However, the model incorporated only a dummy variable indicating the existence of this clause, and not a measure of physicians’ actual use of the clause. As for Italy, little research exists on the impact of conscientious objection, with the exception of Bo et al. (2015), who find a correlation at the regional level between the workload of non-objecting gynecologists and waiting times for obtaining an abortion.

The majority of economic literature on abortion focuses on the direct cost of abortion and its effect on demand. For example, Medoff (1988) and Gohmann and Ohsfeldt (1993) identify the direct cost of abortion as an important determinant of abortion rates, and Cook et al. (1999) and New (2011) find that restrictions on public funding of abortions affect abortion rates negatively. Furthermore, abortion rates decrease in response to poli-

⁷UN Department of Economic and Social Affairs’ World Abortion Policies 2013 database, available at <http://www.un.org/en/development/desa/population/publications/policy/world-abortion-policies-2013.shtml>.

cies that reduce the cost of child-rearing (Joyce and Kaestner, 1996). Conversely, it is not necessarily true that anti-abortion policy results in more births, as lower abortion rates might be offset by a decline in pregnancies (Levine and Staiger, 2004). The focus on the price of abortion is relevant in the case of a private healthcare system, such as the one in the USA, but is not applicable to Italy, where in 2016 94% of abortions were performed free of charge in public hospitals. However, this literature consistently indicates that demand for abortions is sensitive to the cost of the service, particularly among the low-income population (Levine et al., 1995), and that restrictive abortion policies that increase costs can price some women with unwanted pregnancies out of the market (Medoff, 2008).

Other authors have focused more on the supply of abortions and its impact on indirect costs of the service, adopting a different perspective where abortion rates are interpreted as a measure of availability of abortion, rather than a measure of demand (Gober, 1994). In this respect, some studies analyze the impact of the cost of travel devoted to finding an abortion provider (for example: Deyak and Smith, 1976; Brown et al., 1996; and Brown et al., 2001), and conclude that such indirect cost also affects local abortion rates. Scarce abortion supply may be associated with other inconveniences beyond travel costs, such as costs for overnight lodging, absence from work, privacy concerns and difficulty to obtain information and post-abortion care (Haas-Wilson, 1993). Provider availability may also affect abortion rates through other channels, such as signaling social acceptance of abortion and discouraging the use of other means of contraception (Brown et al., 1996). To assess the broader impact of provider availability, some models incorporate a direct measure of abortion supply, rather than one of travel costs. For example, Haas-Wilson (1997) finds that the number of abortion providers per 1,000 women in childbearing age is positively associated with abortion rates and concludes that women travel to obtain an abortion in states with greater supply. Matthews et al. (1997) find that reduced provider availability contributes to explain the decline of abortion rates in the USA between 1988 and 1992,

but argue that the major determinant of abortion demand is the demographic structure of the population. Gius (2007) combines individual-level data on pregnancies, abortions and socioeconomic status with state-level data on abortion providers and legal restrictions to abortion, concluding that provider availability has a statistically significant effect on abortion rates. On a different note, Medoff (2010) finds no relation between the number of providers and abortion rates.

Finally, Blank et al. (1996), again for the USA, make an important distinction between two alternative measures of abortion demand at the state level: the abortion rate by state of occurrence, based on the number of abortions taking place in each state, and the abortion rate by state of residence, which instead counts abortions from women residing in each state. Their results indicate that provider availability is a significant determinant of the first measure only, suggesting that abortion supply does not determine whether a woman will have an abortion, but where. Italy is characterized by a similar divide between the number of abortions that take place in each region and the actual demand for abortion from the region's resident population, due to the presence of inter-regional mobility of women seeking an abortion. In this study, we focus mainly on this mobility as an indicator of provider availability, and we exploit the abundance of data on abortion and conscientious objection in Italy to assess whether conscience-based refusal hampers access to abortion in Italy.

4 Data

After the Law on the voluntary termination of pregnancy came into force in 1978, Istat started to collect data on induced abortion, in coordination with the Italian Regions, the Italian Ministry of Health and the Italian Institute of Health. For almost forty years, detailed information about each episode of induced abortion taking place in any authorized healthcare facility in Italy has been collected. As the aim of collecting this data is to gain

better knowledge of the phenomenon and to understand how to prevent it, the collection focuses on a series of socio-demographic information about women, on the services involved in authorizing and conducting abortions, and on technical details of the operations. For any episode of voluntary interruption of pregnancy, detailed characteristics are gathered through an individual and anonymous form filled by the physician who performs the operation⁸. Single forms are transmitted to the healthcare facilities, then to the regional offices which monitor the collection process (together with the Italian Institute of Health, entitled to check the data quality) and eventually to Istat, which is responsible for the data management⁹. Once aggregated, Istat publishes the data on its online data warehouse, while making individual data available on request for research and statistical analyses, with due regard for the protection of sensitive personal information.

On an annual basis, Istat elaborates the data and creates tables showing the regional frequencies of abortions by socio-demographic characteristics of the women and by features of the operation. According to article 16 of Law 194/78, every year the Minister of Health presents to the Italian Parliament a report that addresses the enforcement status of the Law and highlights the trends of voluntary abortion in Italy, attaching the aforementioned tables. In this paper, we use aggregate data retrieved from the ministerial reports, which are publicly available on the Ministry's website¹⁰ and present data referring to two years before (the latest report, from 2018, presents data from 2016). The same data source

⁸In the form, the physician reports the address of the facility where the abortion takes place and information on the woman and her pregnancy – including date of birth, place of birth, place of residence, citizenship, marital status, education, employment status, professional position, job sector, past reproductive history (number of live births, stillbirths, miscarriages, voluntary abortions), gestational age and presence of fetus malformations. The physician also reports information on the operation – including its date, the date of the certification of authorization, the issuer of the certification, urgency, approval for minors, the type of healthcare facility, type of operation, type of anesthesia, type of hospitalization, length of stay in hospital and presence of complications. The form is available at <http://www.istat.it/ws/fascicoloSidi/263/Modello%20D12.pdf>.

⁹For additional information on the data collection process, visit <http://siqua.istat.it/SIQual/visualizza.do?id=0038900>.

¹⁰<http://www.salute.gov.it/>

has already been employed by Bo et al. (2015). The reports include regional figures on abortion and abortion rates, broken down by women’s characteristics, place of residence and place of operation and details of operation. Numbers and percentages of conscientious objectors among gynecologists, anesthetists and non-medical personnel are also included in the reports, as notified by Regions. We were also given access to individual anonymized data from the editions of the survey on induced abortion, comprising information on over a million episodes of pregnancy interruption from 2002 to 2016, which provided the basis for an individual-level analysis of abortion-related mobility¹¹.

5 Empirical analysis

5.1 Conscientious objection and mobility for abortion with regional data

In order to assess the impact of conscientious objection, we first estimate its relation with the inter-regional mobility of women having an abortion using a region-level panel data model. The dependent variable is the difference between the number of abortions by the region’s residents (regardless of where they occur) and the number of abortions that take place in the region, expressed as a percentage of the latter. This variable measures the net outflow of women seeking an abortion and is negative for regions where more women have come to have an abortion than have left, and positive for regions where instead the outflow exceeds the inflow¹².

¹¹Data used in this work is sourced from Istat and pertains to the Survey on induced abortions (<https://www.istat.it/adele/ListaRilevazioni>). Data analysis was conducted at the Laboratorio per l’Analisi dei Dati Elementari (Laboratory for Elementary Data Analysis) of Istat, and in compliance with the law concerning the protection of statistical secrecy and personal data. Results and opinions reported in this study are exclusive responsibility of the authors and do not constitute official statistics.

¹²We drop observations where information on the woman’s residence is unavailable for more than 10% of abortions recorded in the region. Results remain almost unaltered by moving upwards or downwards this threshold, and with or without imputing the abortions with unrecorded origin to migration from other regions. We did not include in the analysis abortions obtained in Italy by women of foreign residence, as it is not possible to determine whether they are in Italy just to have an abortion or for an extended period of time, nor in which region they live.

The main independent variable is the percentage of gynecologists registered in the region as conscientious objectors. We also control for the average weekly workload of non-objectors in terms of abortions per capita, to account for the possibility that bigger non-objectors' workload counteracts a higher prevalence of objectors. In order to account for possible sources of endogeneity that may affect abortion demand and our measure of abortion-related mobility, we insert a number of other covariates, with data sourced from the Istat online data warehouse. GDP per capita at current market prices and the female unemployment rate are measures of economic context normally included in economic models of abortion demand. These variables may also serve as proxies for inter-regional migration, thus controlling for mobility dictated by economic reasons rather than by the need to obtain an abortion. An indicator of religiousness, the share of the regional population which has not attended a place of worship in the past year, accounts for differences in local attitudes towards abortion that may influence abortion use. Religiousness may also be associated with abortion-related travel, assuming that women living in a context that is more culturally averse to abortion may travel to another region to protect their privacy and avoid social stigma. The share of foreign citizens among women in childbearing age is included in the model to control for the fact that foreign women residing in Italy, who are distributed unequally across regions, rely on abortion services more frequently than Italian women do. According to the last report on the implementation of Law 194, in 2015 there were 15.7 abortions per thousand foreign women versus 5.7 per thousand Italian women; the share of abortions by foreign women on total abortions has increased constantly over-time, especially in regions where foreign women are more concentrated (Loghi et al., 2013). We also control for the general fertility rate – the number of live births per thousand women in childbearing age – accounting for general fertility patterns that might be related to abortion trends.

We also test an alternative specification of the model, including as a covariate the differ-

ence between the number of births from region’s residents (regardless of where they occur) and the number of births that take place in the region, expressed as a percentage of the latter¹³. This variable is an indicator of birth-related mobility and controls for the possibility that part of out-of-region abortions are motivated not by scarce provider availability, but by the better reputation of gynecology and obstetrics services – or more generally, healthcare services – in some regions. For both specifications of the model, we also run estimates replacing the share of objecting gynecologists and the workload of non-objecting gynecologists with the corresponding measures for the two other professional categories entitled to conscientious objection: anesthetists and non-medical personnel. As the share of objectors in the three categories is highly correlated, we measure the aggregate impact of conscientious objection in the healthcare environment with a composite indicator derived from the first principal component of the three variables¹⁴, and run a separate estimate using this indicator. Data are available for 21 regions for the period between 2002 and 2016¹⁵. We estimate the models with OLS regressions including regional and year fixed effects to account for unobserved time-invariant regional characteristics and for trends overtime that are common to all regions. The estimated standard errors are robust to heteroscedasticity and allow for arbitrary intra-region correlation.

Table 1 summarizes the various estimates of the regional model of abortion-related mobility. Columns 1 to 4 suggest that widespread conscientious objection is positively associated with the net outflow of women seeking an abortion. The percentages of objectors in each professional category, as well as the composite indicator of conscientious objection, appear to have a significant impact on abortion-related mobility and are associated to larger outflows of women seeking an abortion. As expected, non-objectors’ workload is always negatively related to out-of-region abortions, as non-objectors who con-

¹³Data is retrieved from the Annual Report on Hospitalization Activities by the Ministry of Health.

¹⁴The composite indicator is highly reliable (the value of Cronbach’s alpha is 0.84).

¹⁵19 Italian regions plus the two autonomous provinces of Bolzano and Trento in the special status region of Trentino Alto-Adige. We consider 14 years, excluding 2004 for lack of data on religiousness.

duct more abortions absorb more demand in the region where they operate. GDP per capita is strongly associated to lower (possibly negative) net outflows. This suggests that richer regions attract more immigrants, including women in childbearing age, resulting in more abortions occurring inside the region. A higher share of foreign women is associated with more out-of-region abortions, although this does not necessarily imply that foreign women are more likely to have an abortion out of region. The fertility rate has a positive and significant association with the dependent variable, while other socioeconomic control variables do not show any statistically significant impact.

Columns 5 to 8 include the indicator of inter-regional mobility for births. Not surprisingly, the outflow of women giving birth is positively associated to the outflow of women having an abortion, indicating that part of abortion-related travel corresponds to a more general interregional mobility for healthcare services. With the inclusion of this variable, the impact of conscientious objection by gynecologists and anesthetists on out-of-region abortions becomes smaller in magnitude, but remains statistically significant. The effect of objection by non-medical personnel and by all professional categories on aggregate also becomes smaller, but gains significance. Overall, the impact of conscientious objection on out-of-region abortions is confirmed even after controlling for general healthcare-related mobility¹⁶. Interestingly, GDP per capita loses some significance in these specifications, suggesting that this variable is related with the quality of regional healthcare systems and previously picked up part of the interregional mobility now controlled for with the inclusion of out-of-region births.

¹⁶Results remain robust if we use inter-regional mobility flows for acute care and rehabilitation, either in a regime of ordinary hospitalization or day hospital, and for long-term care. However, the mobility variables enter with different signs and magnitudes into the specification, corroborating the hypothesis that abortion-related mobility is a phenomenon with characteristics of its own.

Table 1: Net Outflow Mobility for Abortion

	Net Outflow Mobility for Abortion							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
% Objecting gynecologists	0.209*** (0.0573)				0.152** (0.0544)			
Workload by non-obj. gynecologists	-0.0352** (0.0153)				-0.0348** (0.0129)			
% Objecting anesthetists		0.243*** (0.0763)				0.175** (0.0704)		
Workload by non-obj. anesthetists		-0.0979** (0.0350)				-0.0883*** (0.0273)		
% Objecting non-medical personnel			0.189* (0.0973)				0.162** (0.0649)	
Workload by non-obj. non-medical personnel			-0.0581** (0.0267)				-0.0622** (0.0222)	
Indicator of conscientious objection				0.334** (0.136)				0.285*** (0.0977)
Indicator of workload by non-objectors				-0.0689** (0.0284)				-0.0687*** (0.0230)
GDP per capita	-2.237** (0.883)	-2.244** (0.915)	-2.038** (0.850)	-2.149** (0.906)	-1.419* (0.720)	-1.425* (0.816)	-1.254* (0.726)	-1.346* (0.755)
Female unemployment rate	0.606 (0.558)	0.557 (0.594)	0.462 (0.591)	0.669 (0.629)	0.476 (0.411)	0.407 (0.447)	0.297 (0.411)	0.471 (0.415)
Lack of religiosity	0.462 (0.325)	0.507 (0.319)	0.451 (0.322)	0.538 (0.324)	0.453 (0.278)	0.477+ (0.267)	0.429 (0.273)	0.507* (0.268)
Share of foreign women	0.853 (0.845)	0.939 (0.885)	0.704 (0.689)	0.898 (0.784)	0.725 (0.624)	0.808 (0.575)	0.706 (0.495)	0.861 (0.544)
General fertility rate	0.927* (0.467)	1.050** (0.432)	0.890* (0.461)	0.888* (0.447)	0.644 (0.418)	0.752* (0.372)	0.592 (0.427)	0.595 (0.412)
Net outflow mobility for births					1.070** (0.491)	1.016* (0.519)	1.149** (0.537)	1.134** (0.510)
Observations	268	268	261	261	268	268	261	261
Adjusted R ²	0.78	0.79	0.78	0.79	0.76	0.77	0.77	0.77
Region and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Robust standard errors in parentheses, clustered by region. *** p<0.01, ** p<0.05, * p<0.1.

5.2 Conscientious objection and mobility for abortion with individual data

Regional level data do not allow deepening the analysis by taking into consideration individual heterogeneity. Women differing in terms of intrinsic characteristics might be more or less inclined to move across regions in order to find an abortion provider. Accounting for individual heterogeneity is necessary both to draw a socio-demographic profile of those women who abort out of their region, and to assess whether the relation between conscientious objection and out-of-region abortions is driven by such characteristics. The survey on induced abortion is our source of data for individual-level analysis. To the best of our

knowledge, we are the first to present a quantitative individual-level analysis of abortion mobility in Italy. The dataset employed contains information on all women who obtained an abortion in Italy over the period 1997 to 2016¹⁷: more than a million observations are therefore available for analysis. Information on women’s place of residence and place of abortion indicates whether a woman traveled to a different region to obtain an abortion. We create a binary variable taking value one in case the woman’s region of residence and abortion do not coincide, and zero otherwise. This is the dependent variable in an individual-level probit model.

In order to provide a general profile of women who move to abort, we model the probability that each woman moves to a different region to obtain an abortion as a function of her individual characteristics – age, citizenship, marital status, education, employment status, number of previous live births and voluntary abortions – and of the urgency of the operation. As for estimating the existence and strength of a relationship between region-wide conscientious objection and the individual decision to travel to other regions in order to abort, we introduce a set of regional covariates. The percentage of objecting gynecologists in the region measures the prevalence of conscientious objection, and other regressors account for all the potential sources of endogeneity described in the previous paragraph: economic context, religiousness, fertility, and presence of foreign women. By adding year fixed effects to the probit model, we are able to isolate time patterns affecting conscientious objection and inter-regional mobility. Moreover, we add three sets of regional fixed effects capturing time-invariant characteristics of women’s region of birth (e.g. cultural factors, or the tendency to move out of the region of origin), region of residence (e.g. local attitudes towards abortion¹⁸), and of the region where the operation takes place (e.g. students’ inflows in regions with more universities). This minimizes the scope for selection

¹⁷Year 2004 is excluded from the analysis due to the lack of data on religious observance.

¹⁸Although not shown in results, we estimated specifications inclusive of the percentage of ‘Yes’ votes in the 1981 referendum on the abrogation of Law 194/78 promoted by the Pro-life Movement, as a measure of historical prevalence of a cultural sentiment opposing the abortion practice. The results remain unaffected.

into inter-regional mobility based on women's origin or destination, rather than on the need for an abortion. Furthermore, running the analysis on the subset of women who moved to a province not bordering with the one of their residence makes it possible to focus only on longer travel distances and to partially rule out the hypothesis that inter-regional mobility is driven by women choosing abortion locations on the sole basis of proximity or social stigma avoidance¹⁹. The standard errors in the model are robust to heteroscedasticity and clustered by region of residence.

The results found through regional panel data analysis are fully confirmed when we employ Istat microdata to bring the analysis at the individual level. Table 2 shows that a higher share of objecting gynecologists is significantly associated with a higher probability that women move to another region to obtain an abortion, as displayed in Column 1. This relationship holds even controlling for the socio-demographic characteristics of aborting women. The probability of abortion-related migration increases with age, but less so at later stages of childbearing age. Abortors of foreign citizenship migrate significantly less than their Italian counterparts: this is probably suggestive of the fact that Italian women are exposed to higher psychological costs related to the social context they live in, would their abortion be made public if obtained in their place of residence (e.g. larger exposure to social stigma in their neighborhood, negative consequences on interactions with relatives, friends, colleagues, etc.). Compared to single women, married women are significantly less likely to seek an abortion out of region, while no difference appears with divorced, separated or widowed women. Women with higher levels of education travel more to other regions than those with only primary or no education, whereas women with lower secondary education move the least; the probability of moving is particularly high and significant if women attended university. These findings are consistent with those in

¹⁹While regions are the largest administrative divisions in Italy, each region (except Aosta Valley) is divided into provinces. Travelling to a non-bordering province in a neighboring region therefore entails a longer travel distance than simply crossing the regional border.

Spinelli et al., 2006. As for the employment status, employed women are the least likely to obtain an abortion out of their region of residence²⁰. The most likely are women out of the labor force and students (probably reflecting the fact that students who migrate to another region to attend university rarely change their official place of residence, so that they are formally residing in a different region than where they happen to live). Unemployed women, housewives and women searching for their first occupation are slightly more likely to migrate than employed abortion seekers – possibly because they are not bound to the workplace and have more freedom to move. The probability of moving to abort decreases as the number of women’s children rise; also, women that have already gone through voluntary abortion in the past are less likely to move with reference to those at their first experience, suggesting they might have an advantage in terms of information as to where to obtain an abortion in the region. Looking at regional covariates, the individual-level analysis confirms most of the results from the regional model.

As Column 2 shows, accounting for inter-regional birth-related mobility does not affect the significant relation between conscientious objection and the individual probability to move in other regions to abort, although the effect is moderately reduced in magnitude. In column 3, we include the composite indicator of objection across all categories of medical and auxiliary personnel, and still find a significant association with women’s tendency to move. Columns 4 and 5 remove from the sample those women aborting in a different region, yet in a province neighboring with the one where they reside. In so doing, we attempt to reduce the scope for the hypothesis that women move to other regions for aborting not just because of conscientious objection prevalence. In fact, women might get an abortion in healthcare facilities of other regions which happen to be closer to their place of residence than the closest facility within the administrative area where they reside. In addition,

²⁰ Among working women, self-employed, entrepreneurs and autonomous workers are significantly more likely to move than employees. Looking at division by job sector, women employed in public administration move the most, followed by those employed in industry, and in trade, public services and hotels, when compared to women employed in other private services. These results are not shown due to spacing concerns.

Table 2: Out-of-region abortions and conscientious objection - probit estimates

	All women in the sample			Women aborting in non-neighboring provinces	
	(1)	(2)	(3)	(4)	(5)
Share of objecting gynecologists	0.00545*** (0.00159)	0.00536*** (0.00155)		0.00538** (0.00216)	0.00551** (0.00218)
Indicator of conscientious objection			0.00303** (0.00146)		
Age	0.0719*** (0.00565)	0.0718*** (0.00565)	0.0721*** (0.00559)	0.105*** (0.00633)	0.105*** (0.00632)
Age squared	-0.00111*** (0.0000889)	-0.00111*** (0.0000889)	-0.00111*** (0.0000877)	-0.00168*** (0.0000984)	-0.00169*** (0.0000979)
Italian	Ref.	Ref.	Ref.	Ref.	Ref.
Foreign	-0.183*** (0.0170)	-0.183*** (0.0170)	-0.185*** (0.0173)	-0.177*** (0.0204)	-0.178*** (0.0195)
Single	Ref.	Ref.	Ref.	Ref.	Ref.
Married	-0.113*** (0.0104)	-0.113*** (0.0104)	-0.112*** (0.0105)	-0.144*** (0.0115)	-0.143*** (0.0116)
Divorced/Separated/Widowed	-0.0149 (0.0124)	-0.0150 (0.0124)	-0.0138 (0.0126)	-0.0134 (0.0139)	-0.0116 (0.0141)
Not educated/primary education	Ref.	Ref.	Ref.	Ref.	Ref.
Lower secondary education	-0.0960*** (0.0219)	-0.0956*** (0.0220)	-0.0927*** (0.0216)	-0.145*** (0.0153)	-0.143*** (0.0151)
Upper secondary education	0.0264 (0.0318)	0.0267 (0.0319)	0.0298 (0.0315)	0.00700 (0.0230)	0.00946 (0.0229)
Tertiary education	0.248*** (0.0466)	0.248*** (0.0466)	0.250*** (0.0468)	0.304*** (0.0432)	0.304*** (0.0435)
Employed	Ref.	Ref.	Ref.	Ref.	Ref.
Unemployed	0.0541*** (0.00858)	0.0544*** (0.00859)	0.0579*** (0.00870)	0.102*** (0.00961)	0.103*** (0.0102)
Seeking first-time job	0.00496 (0.0177)	0.00451 (0.0176)	0.00850 (0.0189)	0.0210 (0.0193)	0.0226 (0.0197)
Housewife	0.0611*** (0.0148)	0.0610*** (0.0149)	0.0633*** (0.0148)	0.0760*** (0.0149)	0.0790*** (0.0144)
Student	0.204*** (0.0226)	0.204*** (0.0226)	0.207*** (0.0226)	0.267*** (0.0272)	0.269*** (0.0273)
Other	0.272** (0.111)	0.272** (0.111)	0.273** (0.112)	0.0251 (0.0496)	0.0218 (0.0498)
Childless	Ref.	Ref.	Ref.	Ref.	Ref.
One child	-0.196*** (0.0101)	-0.196*** (0.0101)	-0.196*** (0.0107)	-0.241*** (0.0125)	-0.242*** (0.0127)
Two children or more	-0.244*** (0.0146)	-0.244*** (0.0146)	-0.243*** (0.0148)	-0.306*** (0.0174)	-0.308*** (0.0179)
No previous voluntary abortion	Ref.	Ref.	Ref.	Ref.	Ref.
One previous abortion or more	-0.0172*** (0.00519)	-0.0174*** (0.00516)	-0.0194*** (0.00549)	-0.000721 (0.00765)	-0.00144 (0.00804)
Urgent	Ref.	Ref.	Ref.	Ref.	Ref.
Not urgent	-0.0165 (0.0220)	-0.0163 (0.0221)	-0.0134 (0.0232)	-0.0712*** (0.0212)	-0.0701*** (0.0222)
Non-objector gynecologists' workload	-0.000657*** (0.000164)	-0.000661*** (0.000166)	0.00152*** (0.000419)	-0.000631*** (0.000192)	-0.000642*** (0.000190)
Non-objector anesthetists' workload			-0.00366*** (0.000876)		
Non-objector non-medical staff workload			-0.00164 (0.00102)		
Lack of religiosity	0.0276*** (0.00582)	0.0275*** (0.00584)	0.0268*** (0.00621)	0.0276*** (0.00436)	0.0278*** (0.00446)
Female unemployment rate	0.0325*** (0.00858)	0.0320*** (0.00836)	0.0193** (0.00783)	0.0358*** (0.00953)	0.0352*** (0.00958)
GDP per capita (thousands)	-0.0387*** (0.0130)	-0.0387*** (0.0129)	-0.0408*** (0.0125)	-0.0200*** (0.00776)	-0.0213*** (0.00781)
Share of foreign women	0.0245** (0.0102)	0.02425** (0.01016)	0.03349*** (0.01192)	0.03694*** (0.01302)	0.03756*** (0.01303)
Fertility rate	-0.00457 (0.00824)	-0.00514 (0.00802)	0.00318 (0.00872)	-0.0125* (0.00749)	-0.0122* (0.00733)
Net outflow for births		0.00599 (0.00461)	0.00384 (0.00523)		0.00371 (0.00525)
Constant	-2.614*** (0.355)	-2.589*** (0.357)	-2.465*** (0.406)	-3.459*** (0.359)	-3.393*** (0.356)
Observations	1,000,702	1,000,702	986,657	865,598	856,216
Pseudo R2	0.231	0.231	0.234	0.214	0.216
Birth region FE	Yes	Yes	Yes	Yes	Yes
Residence region FE	Yes	Yes	Yes	Yes	Yes
Abortion region FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes

Note: Robust standard error in parentheses, clustered by region of residence. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

women who want to maintain privacy around their abortion decision, due to, for example, fear of stigma stemming from the social context in which they live, might just prefer to avoid their local hospital and have an abortion in a different neighboring province where no one knows them. Results suggest that conscientious objection is a relevant concern also for the subset of women who cover longer distances to abort, with and without accounting for inter-regional mobility for births.

Table 3 reports separate analyses for subsamples of women residing in each Italian macro region: North, Center, and South and Islands. Conscientious objection is significantly correlated with individual mobility for abortion in northern Italy, and more moderately in southern and insular regions, as opposed to the non-significant association characterizing central Italy. The probability to move across regions shows consistent associations to women's age, marital status, student status and number of live births in all macro regions. The probability increases monotonically with the educational level in the Center and in the South, unemployed women are more likely to move only in the Center, while the result for housewives goes in opposite directions between North and Center. The patterns highlighted for the region-level covariates while analyzing the full sample largely coincide with those prevailing within macro regions. Interestingly, we find a significant negative correlation between abortion-related and birth-related mobility in northern Italy, as opposed to the positive relation emerging in the South: to the extent that the two flows may share as a motivation the search of a quality obstetrical and gynecological ward, the evidence suggests that this holds only in southern and insular Italy.

The abortion rate for foreign women is nearly triple the rate for Italian women. The reasons are related to different reproductive habits in origin countries which expose foreign women to higher risk of voluntary abortion, for example resorting to induced abortion as a means of birth control, scarce knowledge and misuse of contraceptives, living in adverse

Table 3: Out-of-region abortions and conscientious objection by macro region of residence

	North (1)	Center (2)	South and Islands (3)
Share of objecting gynecologists	0.0165*** (0.00541)	0.00742 (0.0153)	0.00679*** (0.00260)
Age	0.0394*** (0.00577)	0.0354*** (0.00495)	0.0458*** (0.0102)
Age squared	-0.000531*** (0.0000901)	-0.000507*** (0.0000654)	-0.000672*** (0.000146)
Italian	Ref.	Ref.	Ref.
Foreign	-0.0987*** (0.0161)	-0.0737*** (0.0271)	-0.0687 (0.0664)
Single	Ref.	Ref.	Ref.
Married	-0.0612*** (0.0105)	-0.111*** (0.0140)	-0.0802*** (0.0213)
Divorced/Separated/Widowed	0.00246 (0.0147)	0.00701 (0.0251)	0.0260 (0.0306)
Not educated/primary education	Ref.	Ref.	Ref.
Lower secondary education	-0.114*** (0.0252)	0.0754** (0.0373)	0.0461 (0.0373)
Upper secondary education	-0.0443 (0.0288)	0.226*** (0.0250)	0.185*** (0.0332)
Tertiary education	0.0778*** (0.0145)	0.477*** (0.0355)	0.280*** (0.0291)
Employed	Ref.	Ref.	Ref.
Unemployed	0.00784 (0.0111)	0.0536*** (0.00998)	0.0234 (0.0167)
Seeking first-time job	-0.0681 (0.0442)	0.0233 (0.0393)	0.0581 (0.0354)
Housewife	0.0348*** (0.0124)	-0.0545** (0.0242)	-0.0347 (0.0299)
Student	0.115*** (0.0210)	0.0761*** (0.0218)	0.178*** (0.0182)
Other	-0.0515 (0.0366)	0.128 (0.0847)	0.121 (0.131)
Childless	Ref.	Ref.	Ref.
One child	-0.184*** (0.0161)	-0.181*** (0.0184)	-0.135*** (0.0221)
Two children or more	-0.254*** (0.0154)	-0.171*** (0.0170)	-0.159*** (0.0125)
No previous voluntary abortion	Ref.	Ref.	Ref.
One previous abortion or more	-0.0338*** (0.00858)	0.00322 (0.0142)	-0.0740*** (0.0143)
Urgent	Ref.	Ref.	Ref.
Not urgent	0.0244* (0.0134)	-0.0209 (0.0251)	-0.0318 (0.0521)
Non-objector gynecologists' workload	-0.00846*** (0.00271)	-0.000705 (0.000959)	-0.00143*** (0.000270)
Lack of religiosity	0.0346*** (0.00753)	0.0728*** (0.0157)	0.0352** (0.0155)
Female unemployment rate	0.0233 (0.0175)	0.152*** (0.0476)	0.0184*** (0.00657)
GDP per capita (thousands)	-0.0255*** (0.00740)	-0.0580*** (0.0172)	-0.0734*** (0.0204)
Share of foreign women	0.01643** (0.06777)	0.09471 (0.1094)	0.01635 (0.03247)
Fertility rate	-0.0173 (0.0200)	-0.0234 (0.0185)	-0.00381 (0.0106)
Net outflow for births	-0.0427* (0.0259)	0.0610 (0.0522)	0.0104*** (0.00357)
Constant	-2.851*** (0.939)	-4.421 (2.799)	-6.840*** (1.942)
Observations	399,016	163,864	363,012
Pseudo R2	0.242	0.258	0.401
Birth region FE	Yes	Yes	Yes
Residence region FE	Yes	Yes	Yes
Abortion region FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Note: Robust standard error in parentheses, clustered by region of residence.
Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

socioeconomic conditions (Loghi et al., 2013). We ask whether a similar differential is to be found concerning mobility for abortion. While previous tables include citizenship as a control in the specifications, Table 4 splits the sample into Italian and foreign women, firstly considering the whole Italian territory (Columns 1 and 2), then by further dividing the sample by macro regions. The abortion mobility model highlights relevant differences between Italian and foreign women. Regional conscientious objection is a significant determinant of inter-regional mobility for both, but its effect is larger for foreign women, despite them being less likely to move in general (according to previous findings from the whole-sample estimate). The relation between age and mobility is confirmed for both groups, although smaller for foreigners, as confirmed is the tendency for married women to move less. For foreign women, no significant difference in terms of mobility emerges across education levels, nor across employment status, with the exception of a larger tendency to move for unemployed women. Having had children is associated with less mobility in both groups, while having had previous voluntary abortions is associated with less mobility among Italian women, but does not seem to affect the mobility of foreign women. Out of the regional variables associated to the individual decision to move, only the share of foreign women in childbearing age enters differently in the first two columns: Italian women move more if residing in regions characterized by high shares of foreign women (who recur to abortion dramatically more than Italians), while foreign women are not affected. Looking at the division by macro region, conscientious objection among gynecologists significantly correlates with higher individual mobility by Italian women in the North, by both Italian and foreign women in southern and insular Italy, while by neither of the two in central Italian regions. Moreover, mobility occurs significantly more for women who do not need an urgent operation in the North.

Table 4: Out-of-region abortions and conscientious objection by women's citizenship and macro region

	Italy		North		Center		South and Islands	
	Italian (1)	Foreign (2)	Italian (3)	Foreign (4)	Italian (5)	Foreign (6)	Italian (7)	Foreign (8)
Share of objecting gynecologists	0.00569*** (0.00145)	0.00692*** (0.00251)	0.0183*** (0.00457)	0.0195 (0.0137)	0.00537 (0.0137)	0.00620 (0.0182)	0.00640** (0.00259)	0.0146*** (0.00512)
Age	0.0720*** (0.00556)	0.0421*** (0.00779)	0.0479*** (0.00717)	0.0142** (0.00581)	0.0259*** (0.00361)	0.0674*** (0.0201)	0.0475*** (0.0106)	0.0307 (0.0217)
Age squared	-0.00109*** (0.0000857)	-0.000728*** (0.000125)	-0.000635*** (0.000110)	-0.000256*** (0.000093)	-0.000335*** (0.0000391)	-0.00112*** (0.000342)	-0.000682*** (0.000146)	-0.000583 (0.000370)
Single	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Married	-0.113*** (0.0126)	-0.128*** (0.0134)	-0.0591*** (0.0105)	-0.0702*** (0.0113)	-0.0927*** (0.0144)	-0.146*** (0.0292)	-0.0961*** (0.0218)	-0.00175 (0.0401)
Divorced/Separated/Widowed	-0.0269** (0.0125)	0.0346* (0.0202)	-0.0199 (0.0161)	0.0856*** (0.0188)	0.00371 (0.0235)	0.0577 (0.0399)	0.0251 (0.0327)	0.0563 (0.0450)
Not educated/primary education	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Lower secondary education	-0.0663** (0.0276)	-0.0391* (0.0232)	-0.149*** (0.0266)	-0.0560 (0.0374)	-0.0351 (0.0506)	0.216*** (0.0415)	0.0879** (0.0389)	-0.0419 (0.0541)
Upper secondary education	0.101*** (0.0338)	-0.0325 (0.0330)	-0.0362 (0.0311)	-0.0996*** (0.0300)	0.160*** (0.0503)	0.288*** (0.0565)	0.232*** (0.0309)	0.0256 (0.0798)
Tertiary education	0.359*** (0.0486)	-0.00301 (0.0404)	0.123*** (0.0263)	-0.115*** (0.0303)	0.459*** (0.0711)	0.331*** (0.0544)	0.328*** (0.0242)	0.195*** (0.0740)
Employed	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Unemployed	0.0626*** (0.00858)	0.0254** (0.0111)	0.00994 (0.0117)	-0.00944 (0.0136)	0.0809*** (0.0265)	-0.00264 (0.0284)	0.0101 (0.0210)	0.0580*** (0.0215)
Seeking first-time job	0.0300* (0.0161)	-0.0451 (0.0387)	-0.0397 (0.0363)	-0.152** (0.0649)	-0.0796*** (0.0287)	0.202*** (0.0622)	0.0326 (0.0421)	0.175** (0.0837)
Housewife	0.0993*** (0.0175)	-0.0196 (0.0195)	0.0845*** (0.0136)	-0.0438*** (0.0151)	-0.0268 (0.0290)	-0.109*** (0.0199)	-0.0327 (0.0362)	-0.0108 (0.0377)
Student	0.240*** (0.0211)	-0.0279 (0.0288)	-0.106*** (0.0262)	-0.106*** (0.0246)	0.119*** (0.0205)	-0.106** (0.0612)	0.179*** (0.0184)	0.0445 (0.0455)
Other	0.302*** (0.109)	0.120 (0.0838)	-0.0849** (0.0376)	0.0553 (0.0892)	0.150** (0.0665)	0.0269 (0.157)	0.170 (0.146)	-0.0352 (0.131)
Childless	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
One child	-0.201*** (0.00919)	-0.163*** (0.0224)	-0.167*** (0.0127)	-0.225*** (0.0253)	-0.204*** (0.0163)	-0.123*** (0.0307)	-0.124*** (0.0224)	-0.159*** (0.0317)
Two children or more	-0.248*** (0.0159)	-0.213*** (0.0208)	-0.246*** (0.0211)	-0.262*** (0.0174)	-0.191*** (0.0180)	-0.129*** (0.0433)	-0.161*** (0.0167)	-0.105*** (0.0366)
No previous voluntary abortion	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
One previous abortion or more	-0.0218*** (0.00524)	-0.00861 (0.0103)	-0.0429*** (0.00797)	-0.0115 (0.0123)	0.0309** (0.0146)	-0.0493** (0.0206)	-0.0746*** (0.0151)	-0.0859** (0.0360)
Urgent	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Not urgent	-0.0156 (0.0232)	-0.0232 (0.0192)	0.0293* (0.0154)	0.0350* (0.0193)	-0.00769 (0.0273)	-0.0495 (0.0352)	-0.0193 (0.0470)	-0.188** (0.0836)
Non-objector gynecologists' workload	-0.000633*** (0.000171)	-0.00118*** (0.000392)	-0.00910*** (0.00255)	-0.00795** (0.00372)	-0.000431 (0.00112)	-0.000702 (0.00162)	-0.00133*** (0.000294)	-0.00280*** (0.000706)
Lack of religiosity	0.0285*** (0.00657)	0.0306*** (0.00508)	0.0357*** (0.00847)	0.0254*** (0.00764)	0.0683*** (0.0218)	0.106*** (0.0213)	0.0321** (0.0135)	0.0771** (0.0365)
Female unemployment rate	0.0318*** (0.00826)	0.0453*** (0.0134)	0.0231 (0.0173)	0.0515 (0.0384)	0.151*** (0.0474)	0.260*** (0.0491)	0.0165*** (0.00624)	0.0417*** (0.0142)
GDP per capita (thousands)	-0.0419*** (0.0142)	-0.0315*** (0.00982)	-0.0269*** (0.00730)	-0.0223*** (0.00732)	-0.0587*** (0.0173)	-0.0580*** (0.0180)	-0.0769*** (0.0214)	-0.0260 (0.0162)
Share of foreign women	0.02391** (0.01097)	0.01465 (0.01129)	0.1801*** (0.06516)	0.08753 (0.07350)	0.1085 (0.1132)	0.1866** (0.08279)	0.02023 (0.03908)	-0.01908 (0.07489)
Fertility rate	-0.00303 (0.00857)	-0.0122 (0.00904)	-0.0218 (0.0199)	-0.00809 (0.0236)	-0.0144 (0.0211)	-0.0766*** (0.0161)	0.00251 (0.0111)	-0.0732** (0.0324)
Net outflow for births	0.00550 (0.00420)	-0.00959 (0.0115)	-0.0352 (0.0250)	-0.0774** (0.0345)	0.0552 (0.0587)	0.0737*** (0.0230)	0.00872*** (0.00335)	0.0258** (0.0118)
Constant	-2.669*** (0.354)	-2.724*** (0.758)	-2.963*** (0.879)	-2.404 (1.500)	-4.653* (2.802)	-8.711* (4.621)	-6.843*** (1.997)	-3.116 (2.030)
Observations	723,022	228,992	265,163	133,800	114,170	49,555	320,904	40,267
Pseudo R2	0.244	0.209	0.235	0.268	0.272	0.236	0.411	0.356
Birth region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Residence region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Abortion region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tear FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Robust standard error in parentheses, clustered by region of residence.
Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

5.3 Conscientious objection and waiting time

A mandatory prerequisite to obtain an abortion in Italy – except in case of urgency and for abortions after the first 90 days of pregnancy – is to receive a document signed by a doctor who attests pregnancy and requests its termination. The annual ministerial reports on the implementation of Law 194 include regional data on waiting time women experience between receiving this document and having an abortion. In the last report, the Ministry of Health warns that a high share of abortions occurring more than two weeks after the issuance of the document may signal difficulties in the implementation of Law 194, and Bo et al. (2015) use waiting time as a measure of timely access to abortion and find it to be inversely related to non-objectors’ workload, rejecting the ‘no correlation’ argument between conscientious objection and waiting times for induced abortion (Bo et al., 2017). We adopt a similar approach, testing a regional panel data model where the dependent variable is waiting time, measured either as the share of abortions performed within two weeks after the certificate is issued or as the share of abortions performed later than four weeks after the certificate is issued. Once again, the main independent variable is the percentage of conscientious objectors in the region, and we control for non-objectors’ workload, GDP per capita, female unemployment rate, religiousness, share of foreign women and general fertility rate.

Table 5 shows the results for the regional model of waiting time. In columns 1 to 4, waiting time is measured as the share of abortions performed within two weeks after the certificate is issued. Percentages of objectors in each professional category, as well as the composite indicator of conscientious objection, are negatively related with the percentage of abortions done within two weeks, and the relation is statistically significant. When waiting time is measured as the share of abortions performed four weeks or more after the certificate is issued (columns 5 to 8), the impact of all indicators of conscientious objection becomes positive and significant. Overall, results indicate that a higher prevalence of conscientious

objection is associated with longer waiting times. Non-objector's workload counteracts the effect of objection: a bigger workload is associated with more timely abortions and fewer abortions after four weeks. As for other control variables, higher GDP per capita and lower unemployment rates are significantly related with lower percentages of abortions performed four weeks or more after the certificate is issued. This finding, combined with results from the regional model of mobility, characterizes high-income regions as having a lower outflow (possibly an inflow) of women seeking an abortion and shorter waiting times, suggesting a correlation between the local economic context and the efficiency of the local healthcare system.

Table 5: Waiting Time for Abortion and Conscientious Objection

	Percentage of abortions by number of weeks between issuance of certificate and operation							
	Less than 2				More than 4			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Share of objecting gynecologists	-0.162*				0.0606***			
	(0.0800)				(0.0208)			
Workload by non-objecting gynecologists	0.0314*				-0.00252			
	(0.0157)				(0.00342)			
Share of objecting anesthetists		-0.311***				0.0877***		
		(0.0782)				(0.0293)		
Workload by non-objecting anesthetists		0.0568				-0.00501		
		(0.0402)				(0.00963)		
Share of objecting non-med. personnel			-0.180**				0.0687***	
			(0.0640)				(0.0223)	
Workload by non-objecting non-med. pers.			0.0814				-0.0172	
			(0.0548)				(0.0102)	
Indicator of conscientious objection				-0.345***				0.126***
				(0.0976)				(0.0271)
Indicator of workload by non-objectors				0.0686**				-0.0105*
				(0.0315)				(0.00601)
GDP per capita	1.803**	1.997*	1.658**	1.766**	-0.619***	-0.703**	-0.653***	-0.681***
	(0.863)	(1.038)	(0.793)	(0.828)	(0.213)	(0.255)	(0.189)	(0.210)
Female unemployment rate	-0.609	-0.728**	-0.433	-0.670*	0.245**	0.275***	0.177*	0.269***
	(0.360)	(0.341)	(0.346)	(0.348)	(0.0982)	(0.0912)	(0.0878)	(0.0890)
Lack of religiosity	0.0244	-0.0417	0.0163	-0.0690	0.0427	0.0639	0.0322	0.0499
	(0.292)	(0.278)	(0.331)	(0.308)	(0.103)	(0.0931)	(0.0992)	(0.0933)
Share of foreign women 15-49	1.728**	1.632**	1.921**	1.773**	-0.130	-0.129	-0.128	-0.0832
	(0.660)	(0.703)	(0.746)	(0.736)	(0.201)	(0.228)	(0.208)	(0.195)
Fertility rate	0.0637	0.0486	0.109	0.140	0.0709	0.0666	0.0880	0.0873
	(0.579)	(0.483)	(0.566)	(0.539)	(0.219)	(0.186)	(0.195)	(0.184)
Abortion rate	0.929	0.786	1.496	1.310	-0.460*	-0.366	-0.411	-0.453*
	(1.183)	(1.313)	(1.339)	(1.295)	(0.225)	(0.229)	(0.243)	(0.251)
Observations	245	245	240	240	245	245	240	240
Adjusted R ²	0.70	0.72	0.73	0.74	0.57	0.59	0.60	0.62
Region and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Robust standard errors, clustered by regions in parentheses.

6 Conclusion

The practice of conscientious objection to abortion, often discussed in its legal and ethical aspects, has rarely been the subject of empirical analysis with respect to its impact on abortion supply. The aim of this study was to assess whether conscientious objection limits access to abortion in Italy, since the practice is particularly widespread. We estimated the relation between the prevalence of objectors and two indicators of possible shortcomings in abortion availability at the they reside. This relation holds even accounting for other possible drivers of mobility, including avoidance of social stigma, geographical proximity of hospitals outside of the region, general mobility for healthcare services, and interregional migration. The prevalence of objection is also significantly related with longer waiting tregional level: abortion-related mobility and waiting time. The analysis of both aggregate and individual data shows that conscientious objection contributes to explain why many women in Italy obtain an abortion outside of the region whereimes to obtain an abortion. This empirical evidence consistently suggests that conscientious objection hampers access to abortion at the local level, imposing longer waiting times and travel distances, and thus greater costs, on women who intend to terminate pregnancy, particularly in certain parts of the country.

Further research will be necessary to establish whether limited availability of abortion providers affects the decision of having an abortion or just the decision of where to have one. However, the high prevalence of conscientious objection in Italy and its impact on abortion provision require careful consideration of the causes of the phenomenon and possible solutions. As the percentage of objectors increases overtime, involving almost the entirety of the healthcare personnel in some regions, the refusal to provide abortions seems to extend well beyond conscience and religion. To some extent, conscientious objection

might be a response to the perception that non-objectors are professionally disadvantaged, being relegated to the role of abortion providers in order to meet demand for abortions. While the law recognizes the practitioner's right to conscience-based refusal, it also establishes that hospitals must provide abortions, whereas in practice many healthcare facilities do not guarantee the service. Adequate abortion supply is necessary to permit easy and timely access to the voluntary termination of pregnancy, and it would be beneficial to grant a minimum presence of non-objectors in each hospital, or at least each region. This would ensure a reasonable workload per abortion provider and incentivize the choice of not objecting, increasing provider availability and limiting disparities across different parts of the country.

References

- Blank, R., George, C. C., and London, R. A. (1996). State abortion rates the impact of policies, providers, politics, demographics, and economic environment. *Journal of Health Economics*, 15(5):513–553.
- Bo, M., Zotti, C. M., and Charrier, L. (2015). Conscientious objection and waiting time for voluntary abortion in Italy. *The European Journal of Contraception & Reproductive Health Care*, 20(4):272–282. PMID: 25592398.
- Bo, M., Zotti, C. M., and Charrier, L. (2017). The no correlation argument: can the morality of conscientious objection be empirically supported? The Italian case. *BMC Medical Ethics*, 18(1):64.
- Brown, R. W., Jewell, R. T., and Rous, J. J. (1996). The impact of provider availability on abortion demand. *Contemporary Economic Policy*, 14(2):95–106.
- Brown, R. W., Jewell, R. T., and Rous, J. J. (2001). Provider availability, race, and abortion demand. *Southern Economic Journal*, 67(3):656–671.
- Chavkin, W., Leitman, L., and Polin, K. (2013). Conscientious objection and refusal to provide reproductive healthcare: A white paper examining prevalence, health consequences, and policy responses. *International Journal of Gynecology & Obstetrics*, 123:S41–S56.
- Cook, P. J., Parnell, A. M., Moore, M. J., and Pagnini, D. (1999). The effects of short-term variation in abortion funding on pregnancy outcomes. *Journal of Health Economics*, 18(2):241 – 257.
- D’Errico, A., Loghi, M., Spinelli, A., Pediconi, M., Timperi, F., Bucciarelli, M., and Andreozzi, S. (2018). Abortività volontaria. In *Rapporto Osservasalute 2017*, pages 288–293.

- Deyak, T. A. and Smith, V. K. (1976). The economic value of statute reform: The case of liberalized abortion. *Journal of Political Economy*, 84(1):83–99.
- Figà-Talamanca, I., Grandolfo, M. E., and Spinelli, A. (1986). Epidemiology of legal abortion in Italy. *International Journal of Epidemiology*, 15(3):343–351.
- Gius, M. P. (2007). The impact of provider availability and legal restrictions on the demand for abortions by young women. *The Social Science Journal*, 44(3):495–506.
- Gober, P. (1994). Why abortion rates vary: A geographical examination of the supply of and demand for abortion services in the United States in 1988. *Annals of the Association of American Geographers*, 84(2):230–250.
- Gohmann, S. F. and Ohsfeldt, R. L. (1993). Effects of price and availability on abortion demand. *Contemporary Economic Policy*.
- Grandolfo, M. E., Spinelli, A., Donati, S., Pediconi, M., Timperi, F., Stazi, M. A., Andreozzi, S., Greco, V., Medda, E., and Lauria, L. (1991). Epidemiologia dell'interruzione volontaria di gravidanza in Italia e possibilità di prevenzione. In di Sanità, I. S., editor, *Rapporto ISTISAN 91/25*.
- Haas-Wilson, D. (1993). The economic impact of state restrictions on abortion: Parental consent and notification laws and medicaid funding restrictions. *Journal of Policy Analysis and Management*, 12(3):498–511.
- Haas-Wilson, D. (1997). Women's reproductive choices: The impact of medicaid funding restrictions. *Family Planning Perspectives*, 29(5):228–233.
- Heino, A., Gissler, M., Apter, D., and Fiala, C. (2013). Conscientious objection and induced abortion in Europe. *The European Journal of Contraception & Reproductive Health Care*, 18(4):231–233. PMID: 23848269.

- Joyce, T. and Kaestner, R. (1996). The effect of expansions in medicaid income eligibility on abortion. *Demography*, 33(2):181–192.
- Levine, P. and Staiger, D. (2004). Abortion policy and fertility outcomes: The Eastern European experience. *The Journal of Law Economics*, 47(1):223–243.
- Levine, P. B., Trainor, A. B., and Zimmerman, D. J. (1995). The effect of medicaid abortion funding restrictions on abortions, pregnancies, and births. Working Paper 5066, National Bureau of Economic Research.
- Loghi, M., Spinelli, A., and D’Errico, A. (2013). Il declino dell’aborto volontario. In De Rose, A. and Dalla Zuanna, G., editors, *Rapporto sulla popolazione: sessualità e riproduzione nell’Italia contemporanea*, chapter 5, pages 97–116. Il Mulino.
- Matthews, S., Ribar, D. C., and Wilhelm, M. (1997). The effects of economic conditions and access to reproductive health services on state abortion rates and birthrates. *Family planning perspectives*, 29 2:52–60.
- Medoff, M. H. (1988). An economic analysis of the demand for abortions. *Economic Inquiry*, 26(2):353–359.
- Medoff, M. H. (2008). The response of abortion demand to changes in abortion costs. *Social Indicators Research*, 87(2):329–346.
- Medoff, M. H. (2010). State abortion policies, targeted regulation of abortion provider laws, and abortion demand. *Review of Policy Research*, 27(5):577–594.
- Meier, K. J., Haider-Markel, D. P., Stanislawski, A. J., and Mcfarlane, D. R. (1996). The impact of state-level restrictions on abortion. *Demography*, 33(3):307–312.
- Minerva, F. (2015). Conscientious objection in Italy. *Journal of Medical Ethics*, 41(2):170–173.

- Ministero della Salute (2017a). Rapporto annuale sull'attività di ricovero ospedaliero.
- Ministero della Salute (2017b). Relazione del ministro della salute sulla attuazione della legge contenente norme per la tutela sociale della maternità e per l'interruzione volontaria di gravidanza (legge 194/78).
- New, M. J. (2011). Analyzing the effect of anti-abortion u.s. state legislation in the post-Casey era. *State Politics & Policy Quarterly*, 11(1):28–47.
- Spinelli, A., Forcella, E., Di Rollo, S., and Grandolfo, M. E. (2006). L'interruzione volontaria di gravidanza tra le donne straniere in Italia. In di Sanità, I. S., editor, *Rapporto ISTISAN 06/17*.
- Zampas, C. (2013). Legal and ethical standards for protecting women's human rights and the practice of conscientious objection in reproductive healthcare settings. *International Journal of Gynecology & Obstetrics*, 123(S3):S63–S65.