

# Suspended workers, abortions and fertility <sup>\*†</sup>

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## Abstract

We investigate the effect of a job suspension policy aimed at counteracting the spread of Covid-19 on fertility patterns of Italian women, focusing on abortions (VPTs). In March 2020, the government forbade “non-essential” activities; we thus exploit the variability in the suspended workers’ share across municipalities to study the impact of closures on abortion rates (AR), and pregnancy rates. Relying on outstanding administrative data on VPTs and births, we find that, although social distancing caused an overall drop in abortions, municipalities in the 4<sup>th</sup> quartile of the suspended workers’ distribution saw a positive effect on quarterly ARs (10-13% the men pre-pandemic rate), compared to those in the lower tail; the impact is driven by industrial suspensions. A non-significant effect is found on births. Furthermore, we exploit information on socio-economic status and, for the first time in research with such data, on aborting women’s past reproductive behavior. The effect on abortions is driven mostly by married, non-working women. Plus, by those who previously carried over pregnancies (1-2 children). By contrast, the occupational sector of the aborting women is independent on the job suspension sector, while the industrial-driven effect linked to non-working, married women hints that, for abortion-seekers, male partners’ work trajectories matter more than theirs in the decision-making process, thus revealing potential exposure of gender imbalances over fertility choices within impacted couples.

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†The empirical analysis has been carried out at ISTAT’s Microdata Analysis Laboratory (ADELE) and complies with the relevant legislation on the protection of statistical confidentiality and protection of personal data. The results and opinions expressed are the authors’ sole responsibility and do not involve official statistical officers. The analysis makes use of administrative data directly referring to the recorded universe of the variables under question, thus they need not be weighted by the coefficients of carry from surveys to the universe.

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**JEL Classification:** I12, I18, J13, J16.

## 1 Introduction

After 2000, and all along the past recent decades, there has been an evident reversal of the formerly ascertained negative link between income and childbirths. Such turnover is clearly hinted by the positive cross-country association between GDP per capita and fertility, whose major explanations mostly refer to family planning and reproductive health determinants, which related to women's empowerment and improved control of their fertility (Doepke et al., 2022)<sup>1</sup>. As already suggested by the seminal paper by Becker, 1960, fertility decisions shall be analyzed under the economic lens, as they strongly matter to economic and policy implications: they concern family and childcare interventions, public and reproductive health, gender equality and, to a greater extent, welfare systems and economic growth. The topic bears even greater relevance in the context of the sharp demographic decline shown across developed countries (Lesthaeghe, 2010), among which Italy has been dealing with one of the bleakest (ISTAT, 2023). Beyond the usual outcomes of a couple's fertility decision (extensive margin - i.e. to have or not a child - and intensive margin - i.e. how many kids to have), there is another "negative" outcome which, to some extent, is independent on the anticipatory planning required to childbirths-related decisions: abortion.

The decision to abort is, in turn, a fertility choice embedding the similar socio-economic considerations needed to program a childbirth, but it does not involve the same planning characteristics nor the same room for manoeuvre with respect to timing. Abortion works as a resort to terminate an unwanted pregnancy, conditional on an existing one; therefore, it requires a faster planning process, as action must be taken within strict temporal limits since conception. As a matter of fact, global statistics indicate that about 35% of European and North American pregnancies between 2015 and 2019 were unintended (Bearak et al., 2020), whereas Buckles et al., 2019 estimate that the decline in American fertility between 2007 and 2016 ought to be credited to a 35% reduction in originally unplanned pregnancies.

This notwithstanding, it shall be deemed as naive to trace the fertility decline back to abortion deci-

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<sup>1</sup>Some of these include the easier access to female contraceptives (Goldin and Katz, 2002, Bailey, 2010) and abortions (Myers, 2017), education and technology-driven "social sterility" (Baudin et al., 2015), shifts in parental times' usage due to marketization of childcare (Del Boca, 2002, Bar et al., 2018), improvements in women's bargaining power within couples (Gobbi, 2018, Doepke and Kindermann, 2019), and changes in family size norms (de Silva and Tenreyro, 2020).

sions<sup>2</sup>. However, the monitoring of abortion patterns matters to considerations about the “second-step” choice of a fertility decision process, conditional on the first step which is the occurrence of an undesired gestation. This shall matter in drawing policy implications related to the interlink between demographics and economic determinants, and also health and gender-related assessments concerning female contraception policies and women’s control over their own fertility. Whereas the empirical literature on the outcomes of abortion liberalization has clearly shown that it had a substantial and favorable impact on women’s welfare and empowerment (Clarke, 2023), the termination of pregnancy still requires a surgical or medical intervention, that may embed health and psychological repercussions. Gender equity considerations are also fundamental: it could be topical to understand how many abortions are sought due to economic and/or psychological vulnerability. The latter may stem from fear of motherhood being a source of career costs and/or job displacement, or from the incapacity of controlling one’s own fertility because of within-couple vulnerabilities.

The aim of the present paper is to study how a public health policy targeting outcomes other to fertility and operating through economic channels (such as economic insecurity), may significantly impact family planning dynamics. The focus is on abortions mainly. We exploit the discontinuity brought about by the Covid-19 pandemic, which caused an unexpected, remarkable breakthrough on multifaceted aspects of daily lives. In particular, we leverage a public non-pharmaceutical economic policy aimed at counteracting the spread of the virus in the immediate outburst of the crisis, to study its impact on the pattern of voluntary pregnancy terminations of Italian women, following the quarterly evolution of municipal abortion rates (ARs) from 2018 to 2021. We draw this information from the administrative dataset on the universe of Italian abortions, annually collected by the Ministry of Health and managed by the Italian National Institute of Statistics (ISTAT). To study said policy shift, we exploit a TWFE Difference-in-Differences approach by “borrowing” the identification strategy from a group of similar studies, which define the “treated” units by leveraging the distribution of suspended workers to analyze diverse phenomena, such as mortality and mobility (Borri et al., 2021), the spread of contagion (Di Porto et al., 2022), and the impact of the derived economic insecurity on electoral outcomes (Bordignon et al., 2023).<sup>3</sup> The identifying device is embedded in the municipal share of workers suddenly suspended from their regular activities during the national lockdown. The suspension was imposed by the government between the end of March and June 2020, to workers in sectors deemed as “non-essential”. While the

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<sup>2</sup>Especially in the Italian context, where abortions have been following a long-lasting declining trend, as shown in the Ministerial Report on abortions in 2022, MoH, 2022.

<sup>3</sup>While Borri et al., 2021 and Bordignon et al., 2023 utilize the same source of data, Di Porto et al., 2022 employ a slightly different framework and other data

lockdown, homogeneous across the whole country, triggered an overall drop in abortion rates plausibly due to the reduction in social encounters *outside couples* (see also Trommlerová and González, 2024), such shift was heterogeneous across areas and had a different direction *within couples*, according to the share of suspended workers in such areas. To this extent, Trommlerová and González, 2024 observe a relevant drop in abortion rates in Spain just simultaneously with the lock-down implementation likewise. While the channels at work may be several, they argue that the major cause of such decrease is to be credited to an overall reduction of social interactions, rather than on supply-side factors. Their evidence can be easily extended, anecdotally, to the Italian case, as they are indeed characterized by similar cultural and economic features. Among the other things, they display fertility rates amongst the lowest within European Union (1.16 in Spain, 1.24 in Italy, Eurostat, 2024), and conscientious objection is legal in both countries (Bojovic et al., 2021). Furthermore, both countries adopted a similar package or very stringent policies almost concurrently. Such involved a sudden lock-down, followed by an immediate suspension of non-essential workers, which restrictions were both gradually loosened at the beginning of the Summer. It is then reasonable to believe, in such regards, that the overall drop in Italian VPTs was due to the lock-down likewise, which worsened the likelihood of social interactions, thence sexual intercourse among non-cohabiting people and, by consequence, unintended pregnancies.

A way through which the policy might hit abortions differentially is the increased amount of available time to be spent together at home, due to the suspension and to parity of the lock-down. This might enable an increase in intercourse between inactive individuals or between inactive ones and their partners, leading to heterogeneous fertility outcomes. Therefore, the differential effect might be driven by an underlying variation in unplanned child-bearings<sup>4</sup>. In addition, in areas economically more affected by the pandemic-related policies (i.e., with higher rates of suspensions), women might want to terminate unplanned pregnancies at different rates after March 2020 compared to normal times, due to the overall uncertain socio-economic context, being unwilling to carry out a motherhood in such bleak and deceiving prospects. First and foremost, compared to municipalities in the lower tail of the distribution, we find that the municipal areas hit more by the pandemic in terms of suspended jobs (i.e. the 4th quartile), saw an increase in quarterly ARs of resident women by slightly more than 10 p.p. Such values amount to more than 10% the average quarterly municipal AR in our data. However, the effect is short-lived, and the differential impact disappears after 6 months.

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<sup>4</sup>The sociological literature points out how increased time within abusive couples raises the exposure to domestic violence, which may be a driver of unplanned pregnancies linked either to direct sexual violence episodes or due to more complex dynamics of imbalances which elapse over time.

A major concern to our identification is its integration to the general context of the pandemic: similar non-pharmaceutical public policies and the overall trend of contagion and deaths may have contributed to affect the supply of abortion services, due to mobility restrictions, hospital workload and other limitations in reproductive assistance. In this regard, the study is provided with several robustness checks to rule out the channel of supply restrictions. Overall, evidence seems to show the absence of an impact of workers' suspension on the average provision of abortion services. We integrate the abortion analysis in further different directions, by employing the same DiD empirical design, but changing outcomes: we apply the same analysis on the municipal rates of pregnancies culminating, 9 months later, into live births, for which we have administrative data on birth registrations. The aim is to check whether the sudden suspension shock also affected more thoughtful and time-elapsed aspects of family planning. We find no effect on pregnancies resulting into live births. Second, we perform a thorough heterogeneity analysis by making use of detailed demographic and socio-economic information on aborting women, and by differentiating the identification between the suspended share of service workers and that of the industry. We retrieve that results are mostly driven by married women who are not working nor seeking for a job (out of the labor force, *OLF*). Concerning the treatment, the effect seems to be brought about by the suspension of industrial workers, while the economic branch of activity of women in the labor force does not seem to matter. These results point out to the direction that the policy might affect women mediated by their partner's job trajectories, rather than a direct socio-economic impact of the pandemic insecurity in their field of employment. Third, and for the first time in this strand of literature (in our knowledge at least), we explore the information on previous pregnancies of aborting women.. We retrieve that the effect of the work suspension is significant mostly for women that have already 1 or 2 kids, and for those who had aborted at most once in the past. Such outcomes may leave room to the hypothesis of socio-economic insecurity being part of the general explanation of the findings, and as a plausible argument in favor of female vulnerability or lack of independence with respect to male breadwinners. This also provides with relevant insights on how Italian couple may respond to exogenous shocks by adjusting their *ex-post* decisions concerning involuntary fertility.

The contribution of the present paper is threefold. First, it can be encompassed within the literature analyzing how socio-economic shocks affect fertility patterns broadly speaking, by adding relatively unexplored elements other than the mere hypothesis of resource constraint being caused by income or job loss: more time availability due to unemployment/job suspension; economic uncertainty meant in a broader sense; past reproductive behavior. Concerning unemployment shocks, Currie and Schwandt,

2014 found out that young women experiencing higher unemployment rates are associated to fewer live births; Bardits et al., 2023 and Cavallini, 2024 show instead that fertility rates are affected by job displacement and local unemployment; they both conclude that live births respond negatively. Some papers tackle the topic in the light of a work-motherhood trade-off: Del Bono et al., 2012, 2015, find out that job displacement negatively impacts fertility, mostly for high-skilled women working in career-oriented jobs<sup>5</sup>. Local negative income shocks also have a negative effect on fertility; real estate market price increases may play a detrimental role on fertility rates (Dettling and Kearney, 2014), as well as local income fluctuations (Schaller, 2016; Schaller et al., 2020). Demographic works found an association between the general socio-economic uncertainty and bleak prospect brought about by economic crises (such as the Great Recession) and low fertility rates too (Modena et al., 2014, Comolli, 2017, Caltabiano et al., 2017, Fahlén and Oláh, 2018).

Second, the present work aims at contributing to the quite novel economic literature on the determinants of abortion patterns. The so-called “economics of abortion policy” (see Clarke, 2023) has actually produced numerous contributions over the last three decades, mostly addressing the effect of the access to abortion (as in, abortion liberalization) on several social outcomes, improving female welfare and empowerment. Regarding the determinants of abortion patterns, mainly birth control practices have been tackled by research. A substantial strand of applied economic literature, mostly focusing on the Anglo-Saxon countries, assessed how abortion rates are impacted by reproductive health factors, such as contraceptive diffusion (Girma and Paton, 2006, 2011, Bailey, 2010, Ananat and Hungerman, 2012, Bentancor and Clarke, 2017, Cintina, 2017), and access restriction due to closure of abortion clinics (Colman et al., 2013, Fischer et al., 2018, Lindo et al., 2020, Venator and Fletcher, 2021). By contrast, along the past few years, a line of empirical research on the socio-economic determinants of the abortion demand has soared, mostly concerning the relationship between income/labor market opportunities and fertility: Herbst, 2011 , for instance, displays how increases in income tax-credits lowered abortions in the U.S. Regarding family policies, González, 2013; González and Trommlerová, 2023 analyzed how the introduction (and cancellation) of child benefits influenced Spanish abortion rates. Some studies on abortions inquire both those and childbirth rates: for instance, Bardits et al., 2023 investigate the positive effect of mass layoffs on pregnancy termination choices amongst Hungarian women, while Cavallini, 2024, uses a Bartik IV strategy to find a positive association between provincial unemployment

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<sup>5</sup>Such evidence is consistent with later literature on the so-called “motherhood penalty” (Adda et al., 2017), according to which the child penalties usually associated to parenthood bring about lower earnings trajectories for women, in doing this contributing to widen the gender gap (Goldin, 2014, Angelov et al., 2016, Kleven et al., 2019, Lucifora et al., 2021, Zandberg, 2021, Core, 2024).

and abortion. Few recent studies assess even further determinants: González et al., 2023 investigate the role of Spanish political partisanship on abortion rates, while the findings of Pieroni, Rossellò Roig, et al., 2023 highlight that granting legal status to immigrant women in Italy substantially reduced their abortion rates. Abortion being legal notwithstanding, in some countries (like Italy or Spain) gynecologists are granted the right of conscientious objection for cultural or religious reasons, and more than half of them resort to such devise. This seems to impact the exercise of the right to abort for the women seeking for it (Bo et al., 2015, Autorino et al., 2020, Muratori, 2023). The interaction between a legal right and a restricted supply can even bring about relevant long-term repercussions. S. Miller et al., 2023 and Londoño-Vélez and Saravia, 2025 surveyed indeed the long-run worsening of health and labor outcomes of women (and their children) to whom abortion is denied, albeit for gestational limits.

Eventually, our work aims at extending the knowledge about the consequences of Covid-19, in terms of fertility and gender disparities. Among the other things, fertility has been studied in relation to the initial pandemic phase-related birth trends. Early demographic predictions by Aassve et al., 2021, displayed a baby bust in most advanced countries in the immediate aftermath of the pandemic, with Sobotka et al., 2023, retrieving that the downturn observed just after the outbreak was mostly short-lived. A relevant economic appraisal in such heading is the one by González and Trommlerová, 2024, who assess the impact of the pandemic's restriction policy on Spanish fertility rates, by retrieving a pattern similar to the mentioned ones. In Italy, one of the countries hit the earliest and the hardest, demographic studies underlined the negative impact of insecurity on family planning decisions (Luppi et al., 2020, Rosina et al., 2022). To this extent, fertility choices are a key matter in the context of the pandemic crisis, which has been shown to be affecting women harder than men, compared to previous crises. For the latter reason, many scholars have re-branded the pandemic crisis as a “She-cession”. The various policies and social distancing had indeed a sectoral-specific economic impact (Dingel and Neiman, 2020), whereas the affected sectors were characterised, on average, by larger female employment share. Therefore, the extent of the She-cession features job loss in general, more significant for women than men (Adams-Prassl et al., 2020, Alon et al., 2021, Crossley et al., 2021, Montenovo et al., 2022, Bluedorn et al., 2023), the positive shifts of female labor supply from market to childcare and home care (Alon et al., 2020, Del Boca et al., 2020, Hupkau and Petrongolo, 2020, Zamarro and Prados, 2021, Deryugina et al., 2021), and a detrimental impact on female mental health (Galasso et al., 2020, Etheridge and Spantig, 2022, Barili et al., 2024). Regarding the relationship between fertility and Covid-related remote working (which has the faculty to notably affect households' time consumption

patterns), Kurowska et al., 2023 find out how highly tele-workable tasks are negatively associated with fertility intentions, due to the increase in the blurriness of the limits between work and free time once most activities in both contexts were to be performed at home; their claims are not causal though.

There is also some cross-county evidence on the impact of Covid-19 on abortion access, although they focus mostly on the supply of pregnancy interruption services rather than on the demand side (Bojovic et al., 2021, Ong et al., 2023), while the medical paper by Thacher et al., 2024 uses Swedish data to assess the impact of the pandemic on deliveries and induced abortions through the age channel. In terms of the covered subject, the work by Trommlerová and González, 2024 is the closest existing contribution, as it studies the negative impact of the lock-down on abortion patterns, observed in Spain due to the decrease in social interactions, although their methodology relies on a temporal discontinuity which does not account for other forms of territorial heterogeneity. To a certain extent, Cavallini, 2024's work is also very alike to ours, since it studies the role of local unemployment in driving up (down) abortion (fertility) rates. In addition, by focusing on Italy, she exploits the very same dataset which we use, although her levels of frequency and aggregation are the provincial and annual ones, unlike our municipal, quarterly disaggregation<sup>6</sup>. Plus, we try to, if not uncover at least underline the potential existence of asymmetric channels operating through the job trajectories of different genders within couples.

The work is structured as follows: after the introduction, which includes a literature review (Section 1), we present the institutional framework on abortion laws in Italy and on how the government responded to the COVID-19 outbreak (Section 2). In Section 3 we describe the data, whereas Section 4 introduces the identification strategy and the empirical model, whose results are reported in Section 5. Section 6 is dedicated to robustness checks, to internally validate the estimates. In Section 7 we perform heterogeneity analyses to better dwell into our findings, while in (Section 8), the same is done through some ancillary evidence explored via other data sources (live births, domestic violence, contraception). After a brief discussion on feasible research implications, concluding remarks are reported in Section 9.

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<sup>6</sup>The other relevant works utilizing the same ISTAT source on abortions are Bo et al., 2015, Autorino et al., 2020, Pieroni, Rossellò Roig, et al., 2023, Muratori, 2023

## 2 Institutional Background

### 2.1 Abortion in Italy

The Italian National Health Service (*Servizio Sanitario Nazionale* in Italian; *NHS* from now on) is a public, tax-funded system which offers universal coverage for a broad set of services. Voluntary Pregnancy Terminations (VPT, in Italian *Interruzione Volontaria di Gravidanza*, IVG) are provided by the NHS free of charge since 1978, as it was made legal by L. no. 174 1978. A woman can undertake a VPT within 90 days from the conception, provided that pregnancy, childbirth, or maternity may compromise her health, either psychic or physic, taking into consideration her health, economic, social or family characteristics, the occurrence during which the pregnancy happened, or the possibility that the newborn will suffer from malformations or anomalies. The looseness of such conditionalities enables any woman who demands the abortion service within the specified terms to interrupt her pregnancy, setting abortion as a woman's legal right. After 90 days, a pregnancy can be interrupted only when the mother's mental and/or physical health is in danger. The service can be performed to any woman, irrespective of her citizenship, her residence, and her potential partner's consent. To do so, a gynaecologist must first certify the occurred pregnancy and indicate a presumed date of conception; then, unless the situation requires urgency, the woman has to wait a week of reflection before undergoing the treatment.

*[Insert Figure 1 here]*

The VPT, whether it is a surgical or medical one, must be performed inside a hospital, and the anonymity of the aborting woman shall be guaranteed. In case of a minor, undertaking the VPT requires the consent of her parent or tutor. Art. 9 of Law 194 also regulates the right for gynaecologists and other health professionals to exercise conscientious objection, i.e. to avoid administering a VPT to a woman, unless she is in danger for her life. In Italy, conscientious objection is widespread among doctors and health professionals, mostly for religious, moral or career advancement reasons (de la Fuente Fonnest et al., 2000, Muratori, 2023). The hospitalization requirement is fundamental to monitor the women's health after the abortion; in this regard, the National Institute of Health (*Istituto Superiore di Sanità*, ISS) has maintained a surveillance system on Italian VPTs since 1978 (*Sistema di sorveglianza epidemiologica delle IVG*), based on communication with health authorities, the Ministry of Health, and the National Institute of Statistics (ISTAT).

Official data (Figure 1), show a persistent decreasing trend in the abortion rate (AR - i.e. the number

of VPTs every 1000 women aged between 15 and 49 years) over the last decades, and in the General Fertility Rate (GFR, number of live births every 1000 women in fertile age) too. In 2021, both variables seem to have faced a little rebound after the 2020's trough, possibly related to the Covid-19 outbreak aftermath (Rosina et al., 2022). The official 2021 report made by the Ministry of Health (MoH, 2022) confirmed that the trend (63.653 VPTs in 2021) was maintaining its long-lasting decline since 1983. According to the report, the major drivers of the fall in abortion rates are the legalization of abortion itself, the increase in utilization of contraceptives and information about them, and the support provided by professionals in health centers and reproductive care facilities.

Geographically speaking, the pattern for abortions results quite heterogeneous (see Figure A1 in Appendix A). In such regards, conscientious objection is credited as a major setback to abortion supply. Some facts about that are worth to mention indeed. The Ministry of Health reported that conscientious objection, in 2021, involved 63.4% (in 2020 they were 64.6%) of Italian gynaecologists, a rate characterized by strong regional heterogeneities, ranging from 17% (autonomous province of Trento) to 85% (Sicily). In general, conscientious objection is mostly spread in the Southern and North-Eastern regions, as it is shown by Figure A2 in appendix. These percentages are not, however, deemed as a substantial obstacle to the right to abort by the Ministry of Health. Recent contributions tried to challenge the latter conclusion. According to Bo et al., 2015, conscientious objection significantly increases the workload of non-objectors and amplifies the waiting times to undertake an abortion. Autorino et al., 2020 find instead a positive correlation between the regional rates of objection, waiting times and the flow of women aborting outside of their region of residence. Muratori, 2023 even challenges the accuracy of the data collected by the Ministry: after collecting data on objection at provincial level, she retrieves a detrimental positive correlation between objection and illegal terminations of pregnancy, "hidden" by miscarriage data.

## 2.2 The Covid-19 Pandemic and the Italian Economy

As of the beginning of 2024, Italy results as the 8<sup>th</sup> Country in the world for total cases of Covid-19 (see Worldometer); in fact, in January 2<sup>nd</sup> 2022, with 6.442 million cases and 137,000 deaths, it was one of the countries hit the most by the pandemic. After discovering the virus in China in December 2019, the first Italian case of Covid-19 was registered in Lombardy in February 2020; then, the disease rapidly spread across the region and the whole nation with severe impacts on mortality and public health, as documented by early studies (Buonanno et al., 2020, Depalo, 2021, Cerqua et al., 2021). The

health consequences persisted all over 2020 and 2021, as excess mortality, measured as mortality in such biennium net of the mean of mortality in the years between 2015 and 2019, saw a significant increase (see [Figure D1](#) in [Appendix D](#)). Being the first European country having to deal with such a fast spread of contagions, Italy was also the first one to undertake strict measures; after applying some mobility restrictions to the early affected areas, the government declared a national lockdown on 9<sup>th</sup> March 2020, paralyzing the whole Country. On 11<sup>th</sup> March 2020, a further decree of the President of the Council of Minister (DPCM) imposed the suspension of common retail and schooling activities, the closing of restaurants and the ban on meetings in public spaces. Such restrictions were exacerbated with a DPCM on 22<sup>nd</sup> March 2020, which provided with a distinction between “essential” and “non-essential” activities, based on their ATECO-5 digit classification. Non-essential activities were suspended, and all the related enterprises and affiliated workers with them. In the meantime, the government undertook massive action to deal with the harmful economic repercussions stemming from the health crisis. On the 17<sup>th</sup> March, the legislative decree *Cura Italia (Cure Italy)* was issued. Through the latter, an amount of €4 billion was allocated to the *exceptional fund for supplement earnings (Cassa Integrazione, or CIG)*, which was exploited by private employers forced to reduce or suspend their activities during the pandemic to pay wages and compensations. The allowance was a resort to employers who did benefit from the standard pre-pandemic CIG as well as to those who did not. Wage subsidies requirements were also loosened, and several simplification measures and exemptions were guaranteed to employers with respect to social security contributions. The government also introduced a €600 indemnity for free-lancers, traders, farmers and seasonal workers, an “emergency income” ranging from €400 to €800 for households in hardship, and several lump-sum bonuses to specific vulnerable categories (MEF, [2020](#)). The decree also suspended dismissals for companies already resorting to supplement earnings (*firing freeze*), forbade house evictions (*eviction freeze*), and imposed a loan standstill for SMEs and free-lance professionals (*moratorium*). Such measures were implemented as a response to the economic problems caused by the lockdown and job suspension orders, and aimed at protecting the most vulnerable citizens and workers in a period of high economic uncertainty. Although planned as momentary interventions meant to last for few months, they ended up being periodically renewed and prolonged all over 2020 and up until 2021; at the end of 2020 alone, the government had outlaid €35 billion circa to support work (MEF, [2020](#)). On the other hand, the national lock-down lasted until the 4<sup>th</sup> May 2020 only, while economic closures of non-essential activities started being loosened gradually; the process lasted as far as the summer, when most businesses had re-opened. After an almost complete return to normality over the summer, Fall

2020 saw a resurgence of cases and deaths. Starting from 6<sup>th</sup> November 2020, and until late June 2021, a national curfew was declared all over the country, while different degrees of restrictions were imposed at regional (in some cases provincial) level, according to the severity of the contagion. Regions started to be classified weekly in four categories marked by specific colors, depending on contagion diffusion. Details on the mobility and economic restrictions imposed during the “coloring” times are described in Conteduca and Borin, 2022. Notwithstanding some commercial and labor restrictions imposed to enterprises (like opening curfews and workers’ safeguards), the performance of all economic activities would never be shut down again. After some further restrictions between the end of 2021 and the beginning of 2022 due to a new wave of cases, the emergency state, initially declared on 31<sup>st</sup> January 2020, ceased on 22<sup>nd</sup> April 2022.

### 3 Data

The present work requires the matching of various sources of data. Concerning the outcomes, ISTAT collects the annual cross-sections of all Italian abortions, as envisaged by the epidemiological surveillance system on Italian VPTs. These surveys are available upon request at the ISTAT Laboratories for the analysis of microdata, ADELE. The present study makes use of the universe of VPTs performed in Italy between 2018 and 2021, available at monthly frequency and collapsed quarterly for the purpose of the present work<sup>7</sup>. The choice of the time-span stems from such years being the ones around the Covid outbreak, for which also the aborting women’s municipality of residence has been collected (not available for previous or subsequent years). The total number of VPTs during these years amounts to 276,760 abortions. We remove about 8,500 observations with relevant missing information or concerning women residing abroad. Our final sample is composed by 268,054 abortions, undertaken by women using the legal VPT service.

The annual cross-sections are then aggregated into a municipal quarterly panel of 126,448 observations. The dataset also contains relevant information about women’s demographics (year and province of birth, macro-area, region, province and municipality of residence, citizenship, marital status, age

<sup>7</sup>Variables are collapsed quarterly for the following reasons: 1) being abortion trends strongly seasonal (they follow conception patterns), the quarterly aggregation helps removing the bulk of said seasonality; 2) measuring monthly outcomes for almost 8000 municipalities yields an extremely high number of zeros, placing heavy weight on the extensive margin, which is partly offset by aggregating quarterly; 3) the policy was introduced on the 22<sup>nd</sup> March 2020, at the end of 2020Q1. Accounting for the “week of reflection” before VPTS, the consequences of the policies could only start unfolding in April (except, of course, for the VPTs performed in the weeks between the end of March and the beginning of April, conceived before the closures). Thereby, we can consider the effect to deploy since 2020Q2. To corroborate the design though, we perform the same analysis at different frequencies, including the monthly one ([Section 7](#)).

class, whether they are minor), socio-economic status (level of education, professional condition, professional position, economic branch of activity), health-related data concerning previous pregnancies and the current one (number of previous VPTs, miscarriages, pregnancies, live births and stillbirths, gestational age, fetal malformation and number of weeks of amenorrhea). There are also details on the VPT procedure (urgency, analgesia, type of intervention, hospitalization regime, length of stay) and the identification code of the institute where the medical treatment is performed. The main outcome of interest is the Abortion Rate (AR) measured for the municipality of residence of the aborting women and defined by following the official ISTAT definition. As in, the total number of VPTs undertaken by women of a given municipality, divided by the municipal female population in fertile age (15-49 years old).

We also match information about medical facilities reported in our data with the official dataset on healthcare institutions recovered from the open data of the Italian Ministry of Health to obtain additional information about the municipalities, provinces, local health authorities and regions where the VPTs are undergone. Since hospitals are not present in all municipalities, the matched units in terms municipalities-of-hospital/quarters are 5,492, way fewer than the total of the units in the main residence-based panel.

Data on the official municipal population per age are recovered from the demographic section of the ISTAT website for the years 2019-2021. For 2018, the inter census reconstruction, made available by the same institution, is used.

We also make use of ISTAT data on municipal registration of childbirths from 2018 and 2021, to have information about the pregnancies which are not terminated. The frequency of birth data collection is daily, and we can recover all 1,664,972 births registered in Italy between 2018 and 2021, with information on the birth date of the registered children, their municipality of residence and that of birth; plus, we know their parents' marital status and the number of minor kids in the household of the head of the family. We are interested in analyzing the impact of the policy on the occurrence of pregnancies which are carried on. Therefore, we look only at births registered 9 months after the periods measured in the sample<sup>8</sup>. We then aggregate at quarterly level to match with our dataset about abortions<sup>9</sup>. Since we do not have the birth registrations in 2022, we cannot calculate conceptions happening between April and December 2021, thus losing the last nine months of the sample. We use information about births

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<sup>8</sup>Being pregnancies registered on a daily basis, we shift backwards the day of birth of the children by 270 days (9 months), to get a rough estimate of the daily conceptions occurring in Italy in the period under consideration and resulting into live births

<sup>9</sup>Note that disaggregating at more granular frequencies does not affect our estimates on pregnancies.

to define a further outcome measure, i.e. the pregnancy rate, constructed as the ratio of (estimated) pregnancies carried over and registered 9 months after the supposed conception, over the total population of women in fertile age (15-49).

In addition, we recovered the share of temporarily inactive workers across Italian municipalities during the national lock-down for the year 2020 from ISTAT. The municipal information on the inactive share of workers was disclosed by [ISTAT on May 2020](#). The dataset makes use of the Statistical Register on the economic results of Italian enterprises, the *Frame SBS Territoriale*, as in *Frame of the territorial Structural Business Register*, which contains information on the Italian firms active in the private sector (4.4 million at the considered time), regarding their revenues, value added, workers and employees, and the ATECO-5 digit sector within which they perform their activity. The data involves all 7978 municipalities, which can be aggregated into 610 Local Labor Market Areas<sup>10</sup>. Both the municipal and LMA distribution of the suspended workers' share is reported in [Figure 2](#). The sectoral share of workers refers to the local units in 2017 (the most recent one before 2020), confirming that the distribution of the working population was orthogonal to the pandemic outbreak<sup>11</sup>. ISTAT matched such data with information on the suspended sectors during the lock-down, enabling a detailed estimate of the number of inactive workers at municipal level after the economic closures, and their share over total working population<sup>12</sup>. Although the share of active and suspended workers is not available for each sector at the municipal level, we have information about the disaggregation between industry and service sector<sup>13</sup>.

*[Insert Figure 2]*

Eventually, starting from November 2020, Italian areas began adopting heterogeneous restrictions according to the number of contagions registered within their borders (RT index): they were being also classified as “colored zones” (in ascending order of severity: white, yellow, orange and red). To account for that, we add up to the model some covariates, which proxy for the quarterly days of colored regions and for the stringency of the restrictions imposed on given areas, together with the excess quarterly mortality, by making use of the indicators devised by Conteduca and Borin, [2022](#), better explained in [Appendix D](#). Together with this set of policy covariates, we add data on municipal excess mortality,

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<sup>10</sup>In the wording of ISTAT, LMAs are “610 sub-regional areas where the bulk of the labour force lives and works, where establishments find the main part of the labour force (...), defined on a functional basis, the key criterion being the proportion of commuters who cross the LMA boundary on to work.”.

<sup>11</sup>This may constitute a problem in case of relevant structural and labor market changes occurring in Italy between 2017 and 2020. However, as also highlighted by Borri et al., [2021](#), this is not the case.

<sup>12</sup>Estimates of workers stem from calculations on job positions and worked hours.

<sup>13</sup>The dataset does not have information on people active in agriculture, hunting and fishing, public administration, finance and insurance, household and self-production activities and international organizations

aggregated at quarterly frequency, as provided by ISTAT with the official and publicly available dataset about causes of mortality in Italy<sup>14</sup>

While the aim is to try and assess whether work suspensions stemming from the governmental policy have a differential impact on abortion decisions, we reckon how, after the implementation of the policy, abortion rates substantially dropped all over the sample, although heterogeneously across the suspended workers' share distribution. In [Section 8](#), we argue and try to empirically validate the finding that the observed difference between the municipalities in the upper portion of the distribution and the other ones is not driven by reasons linked to the healthcare supply contraction; however, it is worth to understand why a decrease in VPTs is seen in the available data, in the period involving the lock-down.

*[Insert Table 1]*

## 4 Empirical Strategy

When, on March 2020, the government declared some sectors as “essential” based on their Ateco code, a substantial share of Italian workers occupied in non-essential activities were suspended from their job. Such suspension lasted from March to middle June (for some activities even later), with the end of the lock-down happening on May 4. The exploitation of the heterogeneity of such share as means of identification is not novel in the Italian economic literature (Borri et al., [2021](#), Di Porto et al., [2022](#)). The suspended workers' share functions as a compelling exogenous shift in the general economic conditions (Bordignon et al., [2023](#)), as the distinction between essential and non-essential activities was something never thought about before the already unexpected event of the pandemic, and it was legally imposed by the government; there was no way to anticipate the closures and their impact on the labor market<sup>15</sup>. The temporary inactivity of workers caused by the pandemic may represent a reasonable proxy of the unexpected perceived vulnerability for the future embedded by the shock, being able to

<sup>14</sup>This will be made clearer in the next section, but these regressors do not really condition for unobservable confounders; indeed, as these are all post-treatment variables, time-varying omitted heterogeneities related to the pandemic policies may not be captured. This notwithstanding, we add them up to the specification to assess whether the outcome somehow follows the epidemiological pattern of the pandemic anyway, similarly to Franzoni et al., [2024](#). Descriptive information about the abortion dataset are presented in [Table 1](#).

<sup>15</sup>It is relevant to stress the difference between inactive share and unemployment. As notorious, the unemployment share is higher in Southern Italian areas, while the inactive share during the lock-down was mostly greater in the Centre-Northern parts of the Country, due to sectoral heterogeneity motifs. We can observe how ([Figure C1](#) in [Appendix C](#)), in terms of mere correlation, the suspended workers' share across Local Market Areas, was actually negatively associated to their unemployment rate in 2020. Such North-South sectoral asymmetry in suspensions due to the pandemic and unemployment turns out to be consistent with previous literature on Covid-19 and the labor market (Cerqua and Letta, [2022](#)).

capture municipal-level dynamics not embedded into provincial employment statistics. Bordignon et al., 2023 utilize survey data to observe how the condition of temporary inactivity was able indeed to shift the vote preferences of the sampled citizens, due to uncertainty for the future; this shall hold for the postponement of fertility. The identification allows for the possibility of an increase in sexual intercourse within cohabiting couples too, as higher prevalence of non-essential workers staying home with their partners might be linked to more unplanned pregnancies. The latter could be linked indeed to the positive shift in time available together, irrespective of economic insecurity.

With respect to the time dimension, the latter may also affect non-voluntary pregnancies due to non-intended intercourse tied to abusive within-couple dynamics, leading women not to be in control of their own fertility, which potentially involves psychological or sexual IPV (*Intimate Partner Violence*). Data report indeed a peak in the calls to the Italian hot-line for domestic violence after the closure of economic activities in 2020 (Figure B1 in Appendix B)<sup>16</sup>.

Holding the latter considerations as fair, it is worth to note that economic uncertainty may also make less affordable the unplanned fertility stemming from the time shock (i.e., there are more unexpected pregnancies, but they are carried over at a lower rate). Eventually, mobility restrictions may have caused a setback to people moving across areas seeking for healthcare, while clogged institutes due to the treating of large numbers of infected people may have been delayed in the undertaking of VPTs (Bojovic et al., 2021), especially those with many objectors; longer waiting times might also lead women to overcome the eligibility time threshold. In such case, we would observe a supply-driven decrease in abortion rates in areas hit harder by the pandemic in epidemiological terms<sup>17</sup>: this is tackled in Section 5.1.

We illustrate the identification strategy for our main outcome (the VPTs) by means of two Dyrected Acyclic Graphs (DAG), reported in Appendix C. In Figure C2, we observe the phenomena described insofar, without including the identifying device. We also add a dotted arrow between socio-economic insecurity and a possible, unknown shift in consensual sex, mediated by some unobservable  $U$ . As the economic closures were announced two weeks after the national lockdown, the consequences of the two policies deployed almost concurrently (the time dimension is thus neglected), causing a compound effect. In the DAG, we stress how they may have reasonably affected the same channels in the same direction

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<sup>16</sup>Early estimates displayed a similar pattern in the U.S. after the introduction of shelter-in-home policies (Leslie and Wilson, 2020). However, A. R. Miller et al., 2022, 2023 found no robust evidence of increases in American IPV consistent with the exposure theory. They conclude that the concerns raised by policy-makers news outlet about the possible surge of IPV episodes during lockdowns were the triggering determinant in the increase of calls, which were not linked to a raise in actual violence. Similar results were found in Italy by Colagrossi et al., 2022.

<sup>17</sup>Women may also be discouraged to access hospitals in areas where it was more likely to contract the virus.

before reverberating on the VPTs; as a matter of fact, the outcome of both policies was the same, i.e. to stay at home. In addition, the lockdown was homogeneous across the whole country, hence it is not possible to disentangle its impact by identifying municipalities hit more severely, as all of them were affected to the same extent. By contrast, the distribution of the suspended workers was strongly heterogeneous. The second DAG (Figure C3) displays what changes in the identification of the effects after introducing such empirical device (indicated as “inactive share” in the picture). By means of the inactive share, we place into the framework a further dimension of variability, which adds up to the homogeneous shift caused by the national lockdown. The paths originating from the latter can thus be closed (as marked by the  $X$ ). Note that the basic identification strategy, which gives shape to our baseline estimates, only allows to address the “raw” impact of the economic closures on the VPTs, with no discernment across the various channels. Plus, it must be also clear that the inactive share may open an unknown backdoor path related to the link between local economies’ characteristics and VPT trends. As long as these unobservables are not time-varying, we can close such path by means of fixed effects, while including interacted province by time fixed effects allows to a better degree of control to such extent.

To assess the effect of the work suspensions on Italian VPTs, we estimate via OLS a TWFE Difference-in-Differences model, defined as follows:

$$AR_{mpt} = \beta_1 + \sum_{k=2}^4 \beta_k Post_t \times \mathbb{1}(Inactive Share_{q2/2020} \in Q_k) + X'_{mt}\beta + \tau_m + \gamma_t + \varepsilon_{mt} \quad (1)$$

The outcome of interest is  $AR_{mpt}$ , the abortion rate in municipality  $m$  (municipality of residence), in province  $p$ , in quarter-year  $t$ .  $Post_t$  is a dummy taking value 1 when  $t \geq Q2/2020$ , 0 otherwise.  $\mathbb{1}(Inactive Share_{q2/2020} \in Q_k)$  is a binary variable which equals 1 when  $m$  belongs to the  $k^{th}$  quartile  $Q_k$  of the inactive share distribution during the lockdown, 0 otherwise.  $X'_{mt}$  is the set of municipal-level, quarterly covariates for restrictions’ severity and viral diffusion: specifically, we include the average quarterly stringency index and the total number of red, orange and yellow area days, being white area the omitted category. We also include quarterly, municipal excess mortality, to proxy for the seriousness of the viral impact of the pandemic on referred areas, which further accounts for both health providers’ excessive workload and for a higher perception of epidemiological risk (see Franzoni et al., 2024); such post-treatment covariates allow to track whether the phenomenon follows the epidemiological evolution of the pandemic. However, they cannot really condition for other time-varying unobservables related to

the infection, as they all are post-treatment variables, reasonably related to other phenomena captured by the error term  $\varepsilon_{mt}$ .  $\tau_m$  are the municipal FEs, while  $\gamma_t$  the quarter-year FEs. Provided with the baseline model, we run further estimates by including  $\delta_{p,t}$  in the equation; the latter is an interaction between the province of residence and quarter-year dummies, which accounts for the presence of unobservable time-varying heterogeneity that may be affecting VPTs at an aggregate level by following a persistent pattern. The chosen level of aggregation of the interaction is provincial, as the heterogeneity evolution (mirroring the “secular” decline in VPTs) may be possibly linked to the factors underlined by the ISS and the Italian Ministry of Health, such as the evolution of birth control facilities, the presence of reproductive care assistance on the territory or other healthcare-related motifs. Although Italian healthcare is administered at regional level, some of its functions are further de-centralized to Local Health Authorities, so it is meaningful to include an intermediate level of aggregation to capture the time-varying interaction between factors strictly related to healthcare and other provincial socio-demographic changing determinants. The coefficient of major interest is  $\beta_4$ . It represents the ITT (Intention-to-Treat) of suspending higher shares of workers in given municipalities, on the resulting abortion rate. Since the distinction between treated and controlled units is not neat, as also lower parts of the distribution are affected by the policy, what we do is to make discrete an actually continuous treatment (Callaway et al., 2021). The reference point, as in the omitted category, is the 1<sup>st</sup> quartile of the distribution.

Additionally, since the unit of observation is municipal, taken at quarterly frequency, the majority of observations (small Italian municipalities with few inhabitants) presents a null rate. Given such high prevalence of zeros, and provided for the count data nature of the Abortion Rate, we benchmark our OLS results by estimating the non-linear model in [Equation 3](#), as in a Pseudo-Poisson Maximum Likelihood (PPML) panel regression with the same inputs, in the fashion of both Lindo et al., 2020 and **murato**.

$$\begin{aligned} E(AR_{mpt}|Post_t, \text{ Inactive Share}_{q2/2020}, X'_{mt}, \tau_i, \gamma_t, \delta_{p,t}) &= \\ &= \exp(\beta_1 + \sum_{k=2}^4 \beta_k Post_t \times \mathbb{1}(\text{Inactive Share}_{q2/2020} \in Q_k) + X'_{mt}\beta + \tau_i + \gamma_t + \delta_{p,t}) \end{aligned} \tag{2}$$

The statistics of interest of the latter are the marginal effects of the estimated coefficients  $\beta_4$ ,  $\beta_3$  and  $\beta_2$ .

*Parallel trend assumption.* Since the design is based on a Difference-in-Differences methodology, in order for the estimates to hold robustly, the parallel trend assumption needs to be met. That means, in absence of the treatment (i.e. the repercussions triggered by Covid-related closures), the “treated” (4th

quartile) and “non-treated” units (other quartiles) would evolve following their pre-existing path. To robustly control for this, we assume that the counterfactual in absence of treatment for the treated units was the same as before the treatment; then, we compare the evolution of abortion rates in treated units before the treatment, to look at what would have happened had the work suspension never occurred. In order to perform such robustness check, we estimate an event-study equation as follows:

$$AR_{mpt} = \beta_0 + \sum_{j=2}^J \beta_j (Lead\ j)_{mt} + \sum_{k=1}^K \beta_k (Lag\ k)_{mt} + X'_{mt}\beta + \tau_m + \gamma_t + \delta_{p,t} + \varepsilon_{mt} \quad (3)$$

The equation above shall be interpreted on the basis of the event of interest, which is  $Event_t := 2020Q2$ . As in [Equation \(2\)](#),  $m$  is the municipality of residence of the women.  $(Lead\ j)_{mt}$  are the leads, as in the pre-treatment period dummies equal to 1 if associated to the treated units (i.e., belonging to the 4<sup>th</sup> quartile) and 0 otherwise (other quartiles), with  $(Lead\ j)_{mt} = \mathbb{1}[t = Event_t - j] \text{ for } j \in \{1, \dots, J\}$ . On the other hand, the lags are  $(Lag\ k)_{mt}$ , i.e. the post-treatment period dummies equal to 1 if associated to the treated units again, with  $(Lag\ k)_{mt} = \mathbb{1}[t = Event_t + k] \text{ for } k \in \{1, \dots, K\}$ .  $(Lead\ 1)_{mt}$  is set equal to 0 as baseline, to avoid multicollinearity. The specification involves, as in the baseline, policy covariates, time and municipality FEs; in a further model we include the interaction dummies for Province x Quarter and Year FEs as well. The coefficients of the event study are estimated both via OLS ([Figure 3](#)), and Poisson (the latter mirroring [Equation 7](#); its MEs are reported in [Figure E1](#) in [Appendix E](#)).

## 5 Baseline Results

The overall drop in induced abortions notwithstanding, a visible difference in the patterns of ARs is observed across the suspended workers’ share distribution, suggesting it might affect said pattern. By comparing outcomes (VPTs, births) before and after 2020Q2, over the distribution of inactive workers across Italian municipalities (or Local Market Areas), we track the effect of the local economic change on aggregate abortion decisions, by ruling out the explanations due to lock-down, as the whole country was under such homogeneous restrictive measure for a some time. Work suspensions also acted as a further trigger of the social and economic insecurity brought about by the general bleak economic situation ([Bordignon et al., 2023](#)). This mattered especially for women, as the pandemic mostly resulted in the increase in unemployment in given service sectors ([Bluedorn et al., 2023](#)), where the share of employed women was higher ([Casarico and Lattanzio, 2022](#)).

OLS estimates of [Equation 2](#) and PPML estimates of [Equation 3](#) are reported in [Table 2](#) and [Table 3](#), respectively. Results clearly show that belonging to the higher tails of the inactive share distribution has a positive impact on the municipal AR. However, only the dummy for the 4<sup>th</sup> quartile is statistically significant in both specifications. Column (1) of both tables reports the baseline model results without policy restriction covariates. In Column (3) covariates are added; in Column (5) the model is integrated by provincial interactions. Columns (2), (4) and (6) of both tables display how the models are consistent when coefficients are estimated through (log-) municipal population weighing<sup>18</sup>. The coefficient on the 4<sup>th</sup> quartile is significant at 1% level in all specifications, with Column (5) of [Table 2](#) being significant at 5% level (i.e., the unweighted OLS specification with provincial interactions). The magnitude of the coefficients are very similar across models ([Table 3](#) reports Marginal Effects of the non-linear estimates indeed), suggesting that the municipalities belonging to the 4<sup>th</sup> quartile of the suspended share's distribution during the lock-down experimented an AR between 11 and 14.6 p.p. higher than municipalities in the 1<sup>st</sup> one. Such values, quite low in absolute terms, appear more relevant when compared to the mean value of the municipal AR of treated units pre-treatment, as they range between 10% and 13% of the number of abortions every 1000 women in fertile age residing in Italy.

*[Insert Tables 2-3]*

Estimates from the event-studies show the absence of significant pre-trends at both 10% and 5% levels, although some level of seasonality (to be possibly credited to a cyclical pattern of pregnancies) seems not having been fully removed from the quarterly-frequency aggregation. In general, during the first two quarters of the quasi-experiment, abortion rates seemed to be significantly higher in treated municipalities over the 6 months after March 2020, (i.e., from April to September), before turning back to be statistically similar to zero upon the last quarter of 2020, when coloring areas started being implemented. The observed pattern suggests that the bulk of the effect we observe in the DiD baseline estimates was concentrated in the months immediately after economic closures, which were the ones involving the actual suspension of concerned workers (April, May, part of June), the whole Summer, and September. During the latter months, the significance of the effect might have been driven by a slow reintegration of suspended workers to their usual tasks, possibly tied to the presence of informal/precarious contracts and remote working, coupled with the period of summer holidays. At the beginning of 2021, the effect seemed to be already fully re-absorbed. To support the credibility of the parallel trend assumption, we need to address the feasibility of having unobservable time-varying

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<sup>18</sup>Following the same approach used by Pieroni, Rosselló Roig, and Salmasi, [2023](#).

confounders (which may be leading to non-parallel patterns). Accounting for a hypothetical violation of common trends, we follow the so-called ‘‘honest’’ approach developed by Rambachan and Roth, 2023, which enable us to perform inference and sensitivity even in presence of (small) deviation from parallel trends<sup>19</sup>. Their methodology is based on bounds on relative magnitude: we replicate it by estimating the entity of the deviations from the common trend after the treatment that would make our outcomes non-valid according to the pre-trend assumption, relative to the maximum pre-treatment violation.

*[Insert Figure 3]*

We assess the sensitivity of our event-study results to assumed violations of parallel trends using the relative magnitude approach, by computing the break point parameter  $M$  (within a range going from 0 to 1, with 1 meaning that the hypothesis is to face a 100% deviation after treatment relative to the pre-treatment trend) which would make our results inconsistent. Graphs (a) and (b) in [Figure E2](#) and in [Appendix E](#) show the results of such estimates: the red vertical line represents the 90% and 95% confidence interval for the coefficient on the treatment in 2020Q2; the blue lines represent, instead, the confidence intervals for the coefficients calculated by allowing a some degree relative magnitude deviation from the common trend (going from 0%, i.e. the baseline estimate, to 100%). We observe how, at 90% confidence level, we could admit a maximum 40% violation of the parallel trend assumption in our baseline specification, with the parameter dropping at 20% if we estimate the confidence sets at the 95% level.

## 6 Robustness

In this section we perform several robustness checks. First and foremost, we implement a sensitivity analysis to show that the significance of the effect is not driven by the differentiation into quartiles, the time frequency aggregation, neither is it random. We then perform a time placebo to check whether the impact stems from seasonal patterns, while in the subsequent section we address possible issues in the SUTVA (*Stable Unit Treatment Value Assumption*) by aggregating the unit of treatment at the Local Market Area level, to account for potential spillovers across municipalities caused by commuters.

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<sup>19</sup>One of the major reasons for which they introduced such methodology of checking involves the (usually) low power of basic pre-trend testings due to few observations. However, in the present case, this does not constitute an issue, given the length and frequency of the timespan.

## 6.1 Sensitivity analysis

To assess the validity of the research design in different time frameworks, we collapse at both yearly, semestral and monthly frequency, respectively restricting and increasing the granularity of data. We adopt the same specifications as the one in [Equation 2](#), with slight variations.

For the annual and semestral models, we consider the whole 2020 ( $Post_t = 1 \text{ if } t \geq 2020$ ) and the first semester of 2020 as the time discontinuities ( $Post_t = 1 \text{ if } t \geq S1/2020$ ); as for the monthly specification, the event time refers to the month of April 2020 (one week after the job suspension,  $Post_t = 1 \text{ if } t \geq April/2020$ ), while the policy covariates are included in the latter regression lagged by one period, to account for the unfolding of their heterogeneous impact on the abortion decisions with some delay ( $X'_{mt-1}$ ). All OLS and PPML estimates at the annual, semestral, and monthly frequency are reported in the [Appendix E](#). Results are consistent with the baseline model. Coherently with expectations, in absolute values the monthly coefficients on the 4<sup>th</sup> quartile are lower in magnitude than the quarterly ones (ranging between 3.5 and 4.4 p.p); however, relative to the mean, the monthly results are slightly lower than our benchmark estimates, amounting to 9.5%-11.9% of the mean AR circa ([Figure E2](#), Tables (a) and (b)). Consistently, the coefficients for the annual ([Figure E1](#)) and semestral specifications ([Figure E3](#)) are magnified in absolute sizes, although their relative values are alike. In both cases though, the 3<sup>rd</sup> quartile of the distribution is significant in some of the adopted specifications (at 10%). After that, to guarantee that the results are not driven by an arbitrarily selected cut-off, we perform further sensitivity checks by considering different ways to capture the suspended workers' share distribution. We assess units below/above the median, and those belonging to the 2° and the 3<sup>rd</sup> tercile (the 1<sup>st</sup> tercile being the reference category). We also estimate a DiD with continuous treatment, following Di Porto et al., [2022](#) and Bordignon et al., [2023](#). The estimates in Tables (a) and (b) of [Figure F1](#) in [Appendix F](#) are consistent with the baseline results. Hence, we are able to claim the differentiation into quartiles is not leading the results. The sensitivity analysis embodies a loss of one degree of statistical significance in the model with the continuous specification and in the one with the above-median framework. We make use of one of the sensitivity estimations to provide with further robustness for the hypothesis of absent pre-trends. As the “raw” treatment is given by the continuous specification of the suspended workers’ share, we report the event-study accounting for continuous treatment, as specified by [Equation 7](#). However, we do not identify the treated units through quartiles, but we apply the continuous treatment specification, which cannot be subject to arbitrary threshold manipulations ([Figure 4](#)). In such specification, the coefficient on the second quarter after the treatment

loses significance, possibly due to the smaller aggregate effect of the treatment expressed in such granular fashion, even though this loss occurs for the OLS coefficients only, not for the PPML ones ([Figure F1](#)). However, the first lag after 2020 Q1 still results significant at both 90% and 95% level. In addition to that, the coefficient dynamics and their confidence intervals display an evident divergent pattern of the difference in the effect between “more treated” and “less treated” units in correspondence to the treatment threshold, which hints for the lack of pre-trends viable to be biasing the results, for both the estimated event-studies. We also perform the estimations introduced in the baseline models on three sub-samples, to further validate the sensitivity of our results: 1) as abortions cannot be undertaken after the gestational limit (90 days) unless the woman’s health is endangered, we discard all VPTs performed after 90 days, as they shall be credited to health-related necessities rather than to voluntary fertility; 2) as it appears clear from [Table 1](#), the treated municipalities are on average less populated than control ones, as bigger cities are less likely to record high shares of suspended workers. In this regard, the big cities might be driving down the estimates on abortion rates for the control units. To account for that, we re-perform the estimates removing from the municipal panel dataset all the chief towns of the 15 Italian Metropolitan Cities administrative units, which include Italian biggest cities<sup>20</sup>. Eventually, we further restrict the sub-sample in point 1) by excluding all abortion interventions that are featured by the flag “urgency”, which implies the observed woman aborted via an urgent treatment. In doing this, we make the very conservative and narrow assumption that all treatment performed with urgency are to be credited to health-related concerns, even when performed before the gestational limits; therefore, we hypothesize they are not the subject of a fertility decision process.

The results of these three estimations are reported, respectively, in the tables of [Figure F3](#), [F4](#), and [F5](#). While the specifications estimated in the first two sub-samples are strongly consistent with the baseline, in the tables of [Figure F5](#) the magnitude of the coefficients is quite lowered, together with the significance in the most restrictive specification (which is null in the model with interacted provincial FEs); however, this shall not be troubling the internal validity of our research design, as it stems from a very narrow and quite unrealistic restriction of the sample. Eventually, we perform a further sensitivity check to assess whether our results are randomly driven. Specifically, we undertake a randomization inference procedure with 1000 permutations which randomly assign the treatment to units of the sample, in doing this estimating a random density function which, if overlapping our actual baseline estimate, would hint towards the randomness of our results. We report the kernel density plot

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<sup>20</sup>The metropolitan cities are, in alphabetical order, Bari, Bologna, Cagliari, Catania, Florence, Genoa, Messina, Milan, Naples, Palermo, Reggio Calabria, Rome, Turin, Venice.

in Graphs (a) and (b) of [Figure F6](#). The graphs prove for the non-randomness of our findings, as our estimated coefficient (the red vertical line at the extreme right of the graph) lies way rightwards of the sampled distribution from the randomization inference procedure, in both specifications with and without interacted provincial FEs.

*[Insert Figure 5]*

## 6.2 Time placebo

As the event-study graphs hint for the absence of pre-trends, we recognize two main aspects in our estimates: first, there is an evident presence of cyclicality, which is not fully removed from our quarterly aggregation. Second, the identification of the effect is visibly re-absorbed after two quarters, which suggests that seasonality might be contributing in driving our estimates; which is not a problem per se, as long as such seasonality is independent upon the distribution of the suspended workers share. To account for that, we perform time placebo regressions, and separately estimate the same models in various time-spans, always around the seasonal temporal discontinuity of the second quarter, although in different years<sup>21</sup>. Estimates are performed by employing both the OLS and the PPML specifications ([Appendix F](#), [Tables F1](#) and [F2](#)). The considered treatment is always a dummy equal to 1 if the municipality belongs to the 4th quartile of the inactive share distribution, 0 otherwise. The time placebo in [Table F1](#) displays that the interaction between the inactive share distribution and the time in correspondence to which the pandemic outbreak occurred is significant in explaining the behavior of abortion patterns. The estimates hint that the effect on ARs in municipalities with higher share of suspended workers is plausibly driven by the Covid-related repercussions, and not by some seasonal pattern due to a relation with sexual behavior between April and September and the municipal sectoral composition. The non-significant coefficients on March 2021 estimates (among which one is even negative, Column (14)), are a feasible suggestion to the re-absorption of the effects occurring in 2021, as displayed by the event-plots already. In addition to that, the fact that the impact of the inactive share is statistically significant starting from the second quarter of 2020 only, even when we use year 2020 alone as the sample of our

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<sup>21</sup>The restricted samples, with their relative treatment discontinuity, are the following: 1) from 2018 to 2021 excluding 2020, with Q2 2018 as treatment threshold; 2) 2018 only, with Q2 2018 as threshold; 3) 2018-2019 only, with Q2 2018 as threshold; 4) 2018-2019 only, with Q2 2019 as threshold; 5) from 2018 to 2021 excluding 2020, with Q2 2019 as threshold; 6) 2019 only, with Q2 2019 as threshold; 7) 2019-2020 only, with Q2 2019 as threshold; 8) from 2018 to 2020, with Q2 2020 as threshold; 9) 2019-2020 only, with Q2 2020 as threshold; 10) 2020 only, with Q2 2020 as treatment threshold; 11) 2020-2021 only, with Q2 2020 as threshold; 12) from 2018 to 2021 excluding 2020, with Q2 2021 as threshold; 13) 2021 only, with Q2 2021 as threshold; 14) 2020-2021 only, with Q2 2021 as threshold; 15) from 2018 to 2021, with Q2 2021 as threshold

model, corroborates our conclusion.

### 6.3 Local Market Areas

A major problem involving data collection refers to the possibility that women may not indicate their actual residence in their official generalities. If part of this issue can be overcome by performing the robustness check with the employment of the right-hand side LMA aggregation (explained later in the section), the problem stays as an intrinsic bias of the collected data. It must be noted that the municipal level of aggregation of the inactive workers' share may result restrictive for the present impact evaluation: indeed, people living in a given municipality may be commuters, and thus being affected by work suspension of bordering or close municipalities, as in the one where they are actually employed. In such case, we may be violating the stable unit value assumption (SUTVA). We therefore undertake two sets of estimations: 1) a robust clustering of the standard errors at the LMA level rather than municipal, both for OLS and PPML estimates, to account for the possibility of VPT rates to be independently distributed within local labor markets due to workers' cross-municipal commuting; 2) secondly, we directly apply the treatment at the LMA level, hypothesizing that the overall shock to the industry area of the municipality may matter as well as the actual shock to the municipality itself. We would expect a similar, positive significant effect on municipal ARs when extending the treatment area. Clustering is, again, at LMA level. The aggregation of the outcome remains the municipality. In both hypotheses, the yielded estimates are consistent with the ones obtained at the municipal level; they are all reported in [Table G1 of Appendix G](#). In the case of clustering only, the values do not change at all, as only SEs do, and not enough to compromise significance. When the treatment is considered at LMA level, coefficients on the 4<sup>th</sup> quartile of the inactive share shift down on average by few p.p. compared to the baseline, although their magnitude is clearly comparable; the only exceptions are the estimates involving provincial trends. All coefficients are significant at 1% confidence level. In relative terms, values are still oscillating around 10% of the mean of the treated pre-treatment, with the higher unweighted estimates reaching 14-16% of the average value when including province-specific trends indeed.

### 6.4 Geographical gradient

*[Insert Table 4]*

A doubt about the consistency of the results might arise by accounting for the fact that, in the analysis,

we are analyzing thousands of very diverse municipalities, which may be hardly compared across Regions, especially accounting for the major differences existing between Northern and Southern Italy. Although municipal fixed effects ought to remove such unobservable heterogeneities, we still differentiate the dataset into 3 different macro area-related sub-samples, to check whether the observed effect is to be credited to a North vs South-type of socio-economic underlying asymmetry. If we indeed look at [Figure 4](#), a geographical stylized fact becomes immediately apparent: the inactive share, during the 2020's lock-down, was notably higher in Central and Northern Italian municipalities compared to those of the South. While the cause may reasonably be led back to the sectoral composition of the different parts of the country, it seems that the Centre-North is driving up our results however. In this robustness analysis, we subset the sample into North, Center, and South, to establish that the outcomes are brought forward by Northern towns having higher inactive share on average, and not by structural national asymmetries. [Table 4](#) shows how the results are clearly driven by the Northern municipalities, as the suspended workers share has a significant impact in the Northern Italian sub-sample only. However, the internal consistency of the design within the Northern macro-area hints for the fact that the impact is led indeed by Northern Italy, but not by a mere North vs. South heterogeneity. As a matter of fact, in the Northern sub-sample it looks like that belonging to the 3<sup>rd</sup> quartile of the distribution of the inactive share involves a significant increase in the AR as well, with coefficients ranging from 12 to 14 p.p., according to the specification. What emerges from the latter estimates is that the industrial and labor market composition of Northern Italian municipalities allowed for a abortion response to the inactive share at a lower "sensitivity" threshold. The aforementioned pattern may be due to cultural reasons, as abortions in Northern Italy are less hindered by cultural barriers. Therefore, the ARs might have been more "responsive" to the job suspension. No significant effect seems to loom within the Southern and Central areas' sub-samples.

## 7 A plausible explanation: the male partner's job trajectory

In the present section we try to understand which is the driver of the observed effect, by converging towards the anticipated explanation that the shift in abortion patterns are related to the partners' job trajectories rather than those concerning the actual activity of aborting women.

## 7.1 Sectoral heterogeneity

In [Table 5](#) we differentiate the distribution between that of suspended workers in the industrial sector and that of suspended workers in the service one. We reckon how only suspensions in the industrial sectors matter in explaining our results.

As the industrial workers' suspended share is more correlated with male employment, it is reasonable to believe that the effect on abortions that we observe depends more upon the job trajectories (in this case, temporary inactivity) of males than that women. Since the effect is more significant on married women, as it shown later in the paper, that would consistently mean that the suspension of plausibly male partners is driving the effect.

*[Insert Table 5]*

We already highlighted in Section 4 how a trigger in economic insecurity does not necessarily overlap with the shift in unemployment recovered from official statistics and early studies on the pandemic, as higher rates of suspension did not coincide with higher levels of unemployment ([Figure C1](#), see also Cerqua and Letta, [2022](#)). However, if the economic insecurity reasoning held in a straightforward fashion (i.e., directly affecting women's profession), we would be led to believe that a higher share of inactive workers in the service sectors, featured by a higher prevalence of women (Casarico and Lattanzio, [2022](#)), would be the determinant factor in explaining the response in ARs. In addition, if a direct link between women's work suspension and abortion existed, we would credibly observe the abortion rates of women active in the service sector to be more "responsive" in municipalities with higher shares of inactive workers in the service sectors, and the same would hold with respect to the industry sector<sup>22</sup>. A greater proportion of suspended workers in one's own sector of affiliation could be leading to terminate an unplanned pregnancy because of fear of losing an already suspended job due to its "non-essentiality", a downward shift in income in such non-essential profession average (or individual) wages, or an overall bleak prospect for future development in that given sector. The sectorally-differentiated inactive share distribution affects differently the abortion rates of women who are, in order, not in professional condition, or, if active, occupied in the private service sector, in industry or in public administration. The latter ones, in particular, shall not be answering to our treatment by hypothesis, as the suspended workers' share is based on statistics which exclude civil servants. We exclude women active in the primary sector

<sup>22</sup>Of course, this would hold as well in the case of non-single women who are partnered to an individual whose job is more likely to have been suspended. More on this in the following pages.

(not used by ISTAT to compute the inactive share), and those on whom we do not have professional information from the analysis.

[Insert Table 6]

The estimates in [Table 6](#) seem not to be any sensitive to the occupational sector of the aborting women, thus suggesting the branch of activity not to be influencing the VPT decision. Actually, the only significant estimates for the abortion rates' heterogeneity by branch of activity, are the coefficients on the *4th* quartile of the distribution (at 5%) for women not in professional condition, whose AR is greater by 15.5% the mean if residing in a municipality of the *4th* quartile. As expected, civil servants' municipal ARs do not respond to treatment. In addition, although the coefficient is never significant, it seems like the abortion rate of service women is negatively correlated to higher quartiles of the inactive share in the service sector itself ([I1](#) in [Appendix I](#)). Such considerations may highlight a plausible higher responsiveness in terms of abortion decisions by women in a pre-existing condition of vulnerability within couple arrangements, if really the effect on ARs of women out of the labor force (OLF) was driven by their partners' suspension<sup>23</sup>. The low significance of the analysis heterogeneized by branch of activity cannot lead us to unambiguous conclusions. However, the slightly significant role played by the inactive share of the industry sector for women who are out of the labor force (OLF), may suggest abortion decisions not to be directly influenced by a shift in economic insecurity related to women's career.

## 7.2 Marital Status

Irrespective of the mechanisms, to corroborate further the male partner's job trajectory hypothesis, we heterogenize the outcome by women's marital status, and assess how it is impacted by the treatment. As the effect observed is concentrated along the quarters immediately after the lock-down, we would expect a higher effect amongst married/cohabiting couples, as unplanned pregnancies were way more unlikely to occur among non-cohabiting partners (actually being almost impossible during the lock-down, which is the reason credited by [Trommlerová and González, 2024](#) to the drop in Spanish abortions during the lock-down), given the restrictions on mobility and social gatherings. Restrictions were being gradually loosened during the post-lockdown period, but they were still in place until June.

[Insert Table 7]

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<sup>23</sup>The estimates for the AR of women differentiated by professional branch of activity with respect to the different sectors of the inactive share are reported in the [Appendix I](#) ([Table II](#)).

As expected, [Table 7<sup>24</sup>](#) shows that the coefficients on the 4th quartile of the distribution for married women are significant (at 5% level), both for OLS and PPML estimates (Columns (2) and (6)). The estimates range between 7 to 8.5 p.p. (more or less 15% of the respective AR). The treatment also impacts single women though, even if at 10% level of significance only; note that the latter result may sensibly be driven by cohabiting but unmarried couples. Such results are consistent with the fact that, differentiating by age class ([Table I5](#), the effect is significant among older women (more likely to cohabit with their partner). A quite counterintuitive result is observed when heterogeneizing by educational attainment ([Table I6](#)). As a matter of fact, significant coefficients are found for women with university degree, which is indeed consistent with the finding concerning age and marital status (being graduates older on average, and thus more likely to be married), although colliding with the results observed with regards to women OLF. One would expect indeed that, once observed the findings about professional condition, VPTs would display a differential shift mostly for women with a lower degree.

### 7.3 Fertility: past pregnancies

We exploit a further source of heterogeneity by looking at abortion rates across women who either had or had not previous pregnancies (of any kind) before their recorded abortion. In this regard, we already acknowledged how the effect is significant and positive for women not in professional condition and for married women.

We can distinguish between live births, stillbirths, miscarriages and previous voluntary abortions. We differentiate municipal abortion rates across women with no previous pregnancies, those with *at least one* previous pregnancy (including live births, stillbirths, miscarriages, and VPTs), those with *at least one* delivery (live births and stillbirths), those with *at least one* previous abortion (miscarriages and VPTs) (Columns (1)-(4) of Table 8. Then, we differentiate the outcome according to the extensive margin of each type of previous pregnancy (Columns (5)-(8)). We therefore flag women with dummy indicators equal to 1 if they report the mentioned of such characteristics and 0 otherwise, without accounting for the actual number of pregnancies<sup>25</sup>. The findings of [Table 8](#) show that the coefficients on ARs for women with previous pregnancies and previous deliveries (which is a subset of pregnancies) are positive for municipalities in the upper three quartiles, relative to the reference category, (Col. (1) and (3)). In this case, the differences between the upper quartile, which we assumed to be the treatment

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<sup>24</sup>Estimates differentiated by industrial and service share are reported in [Appendix I, Tables I3 and I4](#)

<sup>25</sup>PPML estimates and OLS estimates differentiated across industrial and service sectors are reported, respectively, in [Table J1, J2, and J3](#) in [Appendix J](#).

in the baseline DiD specification, and the other two are not so clear-cut, and a valid different size is plausibly disproved by the SEs. This notwithstanding, the statistical significance is definitely increasing in the inactive share portions of the municipal distribution, at least for AR of women with any kind of previous pregnancy. On the other side, we observe no effect for women with no previous pregnancies before the current abortion (Col. (2)) or with previous abortions as a whole, i.e. including both miscarriages and VPTs (Col. (4)). The latter imprecise estimation is plausibly led by the negative, albeit insignificant, effect of women with previous involuntary abortions, with the PPML estimates displaying even a slightly significant 13% positive effect of being a municipality in the 4<sup>th</sup> quartile of the inactive share of the distribution and the abortion rate of women with any type of previous abortion (Table J1). With regards to the heterogeneity by type, coefficients on AR of women who delivered alive newborns in the past are significant at 5% in both quartiles of the right tail, amounting to 9.7 p.p. at the 4<sup>th</sup> (15% of the mean, Col. (1)), and 6.6 p.p at the 3<sup>rd</sup> (10%, Col. (5)). Coefficients on stillbirths and miscarriages are non significant, except for the 2° quartile of the estimates in Col. (6), which does not point towards consistent interpretations. Overall, they contribute to suggest that mothers with kids already are the ones more likely to abort, conditional on being gotten pregnant already in the past. Concerning abortions, we observe that only previous VPTs matter in significantly influencing upwards the abortion rates with respect to the inactive share. Being a municipality in the treatment quartile means having a differential effect in the AR of women who had voluntary aborted in the past by 5.4 p.p. (OLS) at the 5% level, about 25% of the average pre-pandemic rate. The findings shed some light on the categories of women led to either terminate or not their pregnancies. It appears that women with previous deliveries (many of them mothers already, possibly) aborted more in treated municipalities in response to the shock. The reason might be twofold: 1) women with previous deliveries are more likely to be mothers already, possibly cohabiting with their partner. Thus, the positive coefficient may be pushed upwards by the larger amount of time spent home by partners during the job suspension, which boosted intercourse; 2) women who become unwillingly pregnant during the pandemic may find fertility less affordable if they have kids already, and they may prefer to pause their fertility in such hard times due to socio-economic considerations, to parity of sexual activity. One fact does not exclude the other; 1) women with no previous pregnancies are more likely not to be in a stable relationship or married, thus VPTs may fall due to a decrease in sexual activity during lock-downs and closures (see Trommlerová and González, 2024); 2) women in a relationship with no kids are less economically constrained (or they perceive to be less economically constrained in a context of overall economic insecurity) if they get

pregnant, so they may find less costly to carry over the pregnancy. Since we cannot distinguish between an increase in sexual activity and the insecurity-related socio-economic considerations, we further explore the heterogeneous results according to the actual number of children or VPTs performed prior to the current abortion, and the overall response of pregnancies resulting into live births in the time-span under consideration.

*[Insert Table 8]*

## 7.4 Fertility: number of pregnancies

Women may be deciding to abort depending on the number of children they have already (intensive margin) and not only on whether they had children or not, and this might hold for the VPTs they undertook in the past too. Those with at least one live birth and thus, plausibly, a current kid, are more likely to be in a stable relationship than those with no previous live births. In case of women who undertake VPTs and that had more than one previous live birth, the likelihood of an increase in sexual activity being the driver of the abortion decision is intuitively lower: being at home a prolonged time with children (in times of lock-downs and school closures) means a greater time devoted to childcare, thus making less plausible a positive shift in sexual activity. The increased burden on childcare and housework for Italian parents during the pandemic has been empirically documented by several studies, for both mothers and fathers as well (Del Boca et al., 2020, Biroli et al., 2021, Brini et al., 2021, Mangiavacchi et al., 2021). In addition to that, Del Boca et al., 2022 also find out, by means of two waves of pandemic-related survey data, that amongst the sampled women those out of the labor force were way more significantly likely to be burdened by the positive shift in childcare and housework-related further workload triggered by the staying-at-home orders: note that these are the ones who display higher ARs in our estimates on average. On the other hand, a higher number of children can be reasonably tied to larger economic constraints, which would lead mothers of many to resort to abortion in cases of vulnerable socio-economic condition. We build a number of dummy indicators which are set equal to 1 if women had delivered already 1, 2, 3, 4 or at least 5 live births in the past, and 0 otherwise. In a subsequent analysis, whose results are shown in the same table, we employ a similar set of indicators for the VPTs. In our OLS estimates (Table 9)<sup>26</sup>, we observe that the abortion rate for women with 1 previous live birth is significant at 10% at all quartiles of the distribution with respect to the first (amounting to more than 15% of the mean in all cases), while those with 2 previous live births

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<sup>26</sup>PPML estimates in Table J4 in Appendix J.

display ARs positive and significant at the 4<sup>th</sup> quartile at 5 % (21%), and at 10% at the 3<sup>rd</sup>. There is no statistically and positive significant effect on the abortion rate of women with no children, consistently with the results on women without previous pregnancies in [Table 8](#). Concerning VPTs, we reckon that the Italian Ministry of Health highly stressed how not only the overall rates of VPTs have been decreasing over the years, but even more those of women who had already aborted once or multiple times in life, in doing so highlighting the importance of reproductive care facilities', and the enhancement of healthy sexual behaviors and awareness (MoH, [2022](#)). Findings in the Cols. (7-11) somehow confirming the Ministry claims, showing that the effect is positive and slightly significant indeed for women with no previous VPTs, who constitute the bulk of the data; the effect amount to about 8.8% of the mean (Col. (7)). However, the impact of being in the upper quartile of the work suspension's distribution on women who had aborted once already is more significant and way greater in magnitude, as it amounts to 26% of the pre-treatment mean (Col. (8)). This notwithstanding, we observe a significant effect of being in the 2° quartile of the distribution. Such fact validates the significant difference from municipalities with the lowest rate of suspension, but it is not fully consistent with our baseline results, which show the highest portion to be mostly mattering. If anything, the results corroborate the hypothesis that abortion rates increase with growing shares of suspended workers. When the outcome considered is the AR for women more than one previous VPTs, findings are all negligible taken singularly. The results seem to suggest that there could be an average disutility from the first abortion that may be dropping once women have already aborted, being more "prepared" to the occurrence and thus less resistant to undergo a VPT in an altered conditions. We cannot assess whether the non-significant coefficients for higher numbers of previous abortions could be driven by a hypothetical decrease in the drop in disutility of abortion after already having had one, or by the low power of the estimates due to lack of enough data for such women.

*[Insert Table 9]*

## 8 Alternative Explanations

### 8.1 Access restriction

A main threat to the validity of our explanations would be the belief that the shift in abortions is to be causally linked to supply-side channels, like supply restrictions or other consequences of lack of

hospital assistance in Covid times. Graph (a) of [Figure 5](#) shows how the Covid-19 outbreak is not just related to a differential shift in abortion rates according to the suspended workers' distribution, but it triggered an overall decrease in VPTs. [Trommlerová and González, 2024](#) highlight how Spain, a country similar to Italy under the economic, demographic and cultural point of view, faced a decrease in abortions due to a drop in social encounters, rather than to issues tied to supply restrictions. Graph (b) of [Figure 5](#) shows how this could be sensibly consistent with the Italian case, as movements towards the most relevant places of aggregation followed a decreasing pattern during the lock-down, before recovering in Summer 2020. With respect to the possibility of a VPT reduction due to access restriction, according to the Italian ISS the public supply of abortion services was not hindered by the pandemic ([INIH, 2022](#)). However, both credible anecdotal press evidence ([Muratori and Di Tommaso, 2020](#), [Torrisi, 2021](#)) and some healthcare research studies ([Ong et al., 2023](#)) contradicted such claims, due to hospital excess workload and epidemiological concerns. The latter brought however a relaxation of usual abortion constraints ([Bojovic et al., 2021](#)). In any case, we address the issue in the present section.

*[Insert Figure 5]*

Given that the pandemic crisis not only required the implementation of shelter-in-place policies, but also brought about relevant pressure on hospitals, this might have led to major difficulties, for women, to undertake a VPT; this would cause, in turn, a potential increase of mobility to seek for the service ([Autorino et al., 2020](#)). If such phenomenon was correlated to our “treatment”, there could be important bias in our estimates, as the effect could be almost entirely driven by the reduction in abortion supply in areas less affected by the treatment, but more affected by the epidemic (as shown in [Borri et al., 2021](#) and [Di Porto et al., 2022](#)), which would dampen the credibility of our results. First, we plot some descriptive evidence ([Figure H3, Appendix H](#)), to observe how mean excess mortality (computed as percentage change in quarterly municipal mortality in 2020-2021 compared to the 2015-2019 average of the same variable) and the cumulated sum of provincial covid-cases, normalized by provincial population, were not substantially differing across the inactive share distribution in the quarters interested by the effect.

We further discuss the role of supply, by proceeding in two steps: first, we provide anecdotal evidence that a higher inactive share is not linked to a greater supply of VPTs, by aggregating the abortions at the hospital level and evaluating the treatment in correspondence of the municipality where the abortion is performed, rather than where women live; second (and most importantly), we estimate, by means of

a Diff-in-Diff designed at the individual level, an OLS LPM equation using, as outcome, the likelihood of seeking for an abortion in areas which differ from that of one's residence<sup>27</sup>. The latter analysis is called upon by the fact that a supply-driven shift in VPTs hypothesis is plausible if we consider the times under exam: indeed, we are looking at the pandemic situation, characterized by a high number of mobility restrictions. Concerning the first check, the methodology slightly varies when we aggregate at the hospital level, as the datasets employed needs some modifications. Municipalities with hospitals where abortions are performed are indeed 308, and the matched municipal observations in the following analysis drop to less than 6,000. The empirical model is the following:

$$AR_{hmlt} = \beta_1 + \sum_{k=2}^4 \beta_k Post_t \times \mathbb{1}(I. S_{q2/20} \in Q_k) + X'_{mt} \beta + \rho_h + \gamma_t + \lambda_{l,t} + \varepsilon_{ht} \quad (4)$$

The outcome of interest is  $AR_{hmlt}$ , the VPT rate performed in hospital  $h$  within municipality  $m$  (irrespective of the municipalities of residence of the aborting women), managed by Local Health Authority  $l$ , in quarter-year  $t$ . Note that the denominator of the outcome is the municipal population of women aged 15-49, which does not coincide with the population with such features in the hospital's catchment area, for which data were not available; in addition, in a supply-based analysis there is really no credible way to disentangle the shifts in the demand; hence the anecdotal nature of the estimates, for which no robust causal claim can be drawn.

The inactive share-related treatment terms and the policy covariates in the RHS do not change with respect to the previous model, although referring to the hospital municipality as unit of measure. In turns, in addition to time FEs, we include hospital FEs ( $\rho_h$ ) and an interaction between LHAs and a quarter-year FEs ( $\lambda_{l,t}$ ), to account for evolving unobserved heterogeneities due to the territorial management of the healthcare supply<sup>28</sup>. Results are reported in Tables (a) and (b) of [Figure H1](#). All coefficients on the inactive share quartiles are non-significant. In addition, the direction of such non-significant effect is always negative when looking at the 4th quartile<sup>29</sup>. Such descriptive results hints that the work suspension are affecting women's demand rather than hospitals' supply in explaining the observed effect.

A further, more robust validation, is yielded by our second estimation, as in the individual-level

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<sup>27</sup>By "area" we mean either a different municipality or LMA, as we estimate two separate models.

<sup>28</sup>The coefficients of interest are, again,  $\beta_2$ ,  $\beta_3$  and  $\beta_4$ ; in addition, a specular PPML panel regression model is estimated with the same inputs.

<sup>29</sup>There is one significant estimate at 10% (Column (2) of Table (a) in [Figure H1](#)), i.e. the OLS specification with policy covariates and weighted by population, of negative sign too.

“abortion mobility” DiD. In such case, we keep the sample without municipalities where no abortion is performed. We do this as women residing in municipalities without performed VPTs have to move to across areas to abort nonetheless; their mobility is thus necessarily induced by supply constraints, irrespective of the treatment<sup>30</sup>. The aim is indeed to see whether women seek for a VPT in a different place than the one where they reside in, for reasons to be credited to the treatment. As a matter of fact, if the increase in abortion was driven by supply reductions in areas with lower inactive share, then we would plausibly observe a negative relationship between suspended workers and abortions performed in a different municipality (or LMA), since those women would be willing to travel across municipalities to seek for the VPT. In our restricted samples, we count 304 municipalities where VPTs are performed (3.8% of the total number of Italian municipalities), involving 118,351 individual observations; then, we count 251 LMAs where VPTs are performed, which amount to 41% of the Italian LMAs, for a total of 210,445 observations. Note that in this additional model we do not aggregate data by municipality, but just estimate the probability of aborting in another area (“abortion mobility”) for individual women, conditional on the fact they have aborted already. We follow the same approach used by Balia et al., 2020, for cross-regional patient mobility flows, as they estimate the probability of seeking for health care in a different region by means of a binary outcome likewise. Given that the analysis is at the woman’s level, it requires the use of a set of various individual controls for the female characteristics, which are provided by ISTAT in the VPT dataset. We report some descriptives about the relevant variables (together with the total share of abortion mobility) in [Table H1, Appendix H](#). We discard observations with missing information on the controls, so that we remain with 97,550 observations in the sample of inter-municipal VPTs, and 173,791 in the one of inter-LMA mobility. We estimate the following equation via OLS:

$$Y_{imt} = \beta_1 + \sum_{k=2}^4 \beta_k Post_t \times \mathbb{1}(I. S_{q2/20} \in Q_k) + X1'_{it}\beta + X2'_{it}\beta + X3'_{mt}\beta + \\ + \tau_m + \theta_{m(VPT)} + \eta_h + \gamma_t + \delta_{p,t} + \varepsilon_{imt} \quad (5)$$

The outcome is  $Y_{imt}$ , a dummy variable equaling 1 if woman  $i$  residing in municipality  $m$  undergoes a VPT in quarter-year  $t$ , in a municipality differing from  $m$  ( $m \neq m(VPT)$ ), provided that in  $m$  there are facilities where VPTs are performed (i.e., abortions occur in such municipality). The dummies for the treatment are the same as in the baseline specification ([Equation 2](#)), always at the municipal

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<sup>30</sup>In the second situation, that of LMAs, we discard all municipalities that are part of LMAs which do not include any municipality where VPTs are performed

level.  $X1'_{it}$  is a vector including a set of health and fertility-related individual controls for the aborting woman, as in characteristics related to past reproductive behavior and health circumstances (number of previous live births, stillbirths, miscarriages and VPTs) and health-related features regarding the present VPT procedure (gestational age, weeks of amenorrhea, whether the intervention is urgent, whether there are complications or child malformations, whether the abortion is medical). Vector  $X2'_{it}$  contains demographics instead (age, whether the woman is an Italian citizen, marital status) and categorical socio-economic regressors (educational attainment, professional condition and position, economic branch of professional activity).  $X3'_{mt}$  are the above mentioned municipal characteristics, including population of females aged 15-49 as well. We add up FEs for the municipality of residence of the woman ( $\tau_m$ ), FEs for the municipality where the abortion is performed ( $\theta_{m(VPT)}$ ), hospital FEs ( $\eta_h$ ) and time FEs ( $\gamma_t$ ). We also add, in a further specification, the above mentioned provincial-quarter-year interacted FEs ( $\delta_{p,t}$ ). Then, we estimate a parallel equation which mirrors [Equation 8](#), with few variations: the outcome becomes  $Y_{imst}$ , a dummy variable equalling 1 if woman  $i$  residing in municipality  $m$ , part of LMA  $s$  undergoes an abortion in quarter-year  $t$  in a LMA which is different from  $s$  ( $m \in s \wedge m(VPT) \notin s$ ), which we call inter-LMA abortion mobility. The treatment is applied at the LMA level in this case<sup>31</sup>.

[Tables 10](#) and [11](#) display that higher levels of inactive share increase the probability of seeking for a VPT in another area, thus confirming the initial conjecture that a potential restriction in supply is not undermining validity: we observe that, mobility notwithstanding, women were moving across areas to abort. Such women are the ones in municipalities more affected by economic closures, rather than those living in less affected municipalities, where hospital clogging was a feasibly more serious issue if suspension is negatively correlated with contagions. If we consider the inter-municipal mobility, we actually acknowledge both coefficients on the 3<sup>rd</sup> and 4<sup>th</sup> quartile of the distribution of the inactive share to be significant and positive. Estimates range between 5.3 and 8.7 p.p for the coefficients on the 3<sup>rd</sup> quartile, depending on the specification; such values amount to 12-22% of the mean of the treated pre-treatment. Concerning the 4<sup>th</sup> quartile, estimates range between 4.7 and 9.7 p.p. (the latter being 25% of the mean), at a lower degree of significance. Such estimates suggest that the relevant threshold in separating treated from non-treated municipalities, for the inter-municipal abortion mobility, ought to be the median. When we look at the greater sample of abortions occurring in LMAs with abortion facilities only, by assessing the impact of suspended workers on inter-LMA mobility, the situation resembles more to our baseline estimates. Only the 4<sup>th</sup> quartile matters, with values ranging between 3.1 and 4.4 p.p,

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<sup>31</sup>In the first model, SEs are clustered at municipal level; in the second model, at the LMA level.

8-11% of the mean value of the treated units pre-treatment circa<sup>32</sup>. The latter analyses seem to confirm that the inactive share does not play a role in shifting the supply of VPT services in directions which could potentially bias the baseline estimates. The results show that women seeking for abortion were able to move across municipalities or even LMAs to undergo a VPT anyway. This is consistent with our initial findings, which show quarterly abortion rates of municipalities hit the most by the workers' suspension greater by 10% circa<sup>33</sup>

*[Insert Tables 10 and 11]*

## 8.2 Remote Work

We also reckon, from existing literature (Kurowska et al., 2023), how teleworkable jobs' activities, whose use has been plenty made during the pandemic, might be held responsible in shifting potential parents' birth intentions. We use the 2019's *Labor Force Survey* provincial information to explore the issue. First, we recover the provincial distribution of male workers active in the industrial sector in 2019, and check whether there is at least a correlation with the provincial share of suspended workers during the lock-down. Second, following Barbieri et al., 2022, we built a provincial, sectoral *Working From Remote* (WFR) index. Such index has been developed by assigning a score from 1 to 100 to each Ateco 2-digit sector, according to the relative amount of tasks doable at home prior to the pandemic, as the reference base is the 2019 LFS. We weight such score at provincial level by the share of employees in the private sector occupied in the sector itself, and assess the overall distribution. Then, again, we look at potential correlation with the suspended workers' share, in overall terms and for males only. In this regard, we can even assess whether, in anecdotal terms, the possibility be able to work from remote before the pandemic might have played a role. As it is displayed by the maps (a) and (b) in Figure 7, the provincial distribution of the share of industrial workers relative to the total workers can be fairly overlapped to the distribution of industrial workers relative to male workers only, and both can be quite overlapped to the map of the provincial share of industrial male workers active in Italy in 2019 (Figure 7, map (c)), with areas reporting higher shares of industrial male workers located in Central-Northern Italy. On the other side, the distribution of the WFR index computed over male workers looks more heterogeneous across provinces, even though the variability of such index is not quite substantial over

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<sup>32</sup>Although the highest coefficients are only significant at 10%

<sup>33</sup>The event-study graphs of both inter-municipal and inter-LMA mobility are represented in Figure E1 in Appendix E.

the Italian territory (Map (a) of Figure I1, Appendix I).<sup>34</sup> Such suggestions could be corroborated by looking at Table (a) in Figure I3. The latter displays the outcomes of some rough OLS regressions, to show unconditional correlations between the suspended workers share (dependent variable), and a set of different regressors: the *WFR* index (scoring 1-100) (1), the *WFR* index computed on males only (2), the provincial share of industrial workers (3), the provincial share of male industrial workers over the total active individuals in the private sector (4), and the provincial share of male industrial workers over the total active males in the private sector (5). There exists a strongly significant correlation between the inactive share and the share of active industrial workers in 2019, whose coefficient gets slightly significantly higher when considering the males' share (4). Concerning the *WFR* index, the link, albeit positive, does not differ from zero in general terms (1), while it positively does for the men-only based measure (second column, at 5%). This holds similarly if we look at the evidence in Graph (b) of Figure I3 and Graphs (a) and (b) of Figure I4, summing up the issues discussed so far. These make up for simple correlational evidence, thus no causal claim can ever be drawn from the exercise. To conclude, we keep highlighting how the partner's job suspension trajectory is likely to play the most relevant role than that of the aborting woman in the finalization of the VPT decision itself, given the relevant link between male industrial 2019 workers' share and the inactive share in 2020. This seems to have brought about the effect led by industrial suspension mostly. By contrast, the role of remote working does not seem to play a major role in our framework, given the available data: this is consistent with our main results, i.e. a significant effect during the initial phase of the pandemic only (in correspondence of the actual job suspension, with the following social distancing policy measures not mattering at all), during which the faculty to perform teleworkable activities did not have any significance as long as one's job was legally suspended.<sup>35</sup>

*[Insert Figure 6]*

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<sup>34</sup>The maps on the provincial share of total industry workers and on the WFR computed on total workers, rather than males ones, are reported in Figure I2, in Appendix I.

<sup>35</sup>The WFR index does not indeed mirror, territorially, the industrial share distribution; yet it has higher values in the Center-North. As our results is ostensibly driven by the North, teleworkable jobs may actually intrinsically be a down-shifting force for the abortion demand, in terms of time availability. Jobs whose activities were already being performed remotely prior to Covid, the relative shift in time due to suspension might have a less significant impact on the possible intercourse during the lockdown, compared to pre-pandemic times. And yet Northern areas, with higher likely presence of telework, drive up the numbers, which may suggest that telework matters little in our context.

### 8.3 Live births

We now explore the impact on pregnancies resulting into live births 9 month later. In doing this, we refer to previous research. For instance, Lindo et al., 2020, show that the decrease in abortions caused by the closure of abortion clinics is paralleled by an increase in newborns, even if it still does not offset the drop in VPTs<sup>36</sup>. Similarly, when Cavallini, 2024, finds out that a SD increase in unemployment leads to a 0.25 SD increase in the abortion rate (IV estimates), the General Fertility Rate decreases by 0.95 SD. Was economic insecurity the main determinant, we would observe not only a rise in termination of unplanned pregnancies, but also a decrease in planned pregnancies (that turn to live births). On the other side, was it only time exposure, we would instead feasibly observe augmented fertility rates. To recover the number of pregnancies in the time under question, we use the daily data on birth registrations from 2018 and 2021. Since we are interested in the pregnancies occurring in the available time-span, we shift backwards the day of birth of the children by 270 days (9 months), to obtain a rough estimate of the daily conceptions occurring in Italy in the period under consideration and resulting into live births. In doing this, we unfortunately lose the last nine months of our sample, as we do not have the birth registrations in 2022, therefore we cannot estimate conceptions happening from April to December 2021. We do not know the mother's municipality of residence, so we aggregate the births at the level of the municipality where the birth is registered. Aggregating by municipalities of birth would be meaningless, as almost all newborns are delivered in hospitals and healthcare institutions. We aggregate data at quarterly frequency to be consistent with our estimates on abortions. The model of reference is the same as [Equation 2](#), but we use the General Fertility Rate as outcome (number of live births every 1000 women aged 15-49), although in terms of pregnancies (hence, the number of pregnancies resulting into live births 9 months later every 1000 women aged 15-49). Results are all positive and never statistically different from zero ([Table 12](#), PPML estimates in the [Appendix K](#), [Table K1](#)). We further explore the pregnancy outcome by performing our analysis on a variety of temporal subsets, as we already did with the time placebo for abortion rates. The considered ranges are the same as those presented in [Table K2](#), but without considering the march 2021 threshold. Such findings show however that the treatment has some slight impact on pregnancy rates, but is most likely random or seasonality-driven, as the dummy on post 2019 reports coefficient statistically different from zeros. The non-significance of these results does not help ruling out one explanation or the other: live births stemming from increased exposure may have

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<sup>36</sup>Their conclusion leads to suggest the existence of alternative channels to explain what happens to “missing pregnancies” which do not end up neither in abortion statistics nor live births; possibly, clandestine or self-induced abortions.

been offset by the unplanned ones due to economic insecurity/vulnerability. Given the ambiguity, we also perform estimates using the Abortivity Ratio as outcome (instead of the Abortion Rate), which is the ratio between quarterly municipal VPTs and 1000 registered live births. This allows to assess whether the magnitude of the differential impact on abortions is statistically significant compared to what non-significantly happens to live births. OLS and PPML results are reported, respectively, in Tables (a) and (b) of [Figure K1](#) in the appendix. OLS estimates in Columns 1-4 show that the coefficient on the treatment for the ratio ranges from 9.8 to 10.3 p.p. (about 8.4% of the mean average pre-treatment), and it is significant at 5%. However, when the model is integrated by provincial trends, which is our most restrictive specification, the coefficients lose significance. PPML results are consistent, although the degree of statistical significance drop to 10%. Such estimations prove consistent with our baseline framework, although the most conservative ones seem to suggest that differential birth trends at the local level may be able to capture part of the investigated effects.

*[Insert Table 12]*

### 8.3.1 Live birth and marital status

Data on birth registrations contain some valuable information about the family of the newborn: we perform some heterogeneity estimates to see whether some phenomenon of interest emerges. To mirror the estimates undertaken by using VPTs as outcome, we would need to know the mother's marital status. While we have the exact information on the maternal individual marital status, we do not know whether the mother had previous children exactly. We assume that the maternal municipality of residence coincides with the registration one<sup>37</sup>; thus, individual marital status can work in the next heterogeneity analysis, reported in Table K4 in [Appendix K](#). As in the baseline specifications for pregnancies, heterogeneizing by marital status and keeping the overall inactive share distribution in the right-hand side of the identifying equation does not deliver any significant, unambiguous estimate ([Table K3, Appendix K](#)<sup>38</sup>). The pattern, although coefficients are all statistically close to zero, seems to

<sup>37</sup>This assumption may bring about few issues: in fact, assuming the kid's municipality of registration as the one where the mother resides too, would be a more precise restriction if we considered children of mothers who are married with the fathers of the registered kids only, possibly living together in a unique household. However, we do not know the "joint" parental marital status, and we cannot conclude whether the husband of a married mother is the actual child's father and, thus, whether the municipality of residence of the newborn is the same as the mother's, in the case they live altogether. However, if both parents are individually married, it is more unlikely that the child has been conceived between two individuals not married with each other. In any case, even when children are born out of wedlock, they usually live with their mothers, especially along the first months of their life; this holds even more for single mothers. Thus, we can reasonably assume that the municipality where the child is recorded is the one where the mother lives as well.

<sup>38</sup>The table actually shows a surprising positive effect on widowed and separated women, but this does not bring much to the table of our analysis.

mirror the one retrieved in the baseline. Contrarily to the results mentioned above, it seems like that there is a slight impact on the pregnancy rate of married women (or who are in a civil union) living in municipalities with the highest inactive share in the service sector. The coefficient is slightly positive and amounting to 27 p.p. (18.5% of the mean), statistically significant at 5% (OLS, [Table K4](#), Col. (2)). However, the fact that OLS estimates are statistical significant may suggest that there was a slight trigger in planned pregnancies in municipalities with higher share of suspended workers from the service sectors for non-single parents (with respect to less affected municipalities), who possibly exploited the time available with their partners to adapt their fertility. The presence of an overall positive differential impact on pregnancies seems to be offset by municipalities with higher shares of suspended industrial workers, for which coefficients on most distributional dummies are non-significant (although this does not hold for divorced/separated women). It is worth noting, however, the the coefficients for pregnancies of single and married women, although not statistically different from zero, are negative on the upper quartiles relative to the the industry sector suspended share. In this regard, especially considering the sectoral distribution of the impact on VPTs, it looks like that, while the shift in unplanned pregnancies (and therefore in abortion rates) is driven by municipalities with higher shares of suspended industrial workers, there was possibly a modest differential impact on the affordability of fertility (i.e. to carry over either intended or involuntary pregnancies) amongst married couples due to closures, which resulted in positive live births in municipalities with higher shares of service workers, counteracted in the overall pregnancy framework by including industrial workers to the specification. No evident pattern is retrieved by differentiating the outcome according to the number of minor children already present in the household of the head of the family ([Table K5](#)).

## 8.4 Domestic violence

To deepen the role of unplanned pregnancies in explaining the results, we can inquire about whether the heterogeneous shift was led by forced rather than consensual intercourses, as in sexual violence by intimate partners. We acknowledge indeed how both social science and medical literature have established a link between domestic violence, unintended pregnancies and their consequent voluntary termination (Hall et al., [2014](#)), not only in developing countries but even in a high income nation like Italy (Citernesi et al., [2015](#)). Therefore, we account for the sociological “exposure theory” (i.e., more time available together leading to episodes of domestic abuse, Dugan et al., [1999](#)). Note that, beyond time, domestic sexual violence may also be triggered by the escalation of income or unemployment-

related stressful situations (Card and Dahl, 2011, Diaz and Saldarriaga, 2023), or due to the worsening of female bargaining power given a detrimental shock to the labor market (Aizer, 2010).

This notwithstanding, the role of the topic's salience might have played a major role in shifting numbers: Colagrossi et al., 2022 highlight indeed how the governmental domestic violence-related sensitisation policy put in place at the beginning of the pandemic was the driver of the increased reports, rather than assaults themselves. We also reckon how the phone calls to the national public hot-line for domestic violence (via the dedicated phone number 1522) faced a visible spike immediately after the economic closures (Figure B1). We aim at verifying whether a higher share of suspended workers brought about higher rates of calls to 1522 for Intimate Partner Violence, in a TWFE DiD specification which is almost the same as that we use as baseline for the abortions and live births. As many works underlined the role of salience in triggering reporting behaviors (A. R. Miller et al., 2022, 2023, Colagrossi et al., 2022, 2023), we try to overcome such bias by exploiting the provincial heterogeneity in the inactive share distribution. Indeed, the relevance of the domestic violence concern was highlighted at the national level by television campaigns, which were accessible by anyone staying home during the lock-down; Colagrossi et al., 2022 found heterogeneous effects depending on the exposure to the campaign itself, proxied by public television audience shares. We hence estimate the following model by OLS:

$$Call\ Rate_{pt} = \beta_1 + \sum_{k=2}^4 \beta_k Post_t \times \mathbb{1}(InactiveShare_{p12/2020} \in Q_k) + X'_{pt}\beta + \tau_p + \gamma_t + \delta_{r,t} + \varepsilon_{mt} \quad (6)$$

Where  $Call\ Rate_{prt}$  is the total number of calls to 1522, either by users or victims (a subset of users), every 100,000 inhabitants, in province  $p$  and quarter-year  $t$ . The relevant independent variable is the distribution of suspended workers subdivided into quartiles, although here it is taken at provincial level. Covariates for the restrictions' severity are included as well ( $X'_{pt}$ ), aggregating the municipal value from Conteduca and Borin, 2022 at the province level (weighting by population). In addition to quarter-year ( $\gamma_t$ ) and provincial FEs ( $\tau_p$ ) we also add up regional quarterly interaction dummies ( $\delta_{r,t}$ ) to the baseline framework. We estimate a parallel Poisson model by means of PPML, adopting the same specification. In addition, since data on calls to 1522 are collected weekly, we re-perform the same analysis but at weekly level. All results are displayed Appendix B, the quarterly ones in Table B1 and Table B2, the weekly ones in Table B3 and Table B4. According to our estimates, in all specifications the inactive share distribution has no significant effect on reporting calls to 1522 for domestic violence. There are few specifications estimated both via OLS and PPML, which report significant coefficients at 10%

level, and they do not highlight particular patterns. If anything, the direction of coefficient of upper quartiles is opposite to the one we would expect, as provinces which are part of the 4th quartile of the inactive share's distribution face a differential, imprecisely estimated, negative effect in the 1522 call rate. Weekly frequency regressions lead not to really different conclusions, as shown in [Table B3](#) and [B4](#). In the latter case, we observe how OLS estimates for calls by users are statistically significant and negative in two specifications (Col. (2) and (4), [Table B2](#)). This would suggest that the suspension of non-essential workers did not have a significant effect on *reported* domestic violence rates (and when it did, it was negative)<sup>39</sup>. We could look at these results in the perspective of suspended workers being the perpetrators. If abusive partners, usually prone to violence, are suspended from the job and thus more exposed to sensitisation campaigns, they may become more cautious and reconsider their violent conduct, in order to avoid reporting and possible allegations<sup>40</sup>. Although understanding the determinants of such findings would have interesting policy implications, it goes beyond the scope of the present work, as long as we are able to conclude that the differential change in VPTs and unplanned pregnancies during the Covid-19 crisis was not driven by *reported domestic violence*; which appears to be the case. As a matter of fact, the hypothesis of power imbalances within a couple which may lead to abortions may not be so straightforwardly represented by official statistics on domestic violence.

## 8.5 Contraception

A further channel that may have credibly shifted unwanted conceptions in a heterogenous way, by leaving patterns of planned pregnancies unchanged, could be the access and usage of contraception methods. If there was some impact of the suspension of non-essential workers in the access or employment of birth control by the involved couples, then the observed results would mostly be driven by this factor. Unfortunately, to our knowledge, there is no available data source granular enough through which one can disentangle this. However, we recur to two different sources of data to provide with anecdotal evidence of

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<sup>39</sup>This result would be quite counterintuitive, if significant; as a matter of fact, there are three most plausible channels that could feasibly work out in shifting the calls to domestic violence upwards. First, according to the exposure theory, suspended workers and their partners would spend more time together, and this shall exacerbate episodes of physical and sexual violence (Dugan et al., 1999); second, the economic insecurity channel could be a fostering effect in stress-related violence episodes or in abuses driven by the reconfiguration of bargaining power within couples Aizer, 2010). Third, the inactive share could actually foster the reporting bias highlighted by Colagrossi et al., 2022 already: by spending more time home, suspended workers could be more exposed to television campaigns and thus the rate of reporting ought to increase irrespective of actual violence occurring. Notwithstanding the latter form of upward bias to the estimates, we still retrieve non-significant, negative results.

<sup>40</sup>Or they may actively operate to physically prevent the victims to report, a more dramatic albeit less realistic hypothesis.

the credible absence of correlation between work suspension and contraception. The Ministry of Health provided with yearly data on reproductive care facilities at regional level, (family planning centres, *consulitori familiari* in Italian), while for years 2019 and 2022 they are also available at the municipal level; ion top of that, we have information about the national consumption of emergency contraception (ECP) too, i.e. birth control drugs that can be assumed after an unprotected sexual intercourse. ISTAT platform Health For All collects instead regional data on contraceptive usage in Italy. Concerning the former, family planning centers are healthcare facilities designed to give assistance concerning the topics of family and motherhood. Among the other things, healthcare professionals of these centers offer psychological and social assistance to prepare couples to parenthood, give advice on the adequate tools to improve the likelihood to procreate or, on the other side, to prevent unwanted pregnancies, especially concerning the usage of birth control methods. The centers work with a twofold aim, in order to protect both the social value of motherhood and the assurance of the legal right of abortion, at the same time placing a great weight on the role of prevention. If there was a disruption in the services provided by family planning centers due to the pandemic, that was correlated with the inactive share, the observed increase in VPTs may be linked to a decrease in responsible prevention or to a lack of reproductive care facilities' assistance. We hence look at the number of yearly family planning centers at provincial level. In general, family planning centers are more spread in Central regions (especially Emilia Romagna and Umbria, [Figure L1 in Appendix L](#)). Between 2019 and 2020, however, some Italian regions seem to have faced a reduction in the ratio of family planning centers to the number of women aged between 18 and 49; among them, there is Lombardy, one of the regions most hit by the pandemic, epidemiologically and economically. On the other side, two regions like Veneto and Piedmont, which had the greatest numbers of municipalities with a high share of suspended workers as well as Lombardy, actually faced an increase in family planning facilities. We also plot some merely correlational evidence at provincial level to assess whether it is the case to believe that the contraception channel deserves to be further investigated.

*[Insert Figure 7]*

Albeit not statistically accurate enough, therefore insufficient to discard the hypothesis, we observe how, in [Figure 7](#), there seems to exists a very small negative correlation between the provincial suspended workers' share and the growth in reproductive care facilities.

Another factor, usually deemed as fundamental in bringing down unwanted pregnancies, is the emergency contraceptive pill ([Girma and Paton, 2006, 2011](#), [Durrance, 2013](#), [Cintina, 2017](#), [Bentancor and](#)

Clarke, 2017, Core, 2024), or ECP, the so-called “day-after pill” (or “5-days after pill”). Emergency contraceptive pills enable birth control after the occurrence of an unprotected intercourse, conditional on assuming them as soon as possible; in any case, they do not constitute an interruption of pregnancy, as they work within a time-frame within which pregnancy has not emerged yet<sup>41</sup>. In Italy, emergency contraception is mostly available by means of two main pharmaceuticals: Levonorgestrel (Norlevo), to be taken within 5 days from the intercourse; Ulipristal (EllaOne), to be taken within 72 hours from the intercourse. They were not available OTC until 2015, and required a medical prescription together with a certification of occurred pregnancy. In May 2015 AIFA (the Italian Medicine Agency) made them available OTC for all adult women, with no certification requirement whatsoever. In October 2020, AIFA made them available OTC for minor women too (MoH, 2023). We cannot recover the geographical disaggregation of ECP sales in Italy over the studied years, nor their quarterly evolution. However, we can acknowledge that, in the considered time framework, no evident disruption in the overall sales of the drug occurred, nor was it reported by health authorities. As a matter of fact, there has been no noticeable shortage in the supply of such kind of medicines, nor one that could be feasibly correlated to the non-essential workers’ suspension. Their OTC availability made them easy to be acquired by any woman who requested them, as the access to pharmacies (which were never closed down, obviously) was always guaranteed all along the duration of the state of emergency; furthermore, the pharmacists’ conscientious objection for these drugs is not legally allowed. A reason not to go to pharmacies to purchase them could be linked to the fear of getting the virus (and in fact Figure L2 shows how 2020 was the year with the fewest sales of ECPs along the last 4), but that shall not be any correlated to the increase of VPTs we observe in areas with more suspended workers. In addition, the only evident institutional discontinuity which specifically concerns ECPs is the fact they were made available OTC to minors in October 2020; in 2021 there is indeed an increase in ECP purchases by almost 10% compared to 2020, to be reasonably credited to such policy change. Also, an overturn in the market share of the two ECP medicines happens in that year. If such event had any effect on VPTs, it was certainly a reducing one. However, the change occurred in October 2020, two month after the estimated effect we observe loses its significance. Furthermore, it should have contributed to reduce unplanned pregnancies (and thus VPTs) for minor women. They are feasibly not the ones leading the results in the months beforehand, as in our framework the trigger was due to labor market reasons (work suspension), which possibly affected already married couples. However, to sensibly rule out such confounder, we run two

<sup>41</sup>Their effectiveness, however, is reduced at any additional use, and they do not protect from pregnancies if an intercourse happens after their assumption (MoH, 2023)

TWFE DiD models (one estimated via OLS and the other via PPML), where the outcome is the AR for minor women only, whereas the treatment variable, as in the municipal share of suspended worker, is interacted with a temporal dummy which takes unitary value after the 3<sup>rd</sup> quartile of 2020 (i.e., after the AIFA issue on ECP), rather than the conventional pandemic discontinuity. Table L1 and L2 prove for the non-significance of such hypothesis in explaining our results.

## 9 Conclusions

To conclude, we discuss the potential policy implications of our findings. As a matter of fact, we have been able to establish a causal claim about the differential impact of what we identified as our treatment on the VPT municipal patterns of Italian women. However, one might be led to question whether such exercise is even sensible, as the outbreak of the pandemic clearly brought about, in its immediate aftermath, a visible drop in abortion rates (see [Figure 1](#) and [Figure 3](#)). As also shown by Trommlerová and González, [2024](#), for the Spanish case, the drop shall be reasonably attributed to the social distancing policies put in place in 2020, which reduced the possibility of sexual intercourse. However, by looking at the heterogeneous effect on different types of municipalities/subsets, we can draw relevant conclusions on how women (and, more generally, couples) adjust their fertility and reproductive behavior following an unexpected event. By exploiting the exogenous shock of Covid-related work suspensions, we can abstract from a relevant portion of the endogeneity embedded in the individual abortion decisions, to stress the most remarkable findings, and try to interpret them under the policy point of view. First of all, we are able to identify about a 11% significant differential effect on the mean ARs in treated municipalities after the policy closure, relative to the control ones. As the average AR pre-Covid amounts to 1.1 VPTs every 1000 women in fertile age, that means that in such municipalities there is one additional quarterly abortion every 9000 women. This does not add much valuable information to the economic setting of our study per se, especially accounting for the fact that treated municipalities are, on average, less populous than the untreated ones. However, it must be noted that such numbers refer to the average ITT of our estimates, although we observe that the bulk of the shift in ARs occur in the second and the 3<sup>rd</sup> quarters of 2020, which are the only ones shown by the Event-Study estimates as reporting significant coefficients ([Figure 3](#) and [4](#)). In 2020Q2, the effect was about 30 p.p., while in Q3/2020 about 20 p.p.: 27% and 18% of the average AR pre-treatment respectively. This means one additional VPT every 3700

and 5555 women in such periods, which shrinks the “quantitative” population threshold required to observe a meaningful change in the abortion rates. These periods coincide with the harsher restriction ones, and they are actually concomitant with the work suspension that we use as our treatment. Such values may result relatively important for women who reside in smaller municipalities where VPTs are less frequent, in particular in a time of uncertainty. In such regards, and with respect to the strict economic implications of our findings, we find no correlation between the distributional share of the two macro-sectors of work suspension and those in which aborting women result employed; the municipal ARs significantly responding to the exogenous shock are indeed mainly those of women who are not in professional condition. Overall, the differential variation for women residing in treated municipalities and not in professional condition amounts to 7 p.p., 14% the pre-Covid mean, thus a slightly greater but similar proportion compared to the baseline results. The fact that, however, municipal ARs of women not in professional condition significantly respond to the industrial distribution treatment only, and live births do not, makes room for the hypothesis that the main reason why there is a differential impact on VPTs is driven by a heterogeneous effect on the unplanned pregnancies due to differential time patterns spent together with respective male partners. This mirrors quite consistently our results on the ARs relative to marital status, as our estimates display a significant difference by 7 p.p. (OLS, PPML amounts to 8.5 p.p.) for married women’s ARs, which correspond to 18%-22%, i.e. one additional VPT amongst married women every 5000 females in fertile age. The set of evidence gathered so far does not actually prevent us from deeming economic insecurity as a potential channel; what is suggested is that, plausibly, such mechanism does not work directly through women, as most are not in professional condition. Nevertheless, due to the conclusions drawn from the analysis on marital status and seeing how the effect is driven from the industry sector, we acknowledge that the choice to undertake an abortion, for those who are locally affected by the policy, may be compellingly dependent upon the partner’s work trajectories more than on their own jobs. And while this may be significantly consistent with the hypothesis of more exposure, nothing leads to conclude that economic insecurity may not be affecting fertility choices through the male partner’s job suspension.

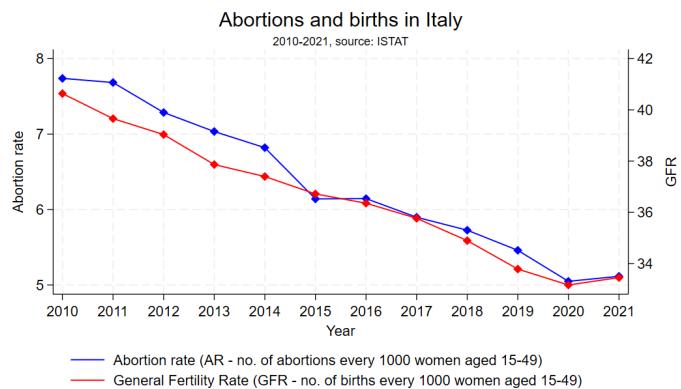
Finally, the two most interesting results of our study (not been tackled yet by Italian research on the same data), for which the magnitude of the differential impact may actually result quite substantial for a potential health policy-maker. First and foremost, we reckon how there is no differential impact distinguishable from zeros for women with no previous pregnancies ([Table 11](#), Col. (2)), whereas there is a significant effect at all quartiles of the distribution relative to the first for those with a previous

gestation, especially if carried over. However, it results still quite hard to draw any implication without differentiating for the type of pregnancies and deliveries carried over. In Col. (5) of the same table we observe how women with previous live births and VPTs mainly matter for our heterogenous shift in ARs. It is however quite hard to quantify the effect for already-mothers, as the coefficients are clearly significant not only on the last quartile of the distribution. When looking at the intensive margin, the main non-ambiguous and significant result concerns live birth, from [Table 12](#), tells us that there is positive differential impact on women residing in treated municipalities and with at least one or two children (proxied by previous live births). When looking at previous VPTs, women with either 0 or 1 previous voluntary abortion responding significantly to the treatment, which is pretty intuitive. Although these results alone cannot help us disentangling whether economic insecurity played a major role over time exposure, the fact that the past reproductive behavior is somehow able to predict abortion decisions, may be a hint towards the hypothesis that the budget constraint imposed by having children in a family already may trigger positively abortion decisions. The most conclusive summing up explanation is that, compared to municipalities in the lowest quartile of the suspended worker share distribution, those in the 4<sup>th</sup> display significantly higher ARs. Among such women, results are mainly relevant for married women, who do not work and who had 1 or 2 children already. This means that the suspension most likely involves blue-collar husbands. By also referencing the literature on the impact of Covid on Italian households cited insofar ([Del Boca et al., 2020](#) and [Mangiavacchi et al., 2021](#) most prominently), our results is consistent with the literature showing that women, being more subject to bear housework and childcare duties, and plausibly with lower control on their own fertility, had become more afraid for the future, which was also highlighted by the early cross-country survey by [Galasso et al., 2020](#).

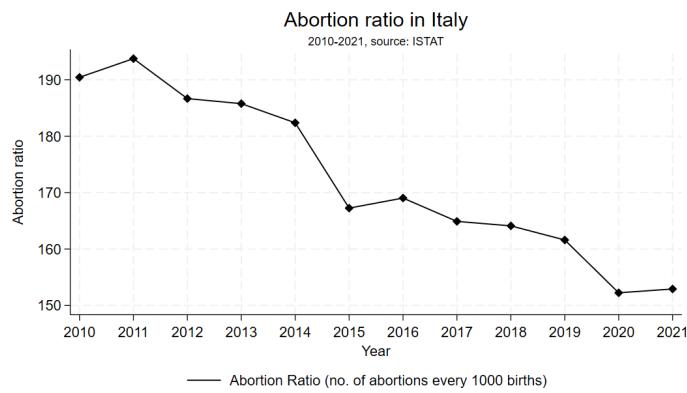
Provided with the latter discussion, we try to appraise how our work could matter somehow in the steering of reproductive health and family policy strategies. The first theme concerns the abortion right strictly. Literature has already underlined how objections matter in shaping abortions patterns ([Bo et al., 2015](#), [Autorino et al., 2020](#), [Muratori, 2023](#)). Due to having identified the most plausible categories of women who are more likely to respond to the shock in terms of unintended pregnancies, it seems like they belong to groups of women to whom to find non-objecting gynaecologists across areas could result as a major setback. We refer to women whose mobility or budget possibilities may be reduced due to presence of children, due to lack of resources as not in professional condition, or due to stigma or psychological pressure associated to having already aborted once. In such regards, as long as to policy makers it results adequate to equally value both the right to objection and that to abort, which matters

to the institutional context, the Italian NHS should deepen the way objection shapes abortion decisions, as although on overall terms the official reports seem not to show that objectors prevent women from seeking for VPTs, that may not be the case when looking at particularly vulnerable women. In such case, one should implement targeted policies in order to provide with preferential channels and adequate services to grant their right, which may be facing obstacles due to their fragile situation. In addition, the issue of preventing entire health care structure to undertake “institutional” objection, as highlighted by Muratori, 2023, should be addressed. The second issue to be addressed is the one of vulnerability, to a greater extent. An effect driven by the industrial sector on already mothers OLF, likely means that for many women the abortion choice is dependent upon the partner’s suspension. This implies the control over fertility for such women is reduced, as they could result more vulnerable in terms of the existing gender balances within couples. This may usher both a policy and research discussion about the issue on how less autonomous women are directly in charge of their own fertility choices contrarily to how such decisions may be relying on the (feasibly male) breadwinners’ needs.

## Figures and Tables

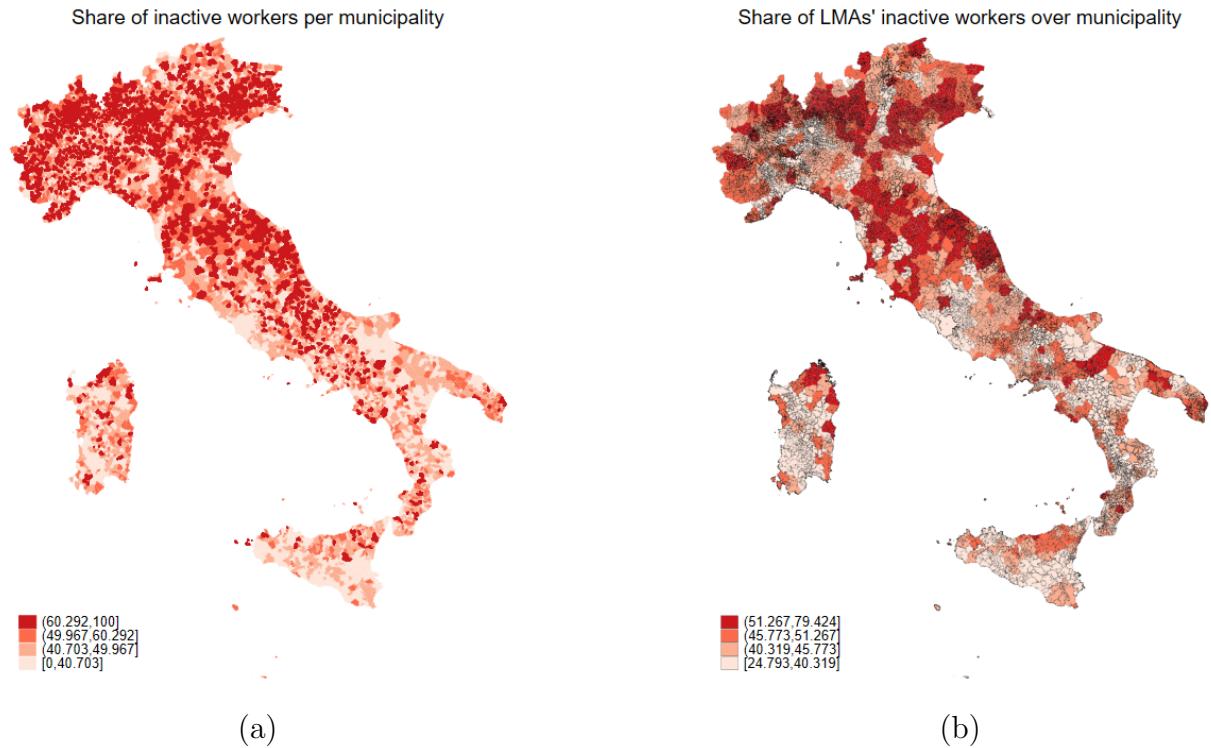


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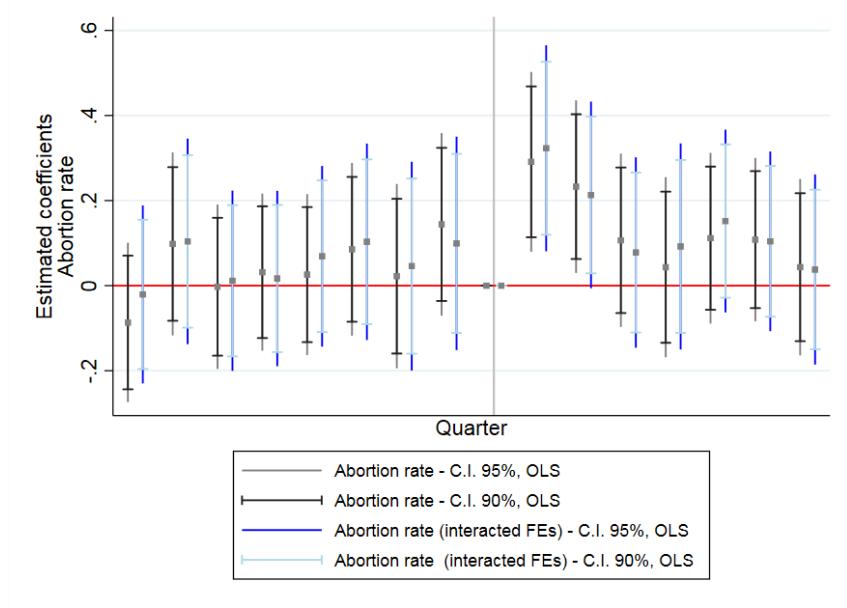


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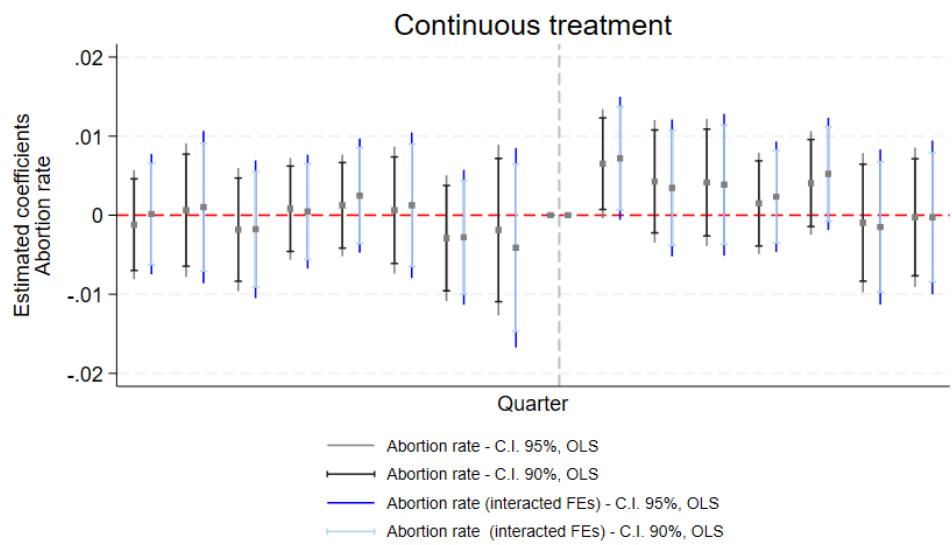
Figure 1: Trends followed by major fertility-related variable between 2010 and 2021. Panel a) reports the pattern of the Abortion Rate and that of the General Fertility Rate; Panel B) the abortion ratio's pattern. Source: ISTAT



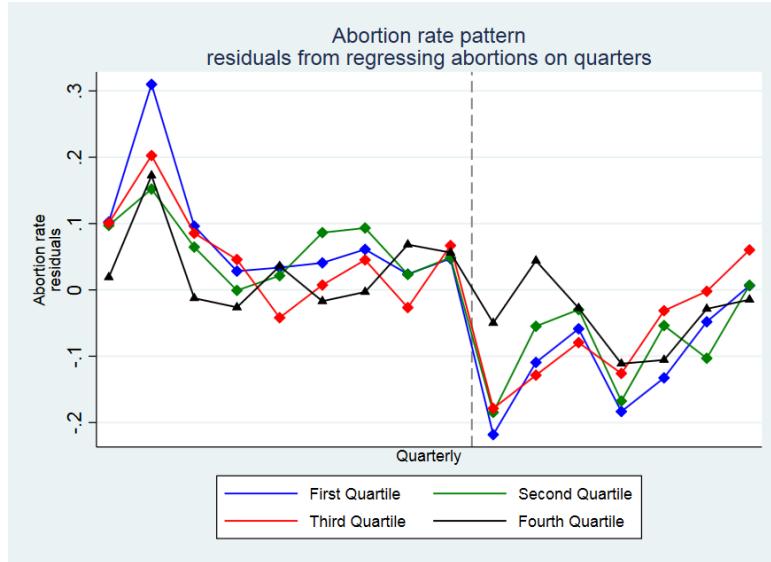
**Figure 2:** Municipal share of suspended, non-essential workers during the Italian national lock-down. The (a) map shows the municipal share of inactive workers during the period of suspension of non-essential activities, i.e. from 22<sup>nd</sup> March 2020 to 4<sup>th</sup> May 2020. The (b) map shows the LMA share of inactive workers, albeit highlighting Italian municipality borders. Both maps are shaded according to the position of the unit of reference in given quartiles of the inactive share's distributions.



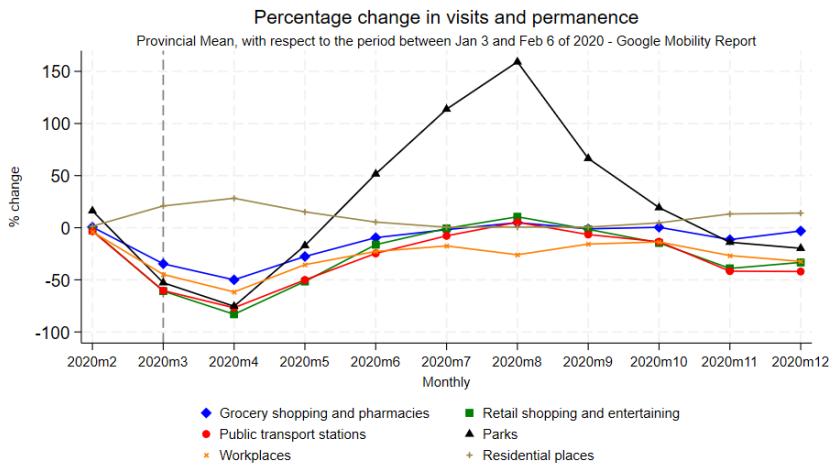
**Figure 3:** OLS Event-study estimates. The figure reports the coefficient on temporal units and their confidence intervals, both for the baseline specification and the one with interaction FEs between province dummies and quarterly dummies. Confidence intervals are reported at both 90% and 95%. The x-axis represents all quarters from 2018Q1 to 2021Q4. The vertical line is set on quarter 9, which corresponds to the first quarter of 2020, the first lead before the treatment, occurring on 2020Q2.



**Figure 4:** OLS Event-study estimates, as in dynamic specification of Equation 3 with the continuous treatment specification. The figure reports the coefficient on temporal units and their confidence intervals, both for the baseline specification and the one with interaction FEs between province dummies and quarterly dummies. Confidence intervals are reported at both 90% and 95%. The x-axis represents all quarters from 2018Q1 to 2021Q4. The vertical line is set on quarter 9, which corresponds to the first quarter of 2020, the first lead before the treatment, occurring on Q2 2020.

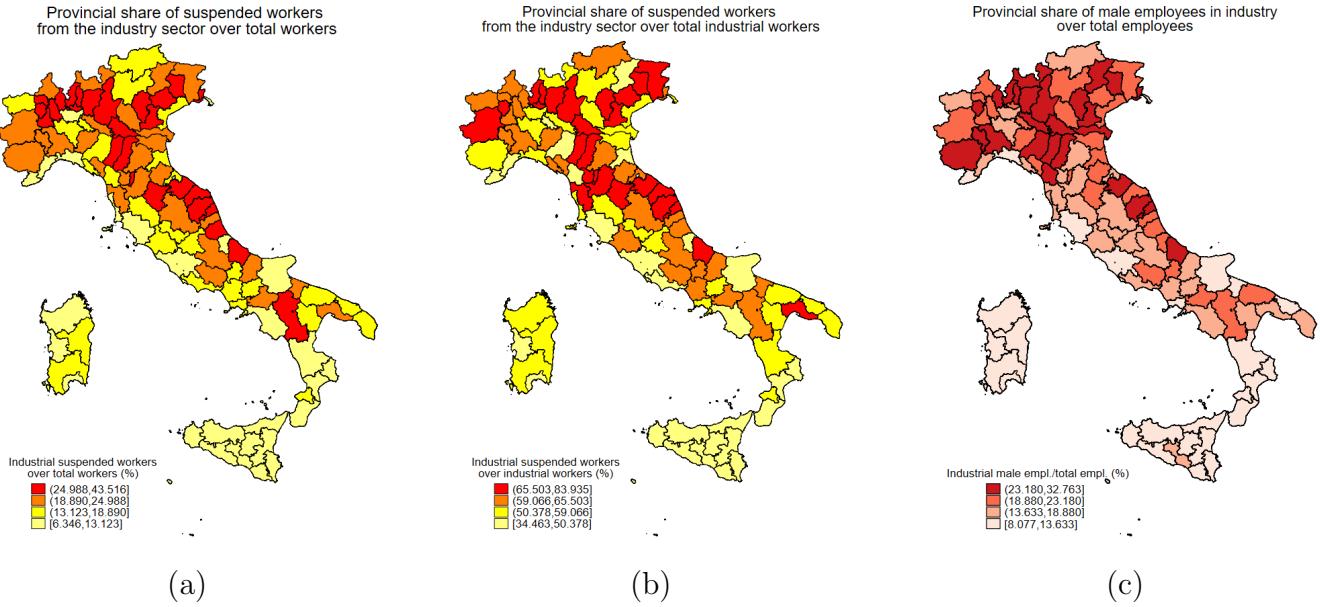


a)

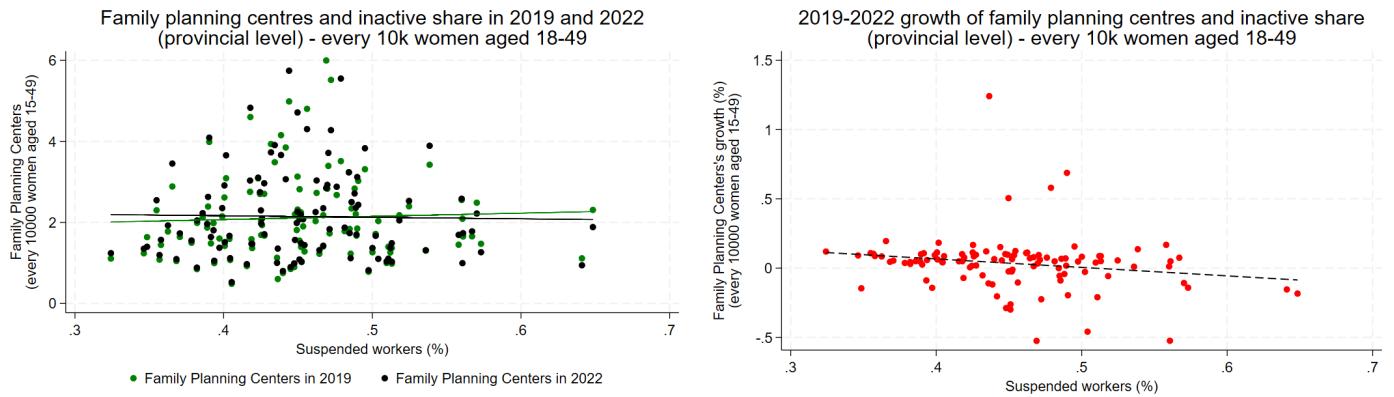


b)

Figure 5: (a) Pattern of the de-seasonalized mean abortion patterns across the shares of the distribution of suspended workers. The unit of aggregation is the women's municipality of residence. The x-axis represents all quarters from 2018Q1 to 2021Q4. The vertical dashed line is set between Q1 and Q2 of 2020. (b) Mean percentage provincial monthly variation, with respect to the period between Jan 3 and Feb 6 of 2020, of visits to and permanence in different kind of places.



**Figure 6:** Maps (a) and (b) represent the provincial share of suspended workers from the industrial sector. Map (a) displays the share relative to the total number of private sector workers; map (b) displays the share relative to the number of industry-only private sector workers. Map (c) represents the provincial share of active male workers in the private industrial sector, by using data from the *LFS* 2019.



**Figure 7:** Annual growth of family planning centres in Italy and provincial inactive share. Left panel: rates of family planning centres every 10,000 women aged between 18 and 49 in 2019 and 2022. Right panel: 2018-2022 growth of family planning centres every 10,000 women aged between 18 and 49 in 2020. Source: Ministry of Health.

	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>
<i>Abortion Rate (by municipality of residence)</i>	1.092	2.550	0	142.857
<i>Abortion Rate (by hospital of abortion)</i>	6.284	16.947	0	433.962
<i>Pregnancy rate (by municipality of residence)</i>	7.813	6.882	0	333.333
<i>Inactive share</i>	50.254	16.502	0	100
<i>Inactive share (service)</i>	24.739	12.946	0	100
<i>Inactive share (industry)</i>	25.515	17.183	0	100
<i>Municipal population</i>	7553.159	42324.753	28	2820219
<i>Municipal population (females 15-49)</i>	1556.753	8875.170	2	602319
<b>Covid policy covariates</b>				
<i>Mean quarterly stringency index (since 2020)</i>	52.642	14.400	31.925	77.192
<i>Quarterly days of red area (since 2020)</i>	6.083	10.035	0	55
<i>Quarterly days of orange area (since 2020)</i>	8.576	13.188	0	77
<i>Quarterly days of yellow area (since 2020)</i>	13.417	18.635	0	56
<i>Quarterly days of white area (since 2020)</i>	24.533	37.904	0	92
<i>Municipal excess mortality</i>	0.864	6.483	-145.667	684.933
<b>Observations</b>			126448	

Table 1: Descriptive statistics of the main variables used in the present work.

Impact of work suspension on municipal ARs, linear estimates						
	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.13134 *** [0.04565]	0.11340 *** [0.03563]	0.12879 *** [0.4587]	0.11133 *** [0.03585]	0.13168 ** [0.05185]	0.11087 *** [0.04061]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.05711 [0.04266]	0.04825 [0.03300]	0.05570 [0.04276]	0.04698 [0.03311]	0.06342 [0.04501]	0.05119 [0.03488]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.03486 [0.03950]	0.02961 [0.03058]	0.03505 [0.03953]	0.02949 [0.03062]	0.03353 [0.02949]	0.02714 [0.03353]
Observations	126,448	126,448	126,448	126,448	126,448	126,448
R-squared	0.10043	0.10529	0.10046	0.10531	0.11223	0.11621
Policy covariates			X	X	X	X
Municipal FE	X	X	X	X	X	X
Quarter–year FE	X	X	X	X	X	X
Prov. × Quarterly FE				X	X	
Weight		X		X		X
Mean	1.103	1.103	1.103	1.103	1.103	1.103

Table 2: The coefficients in Columns (1) to (6) represent the municipal OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers’ share distribution on ARs. The reference category is the 1<sup>st</sup> quartile of the distribution. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. Mean reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	Impact of work suspension on municipal ARs, non-linear estimates					
	(1) AR (ME)	(2) AR (ME)	(3) AR (ME)	(4) AR (ME)	(5) AR (ME)	(6) AR (ME)
$Post * \mathbb{1}(I. S_{q2/20} \in Q_4)$	0.13978 *** [0.05105]	0.11324 *** [0.03904]	0.13676 *** [0.05119]	0.11082 *** [0.03919]	0.14560 *** [0.05580]	0.11515 *** [0.04335]
$Post * \mathbb{1}(I. S_{q2/20} \in Q_3)$	0.06016 [0.04669]	0.04614 [0.03527]	0.05855 [0.04697]	0.04471 [0.03537]	0.07307 [0.04834]	0.05239 [0.03685]
$Post * \mathbb{1}(I. S_{q2/20} \in Q_2)$	0.03709 [0.04346]	0.02896 [0.03258]	0.03769 [0.04350]	0.02919 [0.03205]	0.03967 [0.04300]	0.02714 [0.03279]
Observations	116,192	116,192	116,192	116,192	116,192	116,192
Policy covariates		X	X	X	X	X
Municipal FE	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X
Prov. $\times$ Quarterly FE					X	X
Weight		X		X		X
Mean	1.103	1.103	1.103	1.103	1.103	1.103

Table 3: The coefficients in Columns (1) to (6) represent the Marginal Effects of the municipal Poisson Pseudo-Poisson Maximum Likelihood (PPML) estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs. The reference category is the 1<sup>st</sup> quartile of the distribution. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	Impact of work suspension on municipal ARs, differentiated by Italian macro-area					
	(1) AR (North)	(2) AR (North)	(3) AR (Center)	(4) AR (Center)	(5) AR (South)	(6) AR (South)
$Post * \mathbb{1}(I. S_{q2/20} \in Q_4)$	0.19098 *** [0.06749]	0.16360 *** [0.05401]	0.00555 [0.17073]	0.03342 [0.12425]	0.03087 [0.07455]	0.01954 [0.06002]
$Post * \mathbb{1}(I. S_{q2/20} \in Q_3)$	0.14382 ** [0.05869]	0.12009 *** [0.04581]	0.18416 [0.14595]	0.14645 [0.10643]	0.03211 [0.06254]	0.02817 [0.05065]
$Post * \mathbb{1}(I. S_{q2/20} \in Q_2)$	0.00007 [0.05744]	0.00375 [0.04472]	0.03399 [0.13372]	0.02947 [0.09751]	0.07342 [0.06590]	0.06292 [0.05204]
Observations	70,128	70,128	15,488	15,488	40,832	40,832
R-squared	0.11421	0.11609	0.10919	0.11644	0.10718	0.11519
Policy covariates	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X
Province $\times$ Quarter-year FE	X	X	X	X	X	X
Weight		X		X		X
Mean	1.083	1.083	1.240	1.240	1.102	1.102

Table 4: The coefficients in Columns (1) to (6) represent the municipal OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, differentiated by Italian macro-areas. Columns 1 and 2 refer to the Northern municipalities' sub-sample. Columns 3 and 4 to the Central one. Columns 5 and 6 to the Southern one. The reference category is the 1<sup>st</sup> quartile of the distribution. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impact of suspension on municipal ARs, differentiating the treatment distribution across economic sectors						
	Industry Share			Service Share		
	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR
<i>Post * I.S.<sub>q2/2020</sub> ∈ Q<sub>4</sub> (Industry)</i>	0.11880 *** [0.04568]	0.11528 ** [0.04623]	0.12829 ** [0.05384]			
<i>Post * I.S.<sub>q2/2020</sub> ∈ Q<sub>3</sub> (Industry)</i>	0.02693 [0.04599]	0.02427 [0.04634]	0.03758 [0.05003]			
<i>Post * I.S.<sub>q2/2020</sub> ∈ Q<sub>2</sub> (Industry)</i>	0.01450 [0.04355]	0.01393 [0.04364]	0.01966 [0.04408]			
<i>Post * I.S.<sub>q2/2020</sub> ∈ Q<sub>4</sub> (Services)</i>				-0.01773 [0.04775]	-0.01388 [0.04807]	-0.01645 [0.05077]
<i>Post * I.S.<sub>q2/2020</sub> ∈ Q<sub>3</sub> (Services)</i>				-0.04640 [0.04026]	-0.04235 [0.04041]	-0.03867 [0.04178]
<i>Post * I.S.<sub>q2/2020</sub> ∈ Q<sub>2</sub> (Services)</i>				-0.05198 [0.03983]	-0.04960 [0.03989]	-0.05771 [0.04034]
Observations	126,448	126,448	126,448	126,448	126,448	126,448
R-squared	0.10042	0.10045	0.11223	0.10036	0.10039	0.11218
Policy Controls	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X
Quarter_year FE	X	X	X	X	X	X
Province × Quarter_year FE			X		X	
Mean	1.087	1.087	1.087	1.172	1.172	1.172

Table 5: The coefficients in Columns (1) to (6) represent the municipal OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the treatment distribution differentiated across sectors. Columns 1-3 consider show the effect of the industrial inactive share. Columns 4-6 the service share. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impacts of work suspension on ARs, across sectors (linear estimates)				
	(1) AR not in prof. condition	(2) AR services	(3) AR industry	(4) AR P.A.
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.06984 ** [0.03532]	0.04511 [0.02936]	0.01454 [0.01293]	0.01346 [0.01030]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.05002 [0.03094]	0.02213 [0.02465]	0.00006 [0.01083]	-0.00022 [0.00891]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.03253 [0.02852]	0.00178 [0.02204]	0.00934 [0.00968]	0.00574 [0.00806]
Observations	126,448	126,448	126,448	126,448
R-squared	0.010409	0.08890	0.07934	0.07679
Policy covariates	X	X	X	X
Municipal FE	X	X	X	X
Quarter–year FE	X	X	X	X
Prov. × Quarterly FE	X	X	X	X
Mean	0.508	0.376	0.0682	0.0350

Table 6: The coefficients in Columns (1) to (4) represent the municipal OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the outcome heterogenized by the economic branch of activity where the aborting women are active. Column 1 reports the effect on the ARs of women out of the labor force. Column 2 that on those active in the services. Column 3 that on industrial workers. Column 4 that on civil servants. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	Impact of work suspension on municipal ARs across different marital status (linear and non-linear estimates)							
	(1) AR single	(2) AR married	(3) AR separated	(4) AR widowed	(5) AR single	(6) AR married	(7) AR separated	(8) AR widowed
$Post * \mathbb{1}(I. S_{q2/20} \in Q_4)$	0.07200 * [0.04115]	0.06963 ** [0.02993]	-0.00023 [0.00511]	-0.00282 [0.00799]	0.08556 * [0.04597]	0.08473 ** [0.03642]	0.00051 [0.05367]	-0.01011 [0.02625]
$Post * \mathbb{1}(I. S_{q2/20} \in Q_3)$	0.03583 [0.038446]	0.03278 [0.02634]	-0.00147 [0.00432]	-0.00378 [0.00546]	0.04031 [0.03935]	0.04763 [0.03020]	0.02850 [0.04788]	-0.01840 [0.01976]
$Post * \mathbb{1}(I. S_{q2/20} \in Q_2)$	0.00633 [0.03005]	0.02771 [0.02468]	-0.00166 [0.00367]	-0.0089 [0.00469]	0.00477 [0.03399]	0.04359 [0.02888]	-0.03472 [0.03992]	-0.00135 [0.01950]
Observations	126,448	126,448	126,448	126,448	108,608	98,096	17,105	29,934
R-squared	0.10016	0.09405	0.08802	0.07705				
Policy covariates	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X
Quarter–year FE	X	X	X	X	X	X	X	X
Prov. × Quarterly FE	X	X	X	X	X	X	X	X
Mean	0.631	0.379	0.0284	0.0259	0.631	0.379	0.0284	0.0259

**Table 7:** The coefficients in Columns (1) to (8) represent the municipal OLS and PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the outcome heterogenized across the marital status of the aborting women. Coefficients in Columns 1-4 are estimated via OLS. Coefficients in Columns 5-8 represents the Marginal Effects of Pseudo-Poisson Maximum Likelihood estimates (PPML). The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	Impact of work suspension on municipal ARs according to past reproductive behavior (extensive margin)							
	(1) AR with previous pregnancies	(2) AR with no previous pregnancies	(3) AR with previous deliveries	(4) AR with previous abortions	(5) AR with previous live births	(6) AR with previous stillbirths	(7) AR with previous miscarriages	(8) AR with previous VPTs
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.10948 *** [0.04144]	0.02238 [0.03154]	0.09800 ** [0.03974]	0.04712 [0.03186]	0.09660 ** [0.03957]	0.00297 [0.00321]	-0.01574 [0.02222]	0.05414 ** [0.02446]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.06753 ** [0.03442]	-0.00302 [0.02778]	0.06796 ** [0.03243]	0.01226 [0.02585]	0.06636 ** [0.03236]	0.00354 [0.00250]	-0.01006 [0.01667]	0.01331 [0.02181]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.05178 * [0.03132]	-0.01648 [0.02474]	0.04370 ** [0.02997]	0.02988 [0.02366]	0.04171 [0.02990]	0.00376 * [0.00218]	-0.01272 [0.01554]	0.03215 [0.01979]
Observations	126,448	126,448	126,448	126,448	126,448	126,448	126,448	126,448
R-squared	0.11128	0.07972	0.10592	0.10431	0.10601	0.07487	0.08131	0.09652
Policy covariates	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	X	X
Prov. × Quarterly FE	X	X	X	X	X	X	X	X
Mean	0.729	0.366	0.650	0.357	0.649	0.00672	0.166	0.227

Table 8: The coefficients in Columns (1) to (8) represent the municipal OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the outcome heterogenized according to whether or not the aborting women had previous pregnancies, depending on the type of pregnancy. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	Impact of work suspension on municipal ARs, differentiating the outcome according to the number of women's previous kids or abortions										
	(1) AR with no previous live births	(2) AR with 1 previous live birth	(3) AR with 2 previous live births	(4) AR with 3 previous live births	(5) AR with 4 previous live births	(6) AR with at least 5 live births	(7) AR with no previous VPTs	(8) AR with 1 previous VPTs	(9) AR with 2 previous VPTs	(10) AR with 3 previous VPTs	(11) AR with at least 4 VPTs
<i>Post</i> * $\mathbb{1}(I \cdot S_{q2/20} \in Q_4)$	0.03527 [0.03425]	0.03973 * [0.02407]	0.06118 ** [0.02716]	-0.00059 [0.01439]	-0.00570 [0.00536]	0.00179 [0.00430]	0.07773 * [0.04403]	0.04618 ** [0.02013]	0.00601 [0.01618]	0.00162 [0.00405]	0.00014 [0.00415]
<i>Post</i> * $\mathbb{1}(I \cdot S_{q2/20} \in Q_3)$	-0.00184 [0.02990]	0.03932 * [0.02111]	0.03557 * [0.02097]	-0.00574 [0.01158]	-0.00244 [0.00462]	-0.00146 [0.00417]	0.05121 [0.03427]	0.00927 [0.01458]	0.00404 [0.01296]	0.00001 [0.00361]	-0.00110 [0.00329]
<i>Post</i> * $\mathbb{1}(I \cdot S_{q2/20} \in Q_2)$	-0.00640 [0.02644]	0.03297 * [0.01818]	0.02566 [0.01986]	-0.00948 [0.01122]	-0.00648 [0.00484]	-0.00274 [0.00349]	0.00315 [0.03427]	0.02862 [0.01458]	0.00375 [0.01296]	-0.00173 [0.00361]	-0.00027 [0.00329]
Observations	126,448	126,448	126,448	126,448	126,448	126,448	126,448	126,448	126,448	126,448	126,448
R-squared	0.08540	0.09021	0.10048	0.08365	0.07765	0.12733	0.09458	0.09009	0.07543	0.07370	0.13794
Policy covariates	X	X	X	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	X	X	X	X	X
Prov. × Quarterly FE	X	X	X	X	X	X	X	X	X	X	X
Mean	0.445	0.247	0.287	0.0901	0.0199	0.0140	0.867	0.178	0.0380	0.00733	0.0132

**Table 9:** The coefficients in Columns (1) to (11) represent the municipal OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the outcome heterogenized according to the number of previous children (Columns 1-6) or abortions (Column 7-11). The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	Impact of work suspension on individual likelihood of undertaking a VPT outside of one's municipality of residence							
	(1) Share of extra-mun. VPTs	(2) Share of extra-mun. VPTs	(3) Share of extra-mun. VPTs	(4) Share of extra-mun. VPTs	(5) Share of extra-mun. VPTs	(6) Share of extra-mun. VPTs	(7) Share of extra-mun. VPTs	(8) Share of extra-mun. VPTs
<i>Post * 1(I. S_{q2/20} \in Q_4)</i>	0.05254 ** [0.02120]	0.05083 ** [0.02130]	0.05595 *** [0.02158]	0.04880 ** [0.02120]	0.04717 ** [0.02127]	0.05222 ** [0.02154]	0.09667 ** [0.04253]	0.09477 ** [0.04406]
<i>Post * 1(I. S_{q2/20} \in Q_3)</i>	0.05587 *** [0.01509]	0.05518 *** [0.01509]	0.06007 *** [0.01592]	0.05434 *** [0.01528]	0.05373 *** [0.01525]	0.05854 *** [0.01607]	0.08353 *** [0.03190]	0.08735 ** [0.03371]
<i>Post * 1(I. S_{q2/20} \in Q_2)</i>	0.00225 [0.00652]	0.001144 [0.00667]	0.00554 [0.00730]	0.00223 [0.00589]	0.00117 [0.00605]	0.00550 [0.00668]	0.03064 [0.03169]	0.003457 [0.03305]
Observations	97,545	97,545	97,545	97,545	97,545	97,545	97,528	97,528
R-squared	0.55790	0.56319	0.56323	0.56454	0.56948	0.56952	0.57748	0.58296
Individual Controls	X	X	X	X	X	X	X	X
Policy covariates			X			X		X
Other municipal covariates			X			X		X
Municipal FE	X	X	X	X	X	X	X	X
Municipality of the VPT FE	X	X	X	X	X	X	X	X
Hospital FE	X	X	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	X	X
Prov. $\times$ Quarterly FE							X	X
Weight				X	X	X		X
Mean	0.387	0.387	0.387	0.387	0.387	0.387	0.387	0.387

Table 10: The coefficients in Columns (1) to (8) represent the individual OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the likelihood of aborting outside one's own municipality of residence. The reference category is the 1<sup>st</sup> quartile of the distribution. The individual controls include a large set of individual characteristics of the aborting woman, accounting for demographic, socio-economic and health and fertility-related characteristics, plus some clinical covariates concerning the current VPT procedure. Policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days, and municipal excess mortality. Other municipal covariates include the population of females aged 15-49. The sample consists of an aggregation of repeated cross-sections, with the inactive share distribution computed at the municipal level. SEs clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	Impact of work suspension on individual likelihood of undertaking a VPT outside of the LMA including one's own municipality of residence							
	(1) Share of extra-LMA VPTs	(2) Share of extra-LMA VPTs	(3) Share of extra-LMA VPTs	(4) Share of extra-LMA VPTs	(5) Share of extra-LMA VPTs	(6) Share of extra-LMA VPTs	(7) Share of extra-LMA VPTs	(8) Share of extra-LMA VPTs
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.03187 *** [0.01026]	0.03224 *** [0.01037]	0.03476 *** [0.01074]	0.03099 *** [0.01015]	0.03120 *** [0.01027]	0.03429 *** [0.01056]	0.04420 * [0.02464]	0.04236 * [0.02468]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.00914 [0.00920]	0.00944 [0.00937]	0.01180 [0.00950]	0.00769 [0.00855]	0.00796 [0.00876]	0.01081 [0.00879]	0.03764 [0.02397]	0.03939 [0.02397]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	-0.00056 [0.00851]	-0.00032 [0.00878]	0.00222 [0.00926]	-0.00111 [0.00777]	-0.00096 [0.00806]	0.00211 [0.00851]	-0.02996 [0.03203]	-0.03278 [0.03201]
Observations	173,392	173,392	173,392	173,392	173,392	173,392	173,390	173,390
R-squared	0.56226	0.56692	0.56694	0.56853	0.57300	0.57302	0.57677	0.58263
Individual Controls		X			X	X	X	X
Policy covariates			X			X		X
Other municipal covariates				X		X		X
Municipal FE	X	X	X	X	X	X	X	X
Municipality of the VPT FE	X	X	X	X	X	X	X	X
Hospital FE	X	X	X	X	X	X	X	X
Quarter–year FE	X	X	X	X	X	X	X	X
Prov. × Quarterly FE					X	X		
Weight					X	X		X
Mean	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385

**Table 11:** The coefficients in Columns (1) to (8) represent the individual OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the likelihood of aborting in a municipality located outside other LMA including one's own municipality of residence. The reference category is the 1<sup>st</sup> quartile of the distribution. The individual controls include a large set of individual characteristics of the aborting woman, accounting for demographic, socio-economic and health and fertility-related characteristics, plus some clinical covariates concerning the current VPT procedure. Policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days, and municipal excess mortality. Other municipal covariates include the population of females aged 15-49. The sample consists of an aggregation of repeated cross-sections, with the inactive share distribution computed at the LMA level. SEs clustered at LMA level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	Impact of work suspension on municipal rates of pregnancies resulting into live births (linear estimates)					
	(1) Pregnancy rate	(2) Pregnancy rate	(3) Pregnancy rate	(4) Pregnancy rate	(5) Pregnancy rate	(6) Pregnancy rate
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.18441 [0.15293]	0.09482 [0.11474]	0.18762 [0.15364]	0.09508 [0.11531]	0.19109 [0.17377]	0.08248 [0.13211]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.07355 [0.12351]	0.05142 [0.09754]	0.06774 [0.12426]	0.04531 [0.09808]	0.04755 [0.13557]	0.02530 [0.10721]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.05488 [0.11799]	0.02759 [0.09259]	0.05190 [0.11817]	0.02512 [0.09278]	0.03168 [0.12208]	0.01163 [0.09572]
Observations	102,739	102,739	102,739	102,739	102,739	102,739
R-squared	0.12070	0.13008	0.12088	0.13024	0.13025	0.13877
Policy covariates			X	X	X	X
Municipal FE	X	X	X	X	X	X
Month–year FE	X	X	X	X	X	X
Prov. × Quarterly FE					X	X
Weight		X		X		X
Mean	7.722	7.722	7.722	7.722	7.722	7.722

**Table 12:** The coefficients in Columns (1) to (6) represent the municipal OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the municipal rates of pregnancies turning into live births 9 months after, normalized by the municipal population in fertile age. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating births at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

# Appendix

## A Aggregate data on Abortions

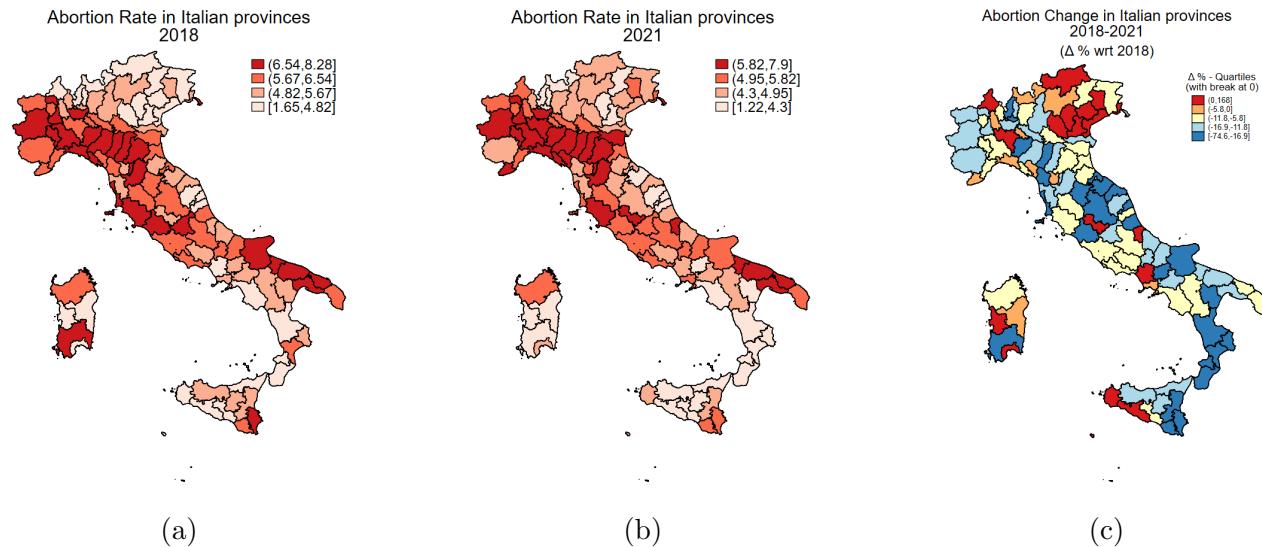


Figure A1: Provincial abortion rates: (a) 2018; (b) 2021; (c)  $\Delta\%$  2018-2021 wrt 2018 (source: ISTAT).

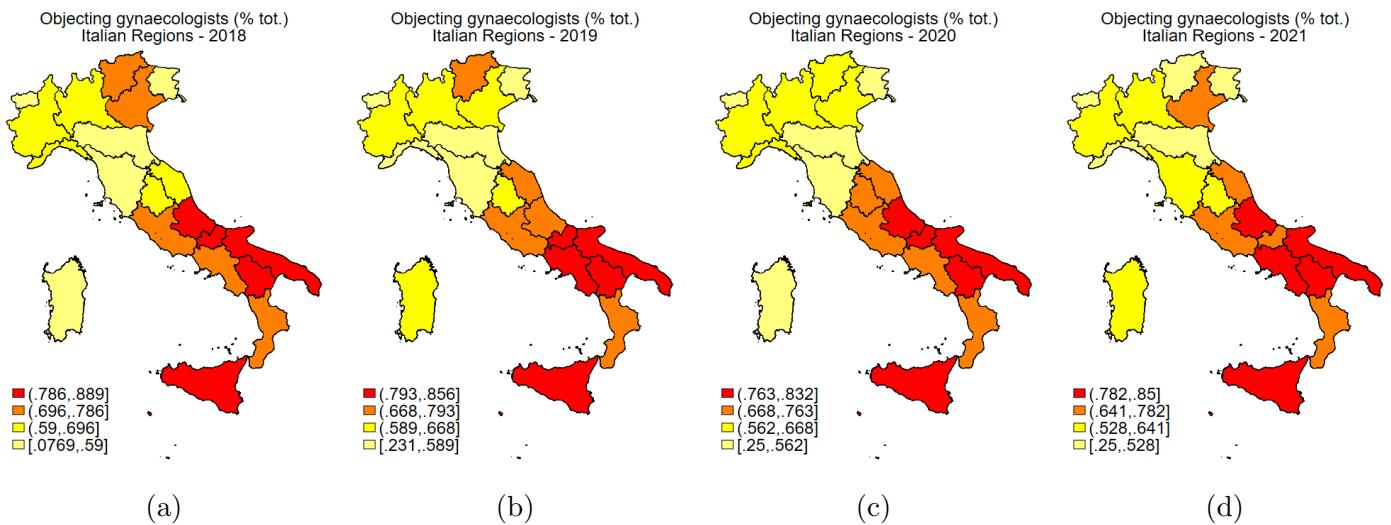


Figure A2: Objecting gynaecologists - % tot. gynaecologists - 2018-2021 (source: MoH)

## B Domestic Violence

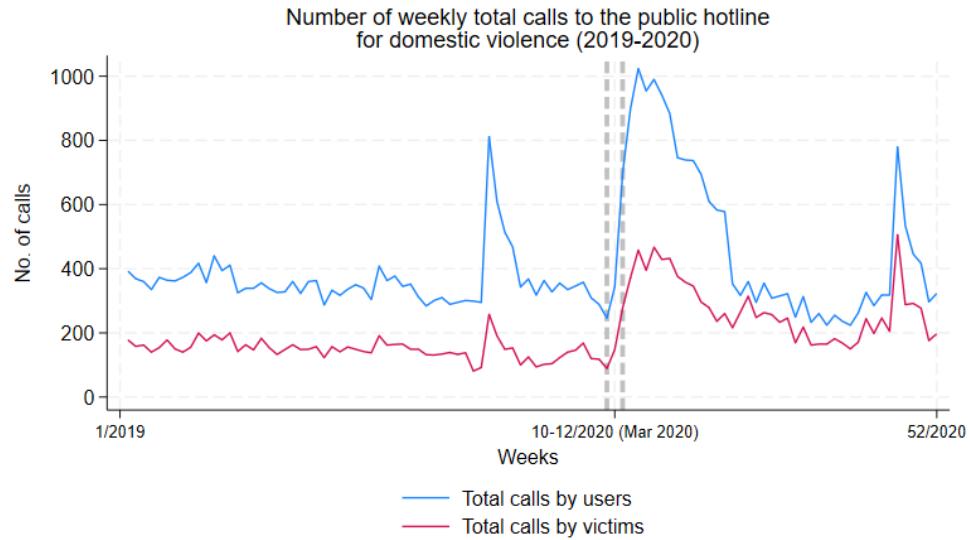
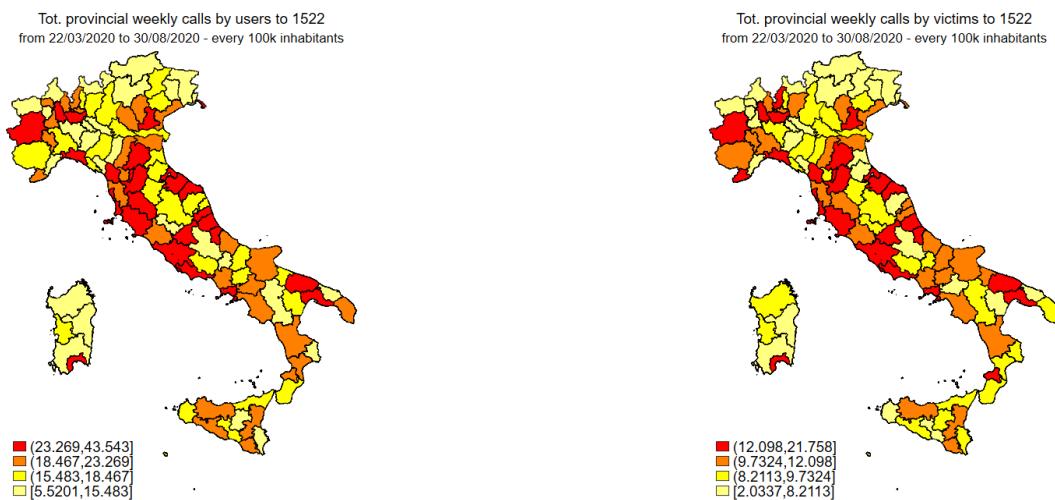


Figure B1: Weekly calls to the Italian public hotline for domestic violence (1522) in 2019 and 2020.



**Figure B2:** Total calls to 1522 over provincial population, from the week of closures in March 2020, to the last week of August 2020. Left panel reports the heat map for calls by all users, whereas the right panel reports the heat map for the calls by victims only. Calls with missing provenience are discarded.

	Impacts of work suspension on reported calls by users to the hot-line for IPV (linear/non-linear quarterly estimates)							
	(1) Calls by users	(2) Calls by users	(3) Calls by users	(4) Calls by users	(5) Calls by users	(6) Calls by users	(7) Calls by users	(8) Calls by users
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	-0.54188 [0.41952]	-0.64470 [0.56157]	-0.56786 [0.42165]	-0.70936 [0.56397]	-0.03438 [0.04324]	-0.01809 [0.05229]	-0.03459 [0.04267]	-0.02275 [0.05106]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.17320 [0.49035]	0.22739 [0.59952]	0.14448 [0.48681]	0.16240 [0.60158]	0.04635 [0.05206]	0.09504 [0.05514]	0.04518 [0.05083]	0.09024 [0.05380]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	-0.57632 [0.44929]	-0.82312 [0.54712]	-0.59057 [0.45280]	-0.83515 [0.54662]	-0.03282 [0.04858]	-0.03531 [0.05564]	-0.03301 [0.04784]	-0.03542 [0.05458]
Observations	1,712	1,664	1,712	1,664	1,712	1,664	1,712	1,664
R-squared	0.67587	0.72934	0.68392	0.73554				
Province FE	X	X	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	X	X
Region × quarter-year FE		X		X		X		X
Weight			X	X		X	X	X
Mean	7.657	7.657	7.657	7.657	7.657	7.657	7.657	7.657

**Table B1:** The coefficients in Columns (1) to (8) represent the municipal OLS and PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the provincial rates of call made by overall users to the public hot-line for domestic violence. Columns (1) to (4) report the OLS estimates. Columns (5) to (8) the Marginal Effects of the Pseudo-Poisson Maximum Likelihood ones (PPML). The policy covariates include the quarterly average provincial stringency index, the total number of red, orange and yellow area days (white area is the reference) and provincial excess mortality. The panel is built by aggregating the calls at the province level and quarterly frequency. The SEs are clustered at provincial level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	Impacts of work suspension on reported calls by victims to the hot-line for IPV (linear/non-linear quarterly estimates)							
	(1) Calls by victims	(2) Calls by victims	(3) Calls by victims	(4) Calls by victims	(5) Calls by victims	(6) Calls by victims	(7) Calls by victims	(8) Calls by victims
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	-0.23919 [0.26084]	-0.50435 [0.36837]	-0.26151 [0.26453]	-0.55169 [0.37355]	-0.01676 [0.04446]	0.01258 [0.05714]	-0.01683 [0.04350]	0.00743 [0.05577]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.09622 [0.29742]	-0.12410 [0.35366]	0.07768 [0.29684]	-0.16942 [0.35796]	0.03860 [0.05547]	0.09995 [0.05467]	0.03873 [0.05372]	0.09556 [0.05316]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	-0.35888 [0.25717]	-0.58615 [0.31585]	-0.37717 [0.26213]	-0.59867 [0.31820]	-0.03499 [0.04572]	-0.02175 [0.05275]	-0.03696 [0.04449]	-0.02232 [0.05110]
Observations	1,712	1,664	1,712	1,664	1,712	1,664	1,712	1,664
R-squared	0.62030	0.68493	0.63010	0.69234				
Province FE	X	X	X	X	X	X	X	X
Region × quarter-year FE		X		X		X		X
Quarter-year FE	X	X	X	X	X	X	X	X
Weight			X	X		X	X	X
Mean	3.789	3.789	3.789	3.789	3.789	3.789	3.789	3.789

**Table B2:** The coefficients in Columns (1) to (8) represent the municipal OLS and PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the provincial rates of call made by victims only to the public hot-line for domestic violence. Columns (1) to (4) report the OLS estimates. Columns (5) to (8) the Marginal Effects of the Pseudo-Poisson Maximum Likelihood ones (PPML). The policy covariates include the quarterly average provincial stringency index, the total number of red, orange and yellow area days (white area is the reference) and provincial excess mortality. The panel is built by aggregating the calls at the province level and quarterly frequency. The SEs are clustered at provincial level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impacts of work suspension on reported calls by users to the hot-line for IPV (linear/non-linear weekly estimates)								
	(1) Calls by users	(2) Calls by users	(3) Calls by users	(4) Calls by users	(5) Calls by users	(6) Calls by users	(7) Calls by users	(8) Calls by users
<i>Post * 1(I. <math>S_{q2/20} \in Q_4</math>)</i>	-0.04726 [0.03344]	-0.10055 [0.04807]	-0.04921 [0.03361]	-0.10427 [0.04780]	-0.04017 [0.04489]	-0.04010 [0.04427]	-0.11557 [0.07337]	-0.11693 [0.07180]
<i>Post * 1(I. <math>S_{q2/20} \in Q_3</math>)</i>	0.00882 [0.03689]	0.03197 [0.04924]	0.00671 [0.03675]	0.02733 [0.04919]	0.04743 [0.05087]	0.04669 [0.04978]	0.09403 [0.07494]	0.09020 [0.07410]
<i>Post * 1(I. <math>S_{q2/20} \in Q_2</math>)</i>	-0.04464 [0.03560]	-0.06970 [0.04940]	-0.04556 [0.03584]	-0.07024 [0.04916]	-0.03157 [0.04972]	-0.03157 [0.04887]	-0.06175 [0.07166]	-0.05994 [0.06927]
Observations	22,256	22,256	22,256	22,256	22,256	22,256	22,256	22,256
R-squared	0.27477	0.28633	0.28279	0.29438				
Province FE	X	X	X	X	X	X	X	X
Regional $\times$ Week'year FE		X		X			X	X
Week-Year FE	X	X	X	X	X	X	X	X
Weight			X	X		X		X
Mean	0.610	0.610	0.610	0.610	0.610	0.610	0.610	0.610

Table B3: The coefficients in Columns (1) to (8) represent the municipal OLS and PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the provincial rates of call made by overall users to the public hot-line for domestic violence. Columns (1) to (4) report the OLS estimates. Columns (5) to (8) the Marginal Effects of the Pseudo-Poisson Maximum Likelihood ones (PPML). The policy covariates include the quarterly average provincial stringency index, the total number of red, orange and yellow area days (white area is the reference) and provincial excess mortality. The panel is built by aggregating the calls at the province level and weekly frequency. The SEs are clustered at provincial level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impacts of work suspension on reported calls by victims to the hot-line for IPV (linear/non-linear quarterly estimates)								
	(1) Calls by victims	(2) Calls by victims	(3) Calls by victims	(4) Calls by victims	(5) Calls by victims	(6) Calls by victims	(7) Calls by victims	(8) Calls by victims
<i>Post * 1(I. <math>S_{q2/20} \in Q_4</math>)</i>	-0.02069 [0.02020]	-0.04505 [0.03317]	-0.02218 [0.02045]	-0.04780 [0.03288]	-0.02214 [0.04561]	-0.02136 [0.04460]	-0.08869 [0.09213]	-0.08869 [0.09213]
<i>Post * 1(I. <math>S_{q2/20} \in Q_3</math>)</i>	0.00262 [0.02149]	0.00564 [0.03193]	0.00120 [0.02160]	0.00286 [0.03189]	0.03688 [0.05189]	0.03739 [0.05050]	0.06318 [0.08054]	0.06318 [0.08054]
<i>Post * 1(I. <math>S_{q2/20} \in Q_2</math>)</i>	-0.02844 [0.01972]	-0.04771 [0.03239]	-0.02959 [0.02013]	-0.04932 [0.03246]	-0.03843 [0.04532]	-0.03967 [0.04421]	-0.08288 [0.08433]	-0.08288 [0.08433]
Observations	22,256	22,256	22,256	22,256	22,256	22,256	22,256	22,256
R-squared	0.16877	0.17673	0.17489	0.18294				
Province FE	X	X	X	X	X	X	X	X
Region $\times$ Week'year FE		X		X			X	X
Week-Year FE	X	X	X	X	X	X	X	X
Weight			X	X		X		X
Mean	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298

Table B4: The coefficients in Columns (1) to (8) represent the municipal OLS and PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the provincial rates of call made by victims only to the public hot-line for domestic violence. Columns (1) to (4) report the OLS estimates. Columns (5) to (8) the Marginal Effects of the Pseudo-Poisson Maximum Likelihood ones (PPML). The policy covariates include the quarterly average provincial stringency index, the total number of red, orange and yellow area days (white area is the reference) and provincial excess mortality. The panel is built by aggregating the calls at the province level and weekly frequency. The SEs are clustered at provincial level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## C Identification strategy

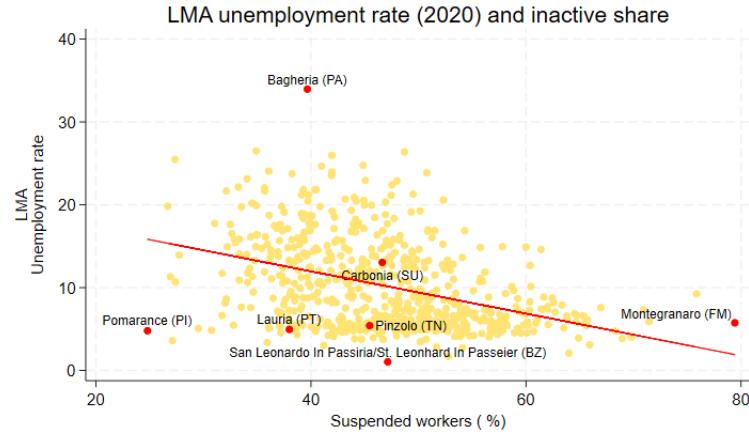


Figure C1: Predicted values between Local Market Areas' unemployment rate (2020, left panel) and suspended workers' share. The highlighted LMAs correspond to the ones having the maximum/minimum 2020's unemployment rate and inactive share. Carbonia (SU) has the median value of the inactive share.

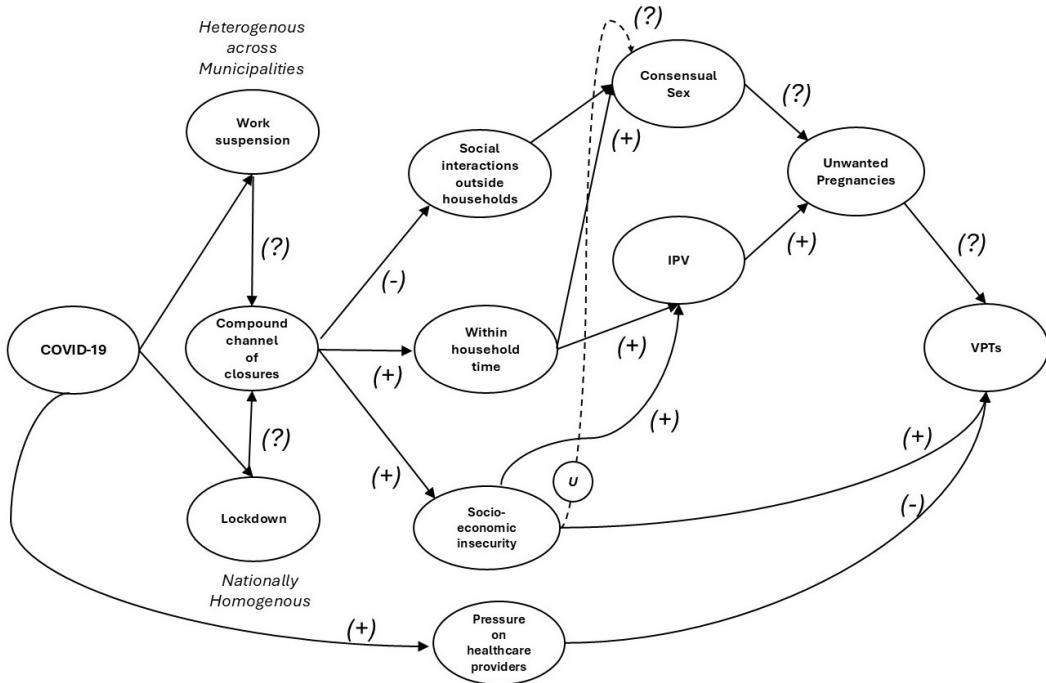


Figure C2: Supposed phenomena in action starting from the Covid pandemic: before the identification strategy.

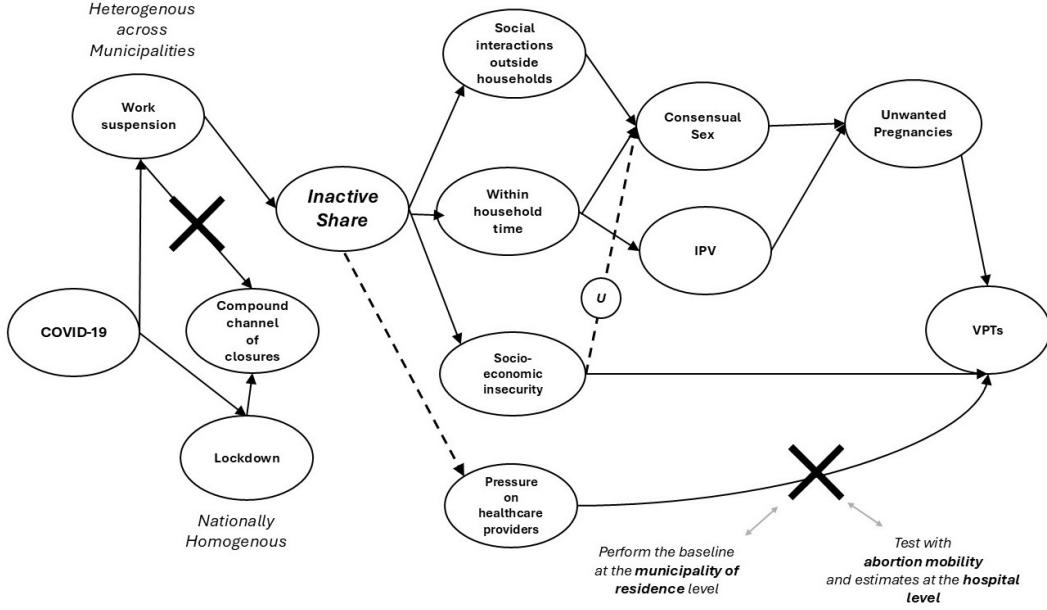


Figure C3: Identification strategy.

## D Covid-19 data

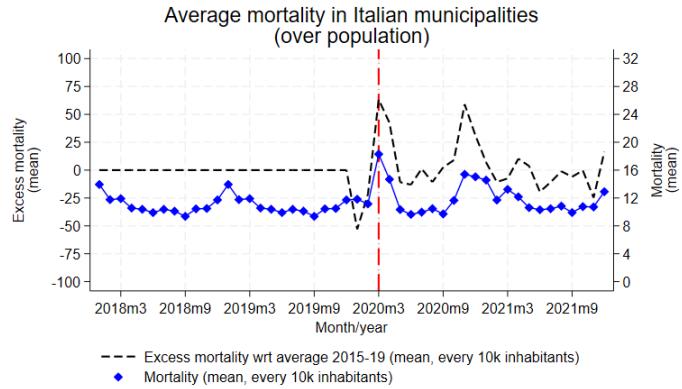


Figure D1: Path of municipal excess mortality in Italy between 2018 and 2021.

We report the method through which Conteduca and Borin, 2022 build their measures of policy restrictions during the pandemic outbreak below. For what concerns the stringency indexes, each index is constructed by looking at a set of variables, which take daily values, for each municipality, according to the severity of the applied restrictions, as explained in the table reported in Figure D3 and Figure D4 , directly drawn from the paper by Conteduca and Borin, 2022. Each variable in the tables gives birth to a sub-index  $I_{mti}$  as follows:

$$I_{mti} = 100 * \frac{v_{mti}}{V_i} \quad (7)$$

- $v_{mti}$  = values associated with variable  $i$  at date  $t$  in municipality  $m$ ;

- $V_i$  = is the maximum value of indicator  $i$ .

After the implementation of the Green Pass (6 August, 2021), the computation of  $I_{mti}$  slightly changes:

$$I_{mti} = 100 * \frac{\sigma_{mt}^g v_{mti}^g + (1 - \sigma_{mt}^g) v_{mti}^{ng}}{V_i} \quad (8)$$

- $v_{mti}^g$  = variables indicating the restrictions *with* Green Pass;
- $v_{mti}^{ng}$  = variables indicating the restrictions *without* Green Pass;
- $\sigma_{mti}^g$  = share of individuals holding a GP at time  $t$  in municipality  $m$ .

The sub-indicators  $I_{mti}$  are aggregated to produce a **stringency index**  $ItSI_m$  as follows:

$$ItSI_{mt} = \sum_i w_i I_{mti} \quad (9)$$

- $w_i = \frac{1}{9}$  for all indicators, except for **C2\_1\_Production**, **C2\_2\_Shops**, **C2\_3\_Bars\_Restaurants** (for this subset,  $w_i = \frac{1}{27}$ ).

**Table 1** Policy indicators available in the dataset

Variable	Description	Value	Label
C1_Schools	Restrictions on in-person schooling	0	No restrictions
		0.5	Partial remote learning in upper secondary schools
		1	Full remote learning in upper secondary schools
		1.5	Full remote learning in upper secondary schools and final two years of lower secondary schools
		2	Full remote learning in upper and lower secondary schools
		2.5	In-person activities only in pre-school education
		3	No in-person activity
C2_1_Production	Restrictions on in-person production activities	0	No restrictions
		1	Remote working recommended
		2	Mandatory remote working for most activities
		3	Shutdown of all but essential production activities
		0	No restrictions
C2_2_Shops	Restrictions on shops and personal services activities	1	Limited restrictions (e.g., people allowed in stores)
		2	Closure of some shops
		3	Shutdown of all but essential production activities
C2_3_BarsRestaurants	Restrictions on bars and restaurants	0	No restrictions
		1	Dine-in allowed at some times of day
		2	Dine-in not allowed; takeaway and delivery allowed
C3_PublicEvents	Restrictions on in-person public events	3	Closure of all bars and restaurants
		0	No restrictions
		1	Cancellation of some public events
C3_PublicEvents	Restrictions on in-person public events	2	Cancellation of most public events
		0	No restrictions

**Table 1** continued

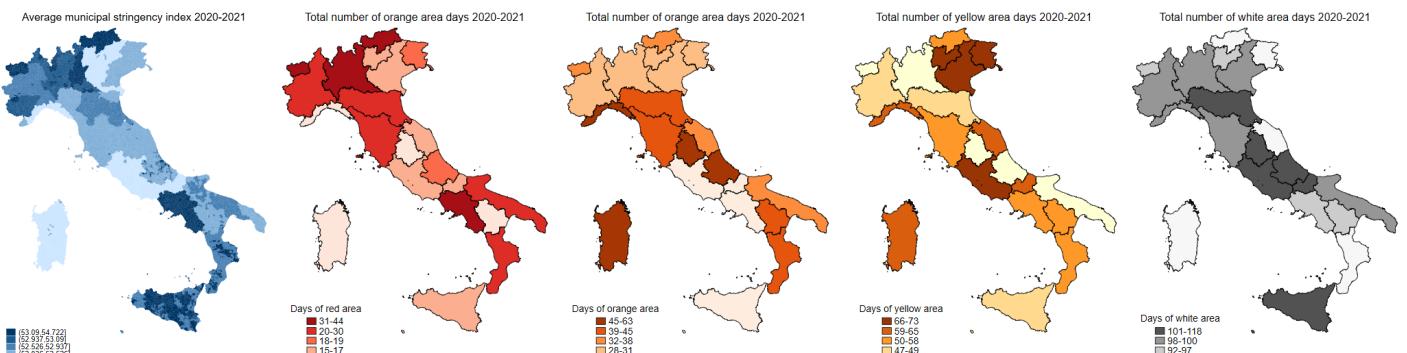
Variable	Description	Value	Label
C4_Gatherings	Restrictions on in-person gatherings	1	Gatherings over 1,000 people allowed
		2	Gatherings up to 1,000 people allowed
		3	Gatherings up to 100 people allowed
		4	Gatherings up to 10 people allowed
C5_PublicTransport	Restrictions on public transportation	0	No restrictions
		1	Reduced capacity
C6_StayAtHome	Restrictions on quarantines and isolation	2	Shutdown of public transport
		0	No restrictions
C7_InternalMovement	Restrictions on domestic travel and movement	1	Recommended sheltering
		2	Mandatory sheltering (excluded essential activities)
		3	Mandatory sheltering (with very few exceptions)
		0	No restrictions
C8_InternationalTravel	Restrictions on international travel	1	Limited restrictions (e.g., curfew)
		2	No movement between regions
		3	No movement between municipalities
		4	No movement within a municipality
H1_PublicCampaigns	Presence of public information campaigns	0	No restrictions
		1	Limited control (e.g., negative test)
		2	Mandatory quarantine
H1_PublicCampaigns	Presence of public information campaigns	3	Entry ban on some countries
		4	Entry ban on all countries
H1_PublicCampaigns	Presence of public information campaigns	0	No campaigns
		1	Public campaigns on some media
		2	Coordinated campaigns on all media

Source: Authors' elaboration adapting Hale et al. (2021) to the restrictions and provisions in place in Italy since January 1, 2020

(a)

(b)

Figure D2: Source: Conteduca and Borin, 2022.



(a) Avg municipal stringency index.

(b) Red days

(c) Orange days

(d) Yellow days

(e) White days

Figure D3: Elaboration on the data by Conteduca and Borin, 2022

## E Temporal sensitivity

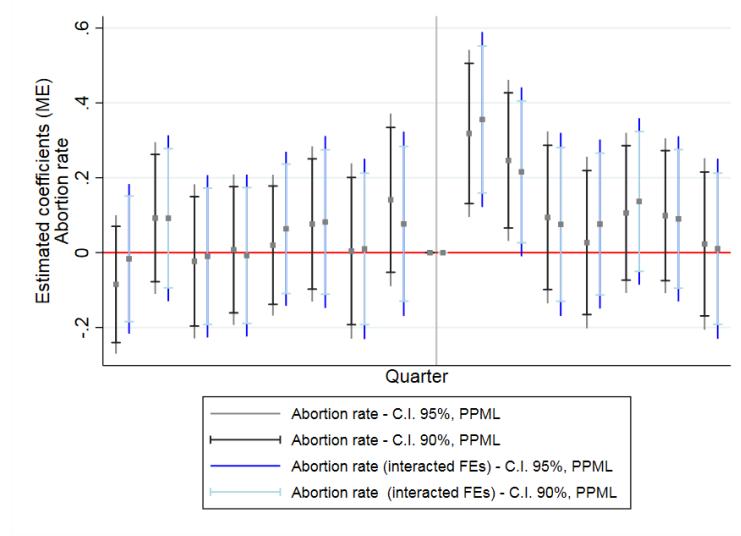


Figure E1: PPML Event-study estimates. The figure reports the marginal effects of temporal units and their confidence intervals, both for the baseline specification and the one with interaction FEs between province dummies and quarterly dummies. Confidence intervals are reported at both 90% and 95%. The x-axis represents all quarters from 2018Q1 to 2021Q4. The vertical line is set on quarter 9, which corresponds to the first quarter of 2020, the first lead before the treatment, occurring on Q2 2020.

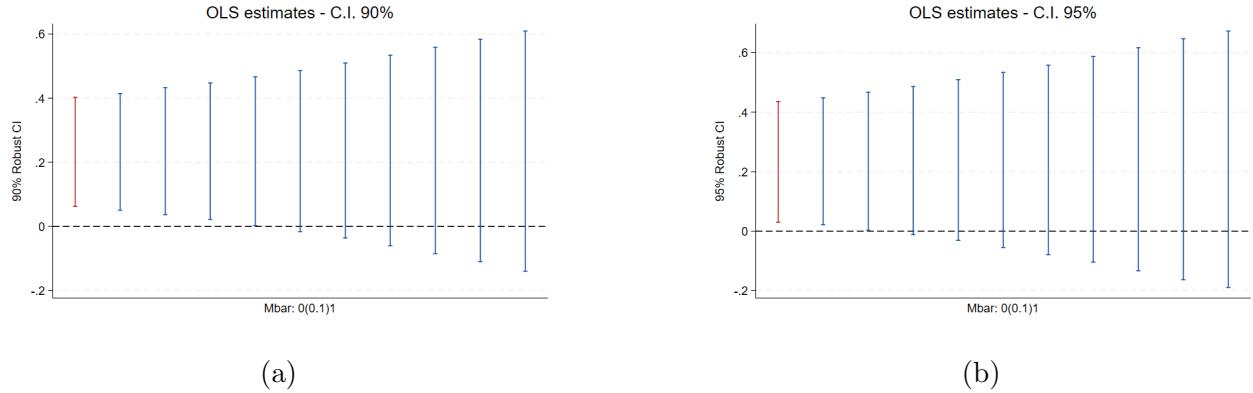


Figure E2: Parallel trends sensitivity analysis, — break points for the treatment coefficient on the second quarter of 2020, based on estimates from [Equation 7](#). Confidence interval at 90% (a), 95% (b). The x-axis reports the varying magnitude of the break parameter  $M$ , allowing for deviations from the common trend, ranges from 0% to 100%, by intervals of 10%.

Impacts of work suspension on ARs (linear annual estimates)							Impacts of work suspension on ARs (non-linear annual estimates)						
	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR		(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR
$Post * \mathbb{1}(I. S_{-2020} \in Q_4)$	0.45936 *** [0.18155]	0.40473 *** [0.14232]	0.44251 ** [0.18278]	0.38749 *** [0.14344]	0.46248 ** [0.20957]	0.40370 ** [0.16431]	$Post * \mathbb{1}(I. S_{-2020} \in Q_4)$	0.48261 ** [0.19869]	0.40296 *** [0.15296]	0.46742 ** [0.20052]	0.38752 ** [0.15456]	0.54760 ** [0.22249]	0.42632 ** [0.17294]
$Post * \mathbb{1}(I. S_{-2020} \in Q_3)$	0.027750 *	0.22828 [0.17144]	0.27461 *[0.13291]	0.22259 *[0.17227]	0.30372 *[0.13375]	0.24423 *[0.18107]	$Post * \mathbb{1}(I. S_{-2020} \in Q_3)$	0.29128 [0.18411]	0.22390 [0.13928]	0.29055 [0.18542]	0.22038 *[0.14043]	0.35035 *[0.19054]	0.25932 *[0.14573]
$Post * \mathbb{1}(I. S_{-2020} \in Q_2)$	0.15870 [0.15953]	0.13585 [0.12357]	0.16328 [0.15987]	0.13681 [0.12403]	0.16474 [0.16327]	0.13535 [0.12677]	$Post * \mathbb{1}(I. S_{-2020} \in Q_2)$	0.16671 [0.17143]	0.13396 [0.12889]	0.17390 [0.17192]	0.13784 [0.12965]	0.19209 [0.17193]	0.14084 [0.13113]
Observations	31,612	31,612	31,612	31,612	31,612	31,612	Observations	29,048	29,048	29,048	29,048	29,048	29,048
R-squared	0.34647	0.35665	0.34674	0.35692	0.35777	0.36792	Policy covariates		X	X	X	X	X
Policy covariates			X	X	X	X	Municipal FE		X	X	X	X	X
Municipal FE	X	X	X	X	X	X	Year FE	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	Prov. × Year FE		X	X	X	X	X
Province × Year FE					X	X	Weight		X	X	X	X	X
Weight		X		X		X	Mean	4.374	4.374	4.374	4.374	4.374	4.374
Mean	4.374	4.374	4.374	4.374	4.374	4.374							

(a) Annual Specification (OLS)

(b) Annual Specification (PPML)

**Figure E3:** The coefficients in Columns (1) to (6) of both tables represent the municipal OLS (a) and PPML (b) estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the municipal abortion rates, by aggregating data at the annual frequency. Table (a) reports OLS estimates. Table (b) the Marginal Effects of the Pseudo-Poisson Maximum Likelihood ones (PPML). The policy covariates include the annually average provincial stringency index, the total number of red, orange and yellow area days (white area is the reference) and provincial excess mortality. The panel is built by aggregating the abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impacts of work suspension on ARs (linear monthly estimates)							Impacts of work suspension on ARs (non-linear monthly estimates)						
	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR		(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR
$Post * \mathbb{1}(I. S_{-03/2020} \in Q_4)$	0.04378 *** [0.01522]	0.03780 *** [0.01188]	0.04125 *** [0.01530]	0.03556 *** [0.01194]	0.04285 ** [0.01736]	0.03628 *** [0.01356]	$Post * \mathbb{1}(I. S_{-03/2020} \in Q_4)$	0.04659 *** [0.01702]	0.03775 *** [0.01301]	0.04413 *** [0.01708]	0.03568 ** [0.01305]	0.04807 ** [0.01865]	0.03810 *** [0.01446]
$Post * \mathbb{1}(I. S_{-03/2020} \in Q_3)$	0.01904 [0.01422]	0.01608 [0.01100]	0.01989 [0.01414]	0.01666 [0.01093]	0.02235 [0.01495]	0.01811 [0.01157]	$Post * \mathbb{1}(I. S_{-03/2020} \in Q_3)$	0.02005 [0.01563]	0.01358 [0.01176]	0.02110 [0.01556]	0.01617 [0.01170]	0.02566 [0.01606]	0.01866 [0.01224]
$Post * \mathbb{1}(I. S_{-03/2020} \in Q_2)$	0.01162 [0.01317]	0.00987 [0.01019]	0.00120 [0.01325]	0.00931 [0.01024]	0.01064 [0.01343]	0.00850 [0.01041]	$Post * \mathbb{1}(I. S_{-03/2020} \in Q_2)$	0.01236 [0.01449]	0.00965 [0.01050]	0.01198 [0.01458]	0.00919 [0.01091]	0.01279 [0.01439]	0.00865 [0.01095]
Observations	379,344	379,344	371,441	371,441	371,441	371,441	Observations	348,576	348,576	340,609	340,609	340,519	340,519
R-squared	0.03428	0.03622	0.03402	0.03595	0.04544	0.04611	Policy covariates		X	X	X	X	X
Policy covariates			X	X	X	X	Municipal FE	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	Month–year FE	X	X	X	X	X	X
Month–year FE	X	X	X	X	X	X	Prov. × Month–year FE		X	X	X	X	X
Province × Month–year FE					X	X	Weight		X	X	X	X	X
Weight		X		X		X	Mean	0.368	0.368	0.368	0.368	0.368	0.368
Mean	0.368	0.368	0.368	0.368	0.368	0.368							

(a) Monthly Specification (OLS)

(b) Monthly Specification (PPML)

**Figure E4:** The coefficients in Columns (1) to (6) of both tables represent the municipal OLS (a) and PPML (b) estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the municipal abortion rates, by aggregating data at the monthly frequency. Table (a) reports OLS estimates. Table (b) the Marginal Effects of the Pseudo-Poisson Maximum Likelihood ones (PPML). The policy covariates include the monthly lagged average provincial stringency index, the total number of red, orange and yellow area days (white area is the reference) and provincial excess mortality. The panel is built by aggregating the abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	Impacts of work suspension on ARs (linear semestral estimates)						Impacts of work suspension on ARs (non-linear semestral estimates)						
	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR	
$Post * \mathbb{1}(I. S_{-03/2020} \in Q_4)$	0.22968 ** [0.09077]	0.20237 *** [0.07116]	0.22546 ** [0.09114]	0.19714 *** [0.07150]	0.23061 ** [0.10459]	0.20126 ** [0.08196]	$Post * \mathbb{1}(I. S_{-03/2020} \in Q_4)$	0.24131 ** [0.09935]	0.20148 *** [0.07648]	0.23656 ** [0.09988]	0.19705 ** [0.07695]	0.25776 ** [0.11101]	0.21183 ** [0.08623]
$Post * \mathbb{1}(I. S_{-03/2020} \in Q_3)$	0.13875 * [0.08572]	0.11414 * [0.06646]	0.13668 * [0.08600]	0.11126 * [0.06675]	0.15137 * [0.09039]	0.12155 * [0.07009]	$Post * \mathbb{1}(I. S_{-03/2020} \in Q_3)$	0.14565 [0.09220]	0.11195 [0.06964]	0.14389 [0.09258]	0.10965 [0.07004]	0.17412 * [0.09504]	0.12821 * [0.07263]
$Post * \mathbb{1}(I. S_{-03/2020} \in Q_2)$	0.07935 [0.07976]	0.068793 [0.06178]	0.08049 [0.07984]	0.06764 [0.06193]	0.08222 [0.08149]	0.06726 [0.06325]	$Post * \mathbb{1}(I. S_{-03/2020} \in Q_2)$	0.08336 [0.08572]	0.06698 [0.06444]	0.08571 [0.08589]	0.06788 [0.06470]	0.09578 [0.08574]	0.06953 [0.06536]
Observations	63,224	63,224	63,224	63,224	63,224	63,224	Observations	58,096	58,096	58,096	58,096	58,096	
R-squared	0.19149	0.19967	0.19158	0.19974	0.20417	0.21164	Policy covariates	X	X	X	X	X	
Policy covariates			X	X	X	X	Municipal FE	X	X	X	X	X	
Municipal FE	X	X	X	X	X	X	Semester-year FE	X	X	X	X	X	
Semester-year FE	X	X	X	X	X	X	Province × Semester-year FE			X	X	X	
Prov. × Semester-year FE				X	X	X	Weight	X	X	X	X	X	
Weight		X		X		X	Mean	2.187	2.187	2.187	2.187	2.187	
Mean	2.187	2.187	2.187	2.187	2.187	2.187							

(a) Semestral Specification (OLS)

(b) Semestral Specification (PPML)

**Figure E5:** The coefficients in Columns (1) to (6) of both tables represent the municipal OLS (a) and PPML (b) estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the municipal abortion rates, by aggregating data at the semestral frequency. Table (a) reports OLS estimates. Table (b) the Marginal Effects of the Pseudo-Poisson Maximum Likelihood ones (PPML). The policy covariates include the semestral average provincial stringency index, the total number of red, orange and yellow area days (white area is the reference) and provincial excess mortality. The panel is built by aggregating the abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## F Treatment sensitivity

	Impacts of work suspension on ARs for varying treatment specifications (linear estimates)						Impacts of work suspension on ARs for varying treatment specifications (non-linear estimates)					
	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR
$Post * \mathbb{1}(I. S_{-q2/20})$ (continuous)	0.00325 ** [0.00141]		0.00327 ** [0.00158]				$Post * \mathbb{1}(I. S_{-q2/20})$ (continuous)	0.00360 ** [0.00161]		0.00388 ** [0.00174]		
$Post * \mathbb{1}(I. S_{-q2/20} \geq median)$		0.07450 *** [0.02858]		0.07678 ** [0.03177]			$Post * \mathbb{1}(I. S_{-q2/20} \geq median)$		0.07825 *** [0.03170]		0.08517 ** [0.04328]	
$Post * \mathbb{1}(I. S_{-q2/20} \in Tercile_3)$			0.10914 *** [0.03744]		0.11317 *** [0.04301]		$Post * \mathbb{1}(I. S_{-q2/20} \in Tercile_3)$			0.11610 *** [0.04193]		0.12601 *** [0.04647]
$Post * \mathbb{1}(I. S_{-q2/20} \in Tercile_2)$				0.01415 [0.03371]		0.02023 [0.03484]	$Post * \mathbb{1}(I. S_{-q2/20} \in Tercile_2)$			0.01754 [0.03694]		0.02838 [0.03734]
Observations	126,448	126,448	126,448	126,448	126,448	126,448	Observations	116,192	116,192	116,192	116,192	116,192
R-squared	0.10048	0.10043	0.10046	0.11225	0.11221	0.11224	Policy covariates	X	X	X	X	X
Policy covariates	X	X	X	X	X	X	Municipal FE	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	Quarter-year FE	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	Prov. × Quarterly FE			X	X	X
Prov. × Quarterly FE				X	X	X	Mean	1.164	1.134	1.103	1.164	1.134
Mean	1.164	1.134	1.103	1.164	1.134	1.103						

(a) OLS

(b) PPML

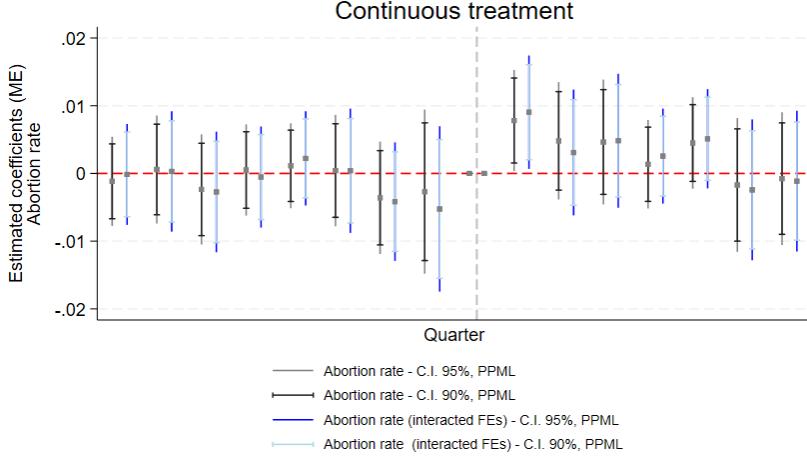
**Figure F1:** The coefficients in Columns (1) to (6) of both tables represent the municipal OLS (a) and PPML (b) estimates of the ITT effect of being part of differently defined portions of the suspended workers share distribution. Table (a) reports OLS estimates. Table (b) the Marginal Effects of the Pseudo-Poisson Maximum Likelihood ones (PPML). Columns 1 and 4 report the effect of the distribution defined continuously (from 0 to 100). Columns 2 and 5 the effect of being a municipality above the median of the distribution. Columns (3) and (6) are with respect of the terciles of the distribution. The policy covariates include the quarterly average provincial stringency index, the total number of red, orange and yellow area days (white area is the reference) and provincial excess mortality. The panel is built by aggregating the abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Placebo linear estimates: impact of work suspension on municipal ARs, at Q2 of the different years in the sample															
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR
<i>Post March 2018 * 1(I. <math>S_{q2/20} \in Q_4</math>)</i>	0.09653	0.06472	0.08486												
[0.07505]	[0.08175]	[0.07739]													
<i>Post March 2019 * 1(I. <math>S_{q2/20} \in Q_4</math>)</i>				0.05436	0.01368	0.04662	0.05396								
	[0.05313]	[0.09276]	[0.06974]	[0.08085]											
<i>Post March 2020 * 1(I. <math>S_{q2/20} \in Q_4</math>)</i>								0.20488	0.15689	0.14117	0.14289				
								[0.09449]	[0.05250]	[0.05838]	[0.08823]				
<i>Post March 2021 * 1(I. <math>S_{q2/20} \in Q_4</math>)</i>										0.04008	0.00559	-0.04315	0.01066		
										[0.05540]	[0.10336]	[0.06281]	[0.05341]		

**Table F1:** The coefficients in Columns (1) to (16) represent the municipal OLS placebo estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, obtained by interacting the suspended workers share's distribution with Q2 of various years across the dataset, and at different sample sizes. Columns 1-3 consider 2018Q2 as the treatment event. Columns 4-7 2019Q2. Columns 8-10 and 11 2020Q2. Columns 11 and 13-15 2021Q2. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\* p<0.01, \*\*\* p<0.05, \* p<0.1

Placebo non-linear estimates: impact of work suspension on municipal ARs, at Q2 of the different years in the sample																
	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR	(7) AR	(8) AR	(9) AR	(10) AR	(11) AR	(12) AR	(13) AR	(14) AR	(15) AR	
<i>Post March 2018 * <math>\mathbb{I}(I \cdot S_{q2/20} \in Q_4)</math></i>	0.07931 [0.07533]	0.06583 [0.10626]	0.07583 [0.08493]													
<i>Post March 2019 * <math>\mathbb{I}(I \cdot S_{q2/20} \in Q_4)</math></i>				0.04414 [0.05396]	-0.00377 [0.11132]	0.04229 [0.07427]	0.04748 [0.08611]									
<i>Post March 2020 * <math>\mathbb{I}(I \cdot S_{q2/20} \in Q_4)</math></i>								0.27922 [0.11336]	0.19013 [0.06692]	0.18673 [0.06854]					0.14851 *	
<i>Post March 2021 * <math>\mathbb{I}(I \cdot S_{q2/20} \in Q_4)</math></i>											0.03807 [0.06325]					
Observations	84,804	23,669 53,824	84,804	23,080	53,080	52,824	52,792	22,472	84,756	52,792	84,804	52,200	22,372	52,200	116,192	
Policy covariates								X	X	X	X	X	X	X	X	
Excess mortality	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Municipal FE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Quarter-year FE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Province × Quarter-year FE																
Time-span	18-19, 21 1.114	18 1.144	18-19 1.144	18-19, 21 1.160	19 1.114	18-19 1.160	19-20 1.114	20 1.160	18-21 1.181	19-20 1.103	18-19, 21 1.104	20-21 1.085	21 1.181	20-21 1.013	21 1.058	18-21 1.080
Mean																

**Table F2:** The coefficients in Columns (1) to (16) represent the municipal Marginal Effects of the Pseudo-Poisson Maximum Likelihood (PPML) placebo estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, obtained by interacting the suspended workers share's distribution with Q2 of various years across the dataset, and at different sample sizes. Columns 1-3 consider 2018Q2 as the treatment event. Columns 4-7 2019Q2. Columns 8-10 and 11 2020Q2. Columns 11 and 13-15 2021Q2. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1



**Figure F2:** PPML Event-study estimates with the continuous treatment specification. The figure reports the marginal effects of temporal units and their confidence intervals, both for the baseline specification and the one with interaction FEs between province dummies and quarterly dummies. Confidence intervals are reported at both 90% and 95%. The x-axis represents all quarters from 2018Q1 to 2021Q4. The vertical line is set on quarter 9, which corresponds to the first quarter of 2020, the first lead before the treatment, occurring on Q2 2020.

	Impacts of work suspension on ARs (linear estimates without VPTs beyond gestational limit)					
	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR
<i>Post * 1(I. <math>S_{q2/20} \in Q_4</math>)</i>	0.12711 *** [0.04446]	0.10910 *** [0.03469]	0.12504 *** [0.04469]	0.10737 ** [0.03492]	0.12628 *** [0.05043]	0.10531 *** [0.03949]
<i>Post * 1(I. <math>S_{q2/20} \in Q_3</math>)</i>	0.05544 [0.04168]	0.04717 [0.03228]	0.05413 [0.04177]	0.04595 [0.03238]	0.05906 [0.04397]	0.04760 [0.03411]
<i>Post * 1(I. <math>S_{q2/20} \in Q_2</math>)</i>	0.03729 [0.03844]	0.03291 [0.02980]	0.03742 [0.03847]	0.03276 [0.02984]	0.03403 [0.03897]	0.02866 [0.03028]
Observations	126,448	126,448	126,448	126,448	126,448	126,448
R-squared	0.10189	0.10664	0.10192	0.10666	0.11380	0.11759
Policy covariates			X	X	X	X
Municipal FE	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X
Prov. × Quarterly FE				X	X	X
Weight		X		X		X
Mean	1.103	1.103	1.103	1.103	1.103	1.103

(a) OLS

	Impacts of work suspension on ARs (non-linear estimates without VPTs beyond gestational limit)					
	(1) AR (ME)	(2) AR (ME)	(3) AR (ME)	(4) AR (ME)	(5) AR (ME)	(6) AR (ME)
<i>Post * 1(I. <math>S_{q2/20} \in Q_4</math>)</i>	0.13487 *** [0.05016]	0.10765 *** [0.03829]	0.13240 *** [0.05031]	0.10562 *** [0.03844]	0.13769 ** [0.05461]	0.10738 *** [0.04238]
<i>Post * 1(I. <math>S_{q2/20} \in Q_3</math>)</i>	0.05787 [0.04611]	0.04417 [0.03468]	0.05639 [0.04619]	0.04282 [0.03476]	0.06745 [0.04750]	0.04757 [0.03620]
<i>Post * 1(I. <math>S_{q2/20} \in Q_2</math>)</i>	0.03919 [0.04252]	0.03186 [0.03185]	0.03985 [0.04256]	0.03215 [0.03192]	0.04074 [0.04199]	0.02891 [0.03199]
Observations	115,504	115,504	115,504	115,504	115,504	115,504
Policy covariates		X	X	X	X	X
Municipal FE		X	X	X	X	X
Quarter-year FE		X	X	X	X	X
Prov. × Quarterly FE				X	X	X
Weight		X		X		X
Mean	1.103	1.103	1.103	1.103	1.103	1.103

(b) PPML

**Figure F3:** The coefficients in Columns (1) to (6) represent the municipal OLS (a) and the Marginal Effects of the PPML (b) estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, after removing from the pooled cross-sections the VPTs performed after the gestational limits (before constructing the panel). The reference category is the 1<sup>st</sup> quartile of the distribution. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. Mean reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impacts of work suspension on ARs (linear estimates without Metropolitan Cities)							Impacts of work suspension on ARs (non-linear estimates without Metropolitan Cities)						
	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR		(1) AR (ME)	(2) AR (ME)	(3) AR (ME)	(4) AR (ME)	(5) AR (ME)	(6) AR (ME)
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.13125 *** [0.04576]	0.11333 *** [0.03580]	0.12888 *** [0.04598]	0.11156 *** [0.03602]	0.13183 *** [0.05200]	0.11136 *** [0.04082]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.14015 *** [0.05119]	0.11406 *** [0.03925]	0.13732 *** [0.05133]	0.11191 *** [0.03938]	0.14597 *** [0.05596]	0.11630 *** [0.04358]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.05615 [0.04276]	0.04712 [0.03316]	0.05482 [0.04284]	0.04603 [0.03325]	0.06231 [0.04513]	0.05009 [0.03506]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.05962 [0.04703]	0.04587 [0.03549]	0.05798 [0.04708]	0.04450 [0.03554]	0.07222 [0.04847]	0.05199 [0.03707]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.03411 [0.03960]	0.02915 [0.03075]	0.03433 [0.03957]	0.02913 [0.03075]	0.03270 [0.04017]	0.02673 [0.03128]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.03665 [0.04362]	0.02929 [0.03283]	0.03704 [0.04359]	0.02934 [0.03282]	0.03854 [0.04312]	0.02689 [0.03299]
Observations	126,224	126,224	126,224	126,224	126,224	126,224	Observations	115,968	115,968	115,968	115,968	115,968	115,968
R-squared	0.10030	0.10501	0.10033	0.10503	0.11212	0.11594	Policy covariates		X	X	X	X	X
Policy covariates			X	X	X	X	Municipal FE		X	X	X	X	X
Municipal FE	X	X	X	X	X	X	Quarter-year FE	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	Prov. × Quarterly FE				X	X	X
Prov. × Quarterly FE					X	X	Weight		X		X	X	X
Weight		X		X		X	Mean	1.103	1.103	1.103	1.103	1.103	1.103
Mean	1.103	1.103	1.103	1.103	1.103	1.103							

(a) OLS

(b) PPML

**Figure F4:** The coefficients in Columns (1) to (6) represent the municipal OLS (a) and the Marginal Effects of the PPML (b) estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, after removing from the panel the chieftowns of the Italian Metropolitan Cities. The reference category is the 1<sup>st</sup> quartile of the distribution. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impacts of work suspension on ARs (linear estimates without urgent VPTs)							Impacts of work suspension on ARs (non-linear estimates without urgent VPTs)						
	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR		(1) AR (ME)	(2) AR (ME)	(3) AR (ME)	(4) AR (ME)	(5) AR (ME)	(6) AR (ME)
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.09557 ** [0.03902]	0.08961 *** [0.03069]	0.08975 ** [0.03938]	0.08505 *** [0.03097]	0.07036 [0.04490]	0.06337 * [0.03524]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.10303 ** [0.04473]	0.08936 *** [0.03432]	0.09639 ** [0.04508]	0.08429 ** [0.03457]	0.07855 [0.04910]	0.06404 *[0.03829]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.05835 *[0.03581]	0.05018 [0.02812]	0.05477 *[0.03599]	0.04720 [0.02827]	0.04516 [0.03789]	0.03498 [0.02973]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.06003 [0.04066]	0.04651 [0.03089]	0.05595 [0.04088]	0.04327 [0.03104]	0.04834 [0.04140]	0.03193 [0.03198]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.01108 [0.03380]	0.00975 [0.02639]	0.01050 [0.03385]	0.00911 [0.02644]	0.00467 [0.03444]	0.00327 [0.02693]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.01091 [0.03820]	0.00663 [0.02876]	0.01076 [0.03826]	0.00645 [0.02883]	0.00775 [0.03752]	0.00177 [0.02888]
Observations	126,448	126,448	126,448	126,448	126,448	126,448	Observations	112,576	112,576	112,576	112,576	112,576	112,576
R-squared	0.09908	0.10414	0.09913	0.10418	0.11107	0.11519	Policy covariates		X	X	X	X	X
Policy covariates			X	X	X	X	Municipal FE		X	X	X	X	X
Municipal FE	X	X	X	X	X	X	Quarter-year FE	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	Prov. × Quarterly FE				X	X	X
Prov. × Quarterly FE					X	X	Weight		X		X	X	X
Weight		X		X		X	Mean	1.103	1.103	1.103	1.103	1.103	1.103
Mean	1.103	1.103	1.103	1.103	1.103	1.103							

(a) OLS

(b) PPML

**Figure F5:** The coefficients in Columns (1) to (6) represent the municipal OLS (a) and the Marginal Effects of the PPML (b) estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, after removing from the pooled cross-sections the VPTs performed with urgency (before constructing the panel). The reference category is the 1<sup>st</sup> quartile of the distribution. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

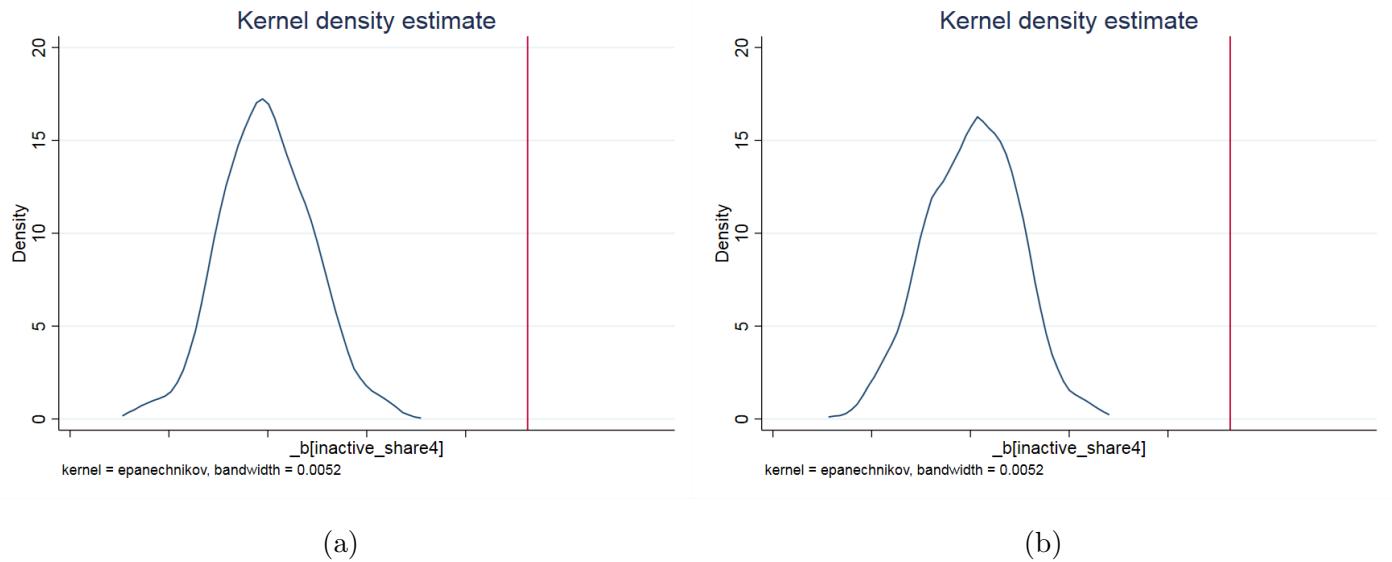


Figure F6: Randomization inference test with 1000 repetitions. The graph reports the density kernel for the coefficients estimated by randomly assigned the treatment to the observed units, modelling the empirical strategy as in [Equation 2](#). The x-axis reports the estimated coefficients, the y-axis their density. The specification does not include interacted provincial FEs in (a), while it includes them in (b). The actual estimated baseline coefficient is the red line at the extreme right of the distribution.

## G Labor Market Areas

	Impacts of Local Market Area-level work suspension on ARs (linear and non-linear estimates)											
	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR	(7) AR	(8) AR	(9) AR	(10) AR	(11) AR	(12) AR
<b>Panel A: Treatment at municipal level, SEs clustered at LMA level</b>												
$Post * \mathbb{1}(I. S_{-q2/20} \in Q_4)$	0.13134 *** [0.04862]	0.11340 *** [0.03783]	0.12879 *** [0.04878]	0.11133 *** [0.03794]	0.13168 ** [0.05419]	0.11087 *** [0.04142]	0.13978 ** [0.05449]	0.11324 *** [0.04169]	0.13676 ** [0.05461]	0.11082 *** [0.04178]	0.14560 ** [0.05762]	0.11515 *** [0.04386]
$Post * \mathbb{1}(I. S_{-q2/20} \in Q_3)$	0.05711 [0.04341]	0.04825 [0.03324]	0.05570 [0.04377]	0.04698 [0.03550]	0.06342 [0.04587]	0.05119 [0.03450]	0.06016 [0.04797]	0.04614 [0.03569]	0.05855 [0.04836]	0.04471 [0.03597]	0.07307 [0.04954]	0.05239 [0.03668]
$Post * \mathbb{1}(I. S_{-q2/20} \in Q_2)$	0.03486 [0.03874]	0.02961 [0.03022]	0.03505 [0.03879]	0.02949 [0.03028]	0.03353 [0.03960]	0.02714 [0.03066]	0.03709 [0.04280]	0.02896 [0.03220]	0.03769 [0.04284]	0.02919 [0.03226]	0.03967 [0.04247]	0.02714 [0.03216]
<b>Panel B: Treatment at LMA level, SEs clustered at LMA level</b>												
$Post * \mathbb{1}(I. S_{-q2/20} \in Q_4)$	0.11716 *** [0.03876]	0.10023 *** [0.03233]	0.11368 *** [0.03864]	0.09756 *** [0.03226]	0.16362 *** [0.04492]	0.12432 *** [0.03757]	0.12117 *** [0.04501]	0.09695 *** [0.03682]	0.11632 *** [0.04467]	0.09328 *** [0.03058]	0.18155 *** [0.04974]	0.13264 *** [0.04091]
$Post * \mathbb{1}(I. S_{-q2/20} \in Q_3)$	0.03891 [0.03765]	0.03939 [0.03105]	0.03684 [0.03771]	0.03760 [0.03108]	0.03655 [0.03998]	0.02933 [0.03347]	0.03660 [0.04291]	0.03514 [0.03459]	0.03393 [0.04277]	0.03284 [0.03455]	0.04065 [0.04561]	0.03081 [0.03717]
$Post * \mathbb{1}(I. S_{-q2/20} \in Q_2)$	0.02931 [0.04500]	0.01995 [0.03683]	0.02870 [0.04477]	0.01925 [0.03668]	0.02503 [0.04229]	0.00985 [0.03434]	0.03901 [0.04911]	0.02550 [0.03911]	0.03788 [0.04868]	0.02445 [0.03882]	0.03718 [0.04573]	0.01803 [0.03692]
Observations	126,448	126,448	126,448	126,448	126,448	126,448	126,448	126,448	116,192	116,192	116,192	116,192
R-squared	0.10041	0.10528	0.10044	0.10530	0.11224	0.11621						
Policy covariates			X	X	X	X	X	X	X	X	X	X
Hospital FE		X	X	X	X	X	X	X	X	X	X	X
Quarter–year FE		X	X	X	X	X	X	X	X	X	X	X
Provincial x Quarter year FE												
Weight		X		X	X		X		X		X	
Mean	1.103	1.103	1.103	1.103	1.103	1.103	1.103	1.103	1.103	1.103	1.103	1.103

Table G1: The coefficients in Columns (1) to (12) of Panel A represent the municipal OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers' share municipal distribution on ARs. Those in Panel B represent the effect of belonging to different quartiles of the suspended workers' share LMA distribution on ARs. The reference category is the 1<sup>st</sup> quartile. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at LMA level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

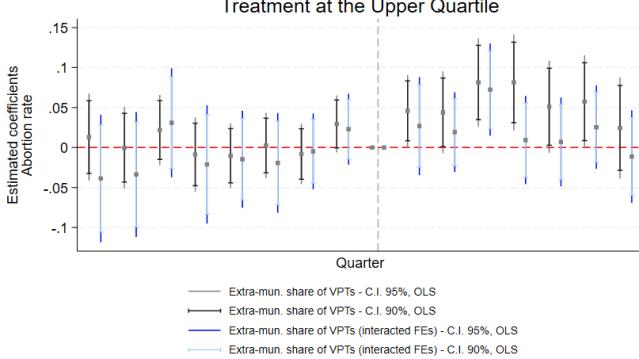
# H Abortion Mobility

Impacts of work suspension on ARs at the hospital level (linear estimates)							Impacts of work suspension on ARs at the hospital level (non-linear estimates)						
	(1) AR	(2) AR	(3) AR	(4) AR	(5) AR	(6) AR		(1) AR (ME)	(2) AR (ME)	(3) AR (ME)	(4) AR (ME)	(5) AR (ME)	(6) AR (ME)
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	-1.34072 *	-1.50525 [1.13140]	-1.20354 [0.87256]	-1.39824 [1.16186]	-1.15342 [0.88944]	-1.67544 [2.71143]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	-0.34996 [0.71949]	-0.34081 [0.58730]	-0.31330 [0.71348]	-0.31080 [0.58216]	-0.71250 [1.02622]	-0.76142 [0.84359]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.04345 [0.80849]	-0.23301 [0.54258]	-0.18356 [0.86028]	-0.12472 [0.57442]	0.78914 [2.75011]	0.25097 [2.22934]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.27605 [0.52626]	0.18864 [0.45530]	0.29475 [0.52362]	0.20608 [0.45498]	-0.91513 [0.99737]	-0.79908 [0.82143]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.42521 [0.78781]	0.15314 [0.49816]	0.53469 [0.80517]	0.24105 [0.51111]	0.38287 [2.73009]	0.01008 [2.24476]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.56802 [0.48842]	0.44409 [0.41542]	0.58490 [0.47835]	0.46441 [0.40827]	-0.22870 [0.89360]	-0.28396 [0.73754]
Observations	5,492	5,492	5,492	5,492	4,552	4,552	Observations	5,492	5,492	5,492	5,492	4,548	4,548
R-squared	0.87758	0.87388	0.87767	0.87394	0.88971	0.88212	Policy covariates						
Policy covariates			X	X	X	X	Hospital FE						
Hospital FE	X	X	X	X	X	X	Quarter-year FE	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	LHA x Quarter-year FE	X	X	X	X	X	X
LHA x Quarter-year FE					X	X	Weight				X	X	X
Weight			X		X	X	Mean				X	X	X
Mean	9.640	9.640	9.640	9.640	9.640	9.640	Mean	9.640	9.640	9.640	9.640	9.640	9.640

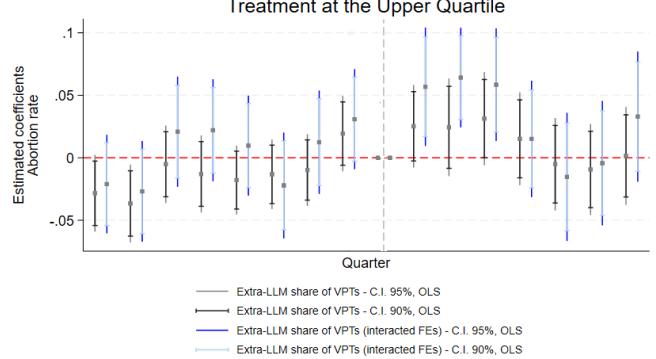
(a) OLS

(b) PPML

Figure H1: The coefficients in Columns (1) to (6) of both tables represent the hospital-level OLS (a) and the Marginal Effects of the PPML (b) estimates of the ITT effect of belonging to different quartiles of the suspended workers' share municipal distribution on the ARs calculated at the hospital level. The reference category is the 1<sup>st</sup> quartile. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at hospital level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

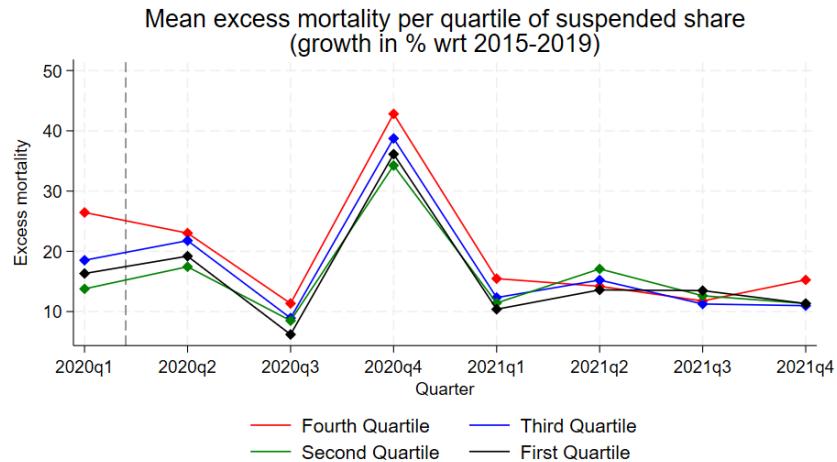


(a)

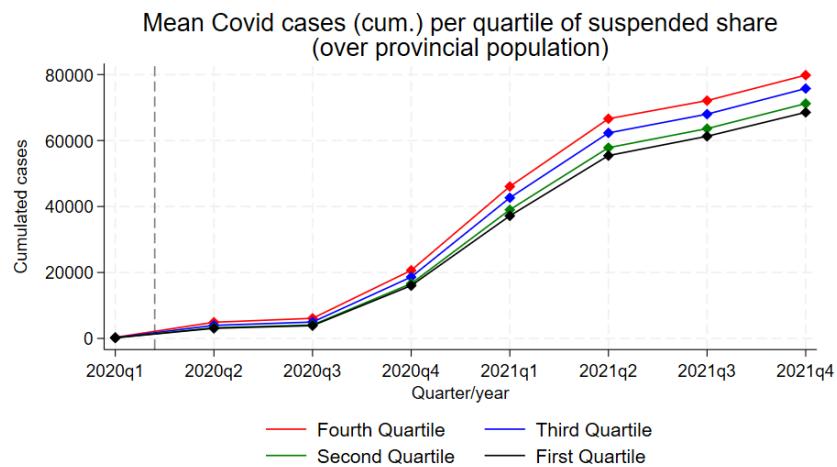


(b)

Figure H2: OLS Event-study estimates (dynamic specification of Equation 6) for the inter-municipal (a) and inter-LMA (b) abortion mobility analysis. The figure reports the coefficient on temporal units and their confidence intervals, both for the baseline specification and the one with interaction FEs between province dummies and quarterly dummies. Confidence intervals are reported at both 90% and 95%. The x-axis represents all quarters from 2018Q1 to 2021Q4. The vertical line is set on quarter 9, which corresponds to the first quarter of 2020, the first lead before the treatment, occurring on Q2 2020.



a)



b)

Figure H3: Quarterly municipal excess mortality (a) and Covid-19 provincial cumulated cases (b) per quartile of the inactive shares' distribution over 2020-2021.

	Descriptive statistics							
	Inter-municipal mobility				Inter-LMA mobility			
	Mean	SD	Min	Max	Mean	SD	Min	Max
<i>Abortion mobility</i>	0.233	0.423	0	1	0.249	0.432	0	1
<i>Number of previous live births</i>	1.100	1.157	0	20	1.125	1.156	0	30
<i>Number of previous stillbirths</i>	0.008	0.118	0	10	0.008	0.115	0	10
<i>Number of previous miscarriages</i>	0.191	0.534	0	11	0.192	0.534	0	11
<i>Number of previous VPTs</i>	0.393	0.809	0	20	0.360	0.762	0	20
<i>Gestational age (&lt;90 days)</i>	0.961	0.195	0	1	0.959	0.198	0	1
<i>Gestational age (&gt; 90 days)</i>	0.039	0.195	0	1	0.041	0.198	0	1
<i>Weeks of amenorrhea</i>	8.588	2.824	3	26	8.612	2.851	3	26
<i>Urgent abortion</i>	0.244	0.429	0	1	0.242	0.428	0	1
<i>Non-urgent abortion</i>	0.756	0.429	0	1	0.758	0.428	0	1
<i>Presence of child malformations</i>	0.048	0.213	0	1	0.049	0.216	0	1
<i>Absence of child malformations or not indicated</i>	0.952	0.213	0	1	0.951	0.216	0	1
<i>Presence of complications</i>	0.029	0.167	0	1	0.028	0.166	0	1
<i>Medical abortion</i>	0.357	0.479	0	1	0.348	0.476	0	1
<i>Surgical abortion</i>	0.643	0.479	0	1	0.652	0.476	0	1
<i>Italian citizenship</i>	0.669	0.471	0	1	0.704	0.457	0	1
<i>Age</i>	30.787	7.356	10	60	30.910	7.363	10	60
<b>Level of education</b>								
<i>Elementary school</i>	0.051	0.221	0	1	0.044	0.206	0	1
<i>Middle school</i>	0.367	0.482	0	1	0.370	0.483	0	1
<i>High school</i>	0.430	0.495	0	1	0.448	0.497	0	1
<i>University degree or others</i>	0.151	0.358	0	1	0.138	0.345	0	1
<b>Marital status</b>								
<i>Single</i>	0.614	0.487	0	1	0.598	0.490	0	1
<i>Married</i>	0.344	0.475	0	1	0.358	0.480	0	1
<i>Separated</i>	0.017	0.127	0	1	0.017	0.130	0	1
<i>Widow</i>	0.026	0.158	0	1	0.027	0.162	0	1
<b>Professional condition</b>								
<i>Employed</i>	0.440	0.496	0	1	0.448	0.497	0	1
<i>Unemployed</i>	0.234	0.423	0	1	0.222	0.415	0	1
<i>Looking for first job</i>	0.017	0.128	0	1	0.017	0.130	0	1
<i>Housewife</i>	0.191	0.393	0	1	0.202	0.402	0	1
<i>Student</i>	0.112	0.315	0	1	0.107	0.309	0	1
<i>Other</i>	0.006	0.079	0	1	0.007	0.082	0	1
<b>Professional branch of activity</b>								
<i>Not in professional condition</i>	0.560	0.496	0	1	0.552	0.497	0	1
<i>Agriculture, hunting and fishing</i>	0.006	0.074	0	1	0.008	0.089	0	1
<i>Industry</i>	0.028	0.165	0	1	0.028	0.164	0	1
<i>Trade, services, hospitality (private)</i>	0.136	0.343	0	1	0.147	0.348	0	1
<i>Public administration</i>	0.042	0.200	0	1	0.041	0.198	0	1
<i>Other private services</i>	0.229	0.420	0	1	0.216	0.412	0	1
Obs.					97,550			173,791

Table H1: Descriptive statistics of the variables used for the analysis of inter-municipal and inter-LMA mobility of abortions.

# I Socio-economic Information

	Impact of work suspension on municipal ARs across both treatment and outcome sectors							
	Service Share				Industry Share			
	(1) AR not in prof. condition	(2) AR services	(3) AR industry	(4) AR P.A.	(5) AR t in prof. condition	(6) AR services	(7) AR industry	(8) AR P.A
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>) (services)</i>	0.00888 [0.03517]	-0.01529 [0.02728]	0.01282 [0.01148]	0.00827 [0.01118]				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>) (services)</i>	-0.01111 [0.03013]	-0.02795 [0.02217]	0.01076 [0.01027]	0.00897 [0.00729]				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>) (services)</i>	-0.03148 [0.02931]	-0.01314 [0.02264]	0.00714 [0.00957]	0.00893 [0.00718]				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>) (industry)</i>					0.07977 ** [0.03712]	0.04531 [0.02958]	-0.00052 [0.01460]	0.00780 [0.00917]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>) (industry)</i>					0.03449 [0.03519]	0.00661 [0.02689]	-0.00830 [0.01157]	0.00150 [0.01012]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>) (industry)</i>					0.05034 [0.03118]	-0.00635 [0.02338]	-0.01250 [0.01038]	0.00308 [0.00840]
Observations	126,448	126,448	126,448	126,448	126,448	126,448	126,448	126,448
R-squared	0.10406	0.08887	0.07932	0.07678	0.10410	0.08890	0.07933	0.07678
Policy covariates	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	X	X
Prov. × Quarterly FE	X	X	X	X	X	X	X	X
Mean	0.572	0.410	0.0317	0.0507	0.512	0.361	0.0757	0.0363

**Table I1:** The coefficients in Columns (1) to (8) represent the municipal OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the treatment distribution differentiated across sectors, and the outcome heterogenized by the economic branch of activity where the aborting women are active. Columns 1-4 consider show the effect of the industrial inactive share. Columns 5-8 the service share. Columns 1 and 5 report the effect on the ARs of women out of the labor force. Columns 2 and 6 that on those active in the services. Columns 3 and 7 that on industrial workers. Columns 4 and 8 that on civil servants. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impacts of work suspension on ARs, differentiating the outcome and the treatment across sectors (non-linear estimates)								
	Industry Share				Service Share			
	(1) AR not in prof. condition	(2) AR services	(3) AR industry	(4) P.A.	(5) AR t in prof. condition	(6) AR services	(7) AR industry	(8) P.A.
<i>Post * <math>\mathbb{1}(I. S_{q2/20} \in Q_4)</math></i> ( <i>services</i> )	0.00316 [0.04292]	-0.00961 [0.03474]	0.01335 [0.03339]	0.00681 [0.02680]				
<i>Post * <math>\mathbb{1}(I. S_{q2/20} \in Q_3)</math></i> ( <i>services</i> )	-0.01117 [0.03472]	-0.02102 [0.02914]	0.04114 [0.02401]	0.01872 [0.02135]				
<i>Post * <math>\mathbb{1}(I. S_{q2/20} \in Q_2)</math></i> ( <i>services</i> )	-0.03788 [0.03450]	-0.00893 [0.03017]	0.03069 [0.02013]	0.01074 [0.02015]				
<i>Post * <math>\mathbb{1}(I. S_{q2/20} \in Q_4)</math></i> ( <i>industry</i> )					0.10119 ** [0.04326]	0.05653 [0.03707]	0.03940 [0.03877]	0.01968 [0.02661]
<i>Post * <math>\mathbb{1}(I. S_{q2/20} \in Q_3)</math></i> ( <i>industry</i> )					0.03869 [0.03911]	0.00980 [0.03381]	0.01252 [0.03643]	0.02236 [0.02447]
<i>Post * <math>\mathbb{1}(I. S_{q2/20} \in Q_2)</math></i> ( <i>industry</i> )					0.05503 * [0.03343]	-0.01578 [0.02995]	-0.01671 [0.03898]	-0.00502 [0.02189]
Observations	105,104	97,719	36,465	42,136	105,104	97,719	36,465	42,136
Policy covariates	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	X	X
Prov. $\times$ Quarterly FE	X	X	X	X	X	X	X	X
Mean	0.572	0.410	0.0347	0.0507	0.512	0.361	0.0757	0.0363

**Table I2:** The coefficients in Columns (1) to (8) represent the municipal Marginal Effects of the PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the treatment distribution differentiated across sectors, and the outcome heterogenized by the economic branch of activity where the aborting women are active. Columns 1-4 consider show the effect of the industrial inactive share. Columns 5-8 the service share. Columns 1 and 5 report the effect on the ARs of women out of the labor force. Columns 2 and 6 that on those active in the services. Columns 3 and 7 that on industrial workers. Columns 4 and 8 that on civil servants. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impacts of work suspension on ARs - outcome across marital status; treatment across sectors (linear estimates)								
	Industry Share				Service Share			
	(1) AR single	(2) AR married	(3) AR separated	(4) AR widow	(5) AR single	(6) AR married	(7) AR separated	(8) AR widow
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>) (services)</i>	0.00107 [0.04030]	-0.02319 [0.02880]	0.00026 [0.00432]	0.00941 [0.00767]				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>) (services)</i>	-0.01561 [0.02999]	-0.02276 [0.02681]	0.00061 [0.00371]	-0.00599 [0.00553]				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>) (services)</i>	-0.02311 [0.03611]	-0.03385 [0.02929]	0.00303 [0.04846]	0.00048 [0.02652]				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>) (industry)</i>				0.08384 *	0.03899 [0.04353]	0.00360 [0.03038]	-0.00737 [0.00470]	0.00832 [0.00832]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>) (industry)</i>				0.01386 [0.03960]	0.02836 [0.02784]	0.00009 [0.00434]	-0.01190 ** [0.00566]	
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>) (industry)</i>				-0.00482 [0.03595]	0.01194 [0.02420]	0.00414 [0.00411]	-0.00311 [0.00470]	
Observations	126,448	126,448	126,448	126,448	126,448	126,448	126,448	126,448
R-squared	0.10013	0.09401	0.08803	0.07710	0.10019	0.09401	0.08803	0.07708
Policy covariates	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	X	X
Prov. × Quarterly FE	X	X	X	X	X	X	X	X
Mean	0.700	0.385	0.0295	0.0214	0.585	0.412	0.0284	0.0275

Table I3: The coefficients in Columns (1) to (8) represent the municipal OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the outcome heterogenized across the marital status of the aborting women and the treatment across sectors. Coefficients in Columns 1-4 display the effect of service suspensions. Coefficients in Columns 5-8 those of industrial suspensions. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impacts of work suspension on ARs - outcome across marital status; treatment across sectors (non-linear estimates)

	Industry Share				Service Share			
	(1) AR single	(2) AR married	(3) AR separated	(4) AR widow	(5) AR single	(6) AR married	(7) AR separated	(8) AR widow
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i> (services)	0.00666	-0.05523	-0.03730	0.05348 ** [0.04582]	[0.03603]	[0.05273]	[0.02684]	
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i> (services)	-0.01534	-0.03143	-0.01379	-0.01448				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i> (services)	-0.02515	-0.04631	-0.05966	0.00028				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i> (industry)				0.09310 * [0.04874]	0.07597 ** [0.03778]	0.09492 * [0.05293]	-0.06138 ** [0.02603]	
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i> (industry)				0.01029	0.05643 * [0.04297]	-0.05002 *** [0.03363]	-0.06404 *** [0.05082]	[0.02190]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i> (industry)				-0.01201 [0.03904]	0.02515 [0.03039]	0.05996 [0.04146]	-0.02966 [0.01815]	
Observations	108,608	98,096	17,105	29,934	108,608	98,096	17,105	29,934
Policy covariates	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X
Quarter–year FE	X	X	X	X	X	X	X	X
Prov. × Quarterly FE	X	X	X	X	X	X	X	X
Mean	0.700	0.385	0.0295	0.0214	0.585	0.412	0.0284	0.0275

Table I4: The coefficients in Columns (1) to (8) represent the municipal Marginal Effects of the PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the outcome heterogenized across the marital status of the aborting women and the treatment across sectors. Coefficients in Columns 1-4 display the effect of service suspensions. Coefficients in Columns 5-8 those of industrial suspensions. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	Impacts of work suspension on ARs, differentiating the outcome across age classes (linear/non-linear estimates)													
	(1) AR <14	(2) AR 15-19	(3) AR 20-24	(4) AR 25-29	(5) AR 30-34	(6) AR 35-39	(7) AR >40	(8) AR <14	(9) AR 15-19	(10) AR 20-24	(11) AR 25-29	(12) AR 30-34	(13) AR 35-39	(14) AR >40
$Postf * \mathbb{1}(I, S_{q^2/20} \in Q_4)$	0.00185 [0.00134]	0.01287 [0.01252]	0.02969 [0.02310]	0.03175 [0.02059]	-0.04616 [0.02697]	0.06145 [0.02411]	0.03969 [0.02105]	0.09436 [0.02470]	0.03178 [0.03358]	0.03520 [0.03035]	0.04410 [0.03474]	-0.05819 [0.03127]	0.08383 [0.02773]	0.06247 ***
$Postf * \mathbb{1}(I, S_{q^2/20} \in Q_3)$	0.00140 [0.00118]	-0.00001 [0.01002]	0.01308 [0.02026]	0.04123 [0.01831]	-0.03659 [0.02212]	0.01179 [0.01695]	0.03267 [0.01760]	0.05178 [0.05173]	0.009585 [0.02028]	0.01743 [0.03009]	0.06142 [0.02550]	-0.05023 [0.02783]	0.01934 [0.02406]	0.05139 ***
$Postf * \mathbb{1}(I, S_{q^2/20} \in Q_2)$	0.00001 [0.00113]	-0.01435 [0.00882]	0.00803 [0.01723]	0.03552 [0.01688]	-0.03641 [0.02085]	0.00652 [0.01643]	0.03422 [0.01574]	0.04099 [0.01915]	-0.02004 [0.05545]	0.01292 [0.02478]	0.04680 [0.02378]	-0.05009 [0.02560]	0.01282 [0.02272]	0.05424 ***
Observations	126,448	126,448	126,448	126,448	126,448	126,448	126,448	126,448	2,039	55,156	80,005	85,144	89,676	87,596
R-squared	0.07374	0.07729	0.08903	0.08805	0.08292	0.08908	0.07885							74,520
Policy covariates	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Province × Quarter-year FE	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mean	0861	0.0740	0.177	0.217	0.262	0.233	0.139	0861	0.0740	0.177	0.217	0.262	0.233	0.139

**Table I5:** The coefficients in Columns (1) to (14) represent the municipal OLS and Marginal Effects of the PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the outcome heterogenized across age classes. Columns 1-7 refer to OLS estimates. Columns 8-14 to the MEs of Pseudo-Poisson Maximum Likelihood (PPML) estimates. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. Mean reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	Impacts of work suspension on ARs, differentiating the outcome across educational attainment (linear/non-linear estimates)							
	(1) AR elementary	(2) AR middle school	(3) AR high school	(4) AR university	(5) AR elementary	(6) AR middle school	(7) AR high school	(8) AR university
<i>Post</i> * $\mathbb{1}(I. S_{q2/20} \in Q_4)$	-0.00208 [0.01005]	0.04775 [0.03215]	0.04389 [0.03426]	0.03345 [0.01775]	-0.00816 [0.03454]	0.06329 [0.03866]	0.05145 [0.04016]	0.05765 [0.02826]
<i>Post</i> * $\mathbb{1}(I. S_{q2/20} \in Q_3)$	0.044 [0.00603]	0.01889 [0.02557]	0.01082 [0.03099]	0.02707 [0.01449]	0.00177 [0.02337]	0.01877 [0.03029]	0.01242 [0.03605]	0.04824 [0.02341]
<i>Post</i> * $\mathbb{1}(I. S_{q2/20} \in Q_2)$	-0.00331 [0.00645]	0.01750 [0.02297]	-0.00418 [0.02796]	0.02277 [0.01326]	-0.01383 [0.02055]	0.02353 [0.02741]	-0.00438 [0.03237]	0.03541 [0.02081]
Observations	126,448	126,448	126,448	126,448	35,064	95,980	106,192	74,312
R-squared	0.10851	0.09152	0.08960	0.08042				
Policy covariates	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	X	X
Province × Quarter-year FE	X	X	X	X	X	X	X	X
Mean	0.0467	0.376	0.520	0.135	0.0467	0.376	0.520	0.135

Table I6: The coefficients in Columns (1) to (8) represent the municipal OLS and Marginal Effects of the PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the outcome heterogeneized across educational attainments. Columns 1-4 refer to OLS estimates. Columns 5-8 to the MEs of Pseudo-Poisson Maximum Likelihood (PPML) estimates. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

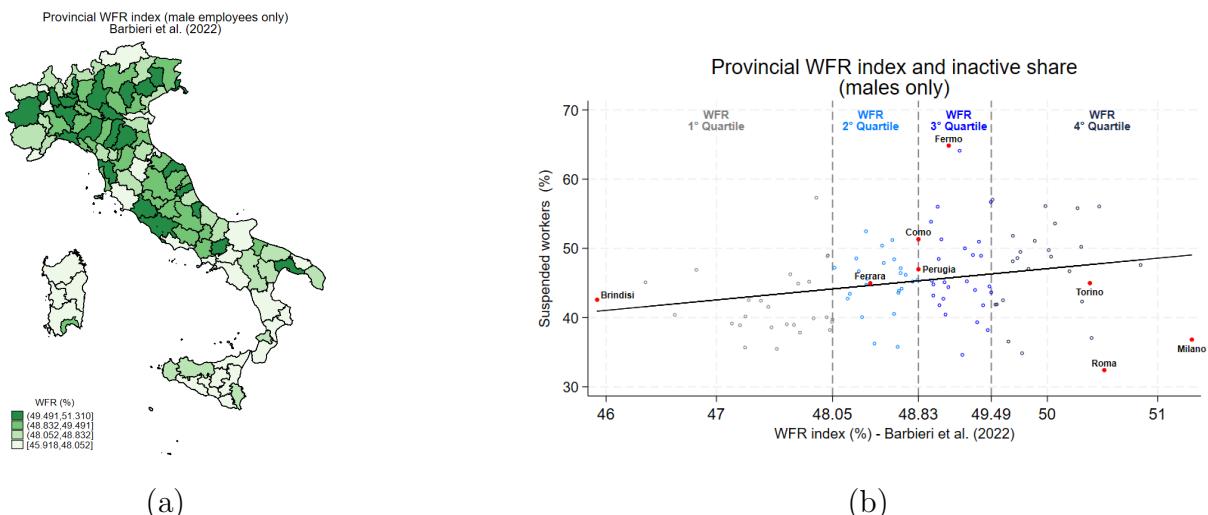
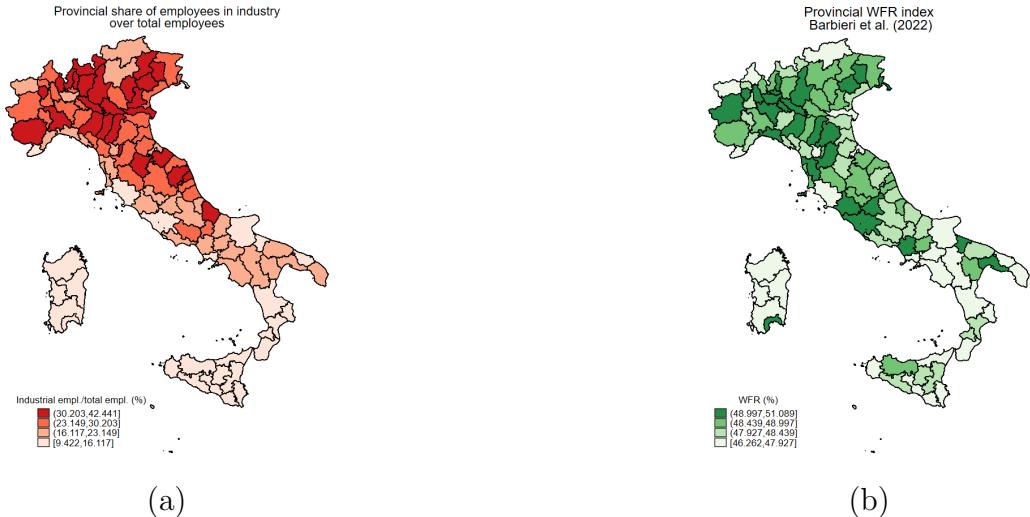
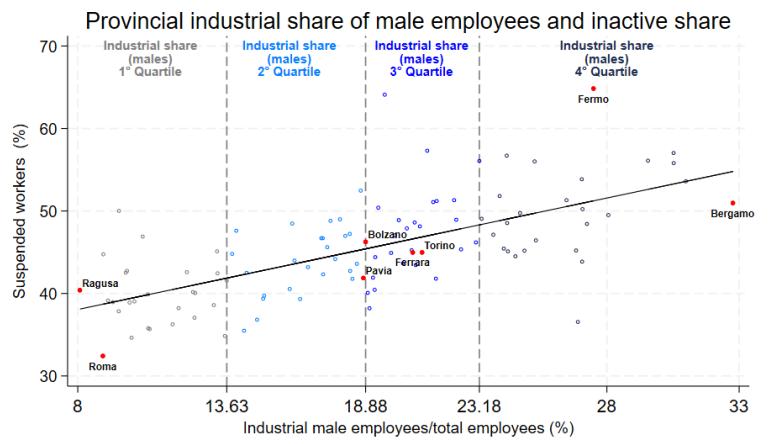


Figure 11: Map (a): provincial distribution of the weighted average of the *Working From Remote* sectoral index. Graph (b): suspended workers share over the WFR index for active males. The black line reports the fitted values from an unconditional regression of former share on the latter. The vertical dashed lines define the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> quartile of the WFR distribution. Labeled provinces have the min., max. and median value of both variables. The WFR is built as conceived by Barbieri et al., 2022; the provincial index is then computed by weighing the sectoral values from Barbieri et al., 2022, by the provincial share of sectoral active males.



**Figure I2:** Industrial sector-related variables from *LFS* 2019. Map (a): provincial share of active workers in the private industrial sector. Map (b): provincial distribution of the weighted average of the *Working From Remote* sectoral index as conceived by Barbieri et al., 2022; the provincial index is computed by weighing the sectoral values from Barbieri et al., 2022, by the provincial share of sectoral active individuals.

	Correlation between the inactive share and a number of labor market indicators				
	(1)	(2)	(3)	(4)	(5)
	Inactive share (%)	Inactive share (%)	Inactive share (%)	Inactive share (%)	Inactive share (%)
(1) WFR Index	0.85864 [0.76011]				
(2) WFR Index (males)		1.50612 ** [0.59623]			
(3) Industrial share			0.48438 *** [0.05660]		
(4) Industrial share (males/total empl.)				0.67572 *** [0.07827]	
(5) Industrial share (males/males empl.)					0.37001 *** [0.04299]
Observations	107	107	107	107	107
R-squared	0.01481	0.06125	0.48876	0.43047	0.44668
Covariates					
Mean	45.27	45.27	45.27	45.27	45.27



**Figure I3:** Table (a): Table of regressions of the provincial inactive share (%) on 1) *WFR Index*; 2) *WFR Index (males)*; 3) *Industrial share*; 4) *Industrial share (males/tot. employees)*; 5) *Industrial share (males/tot. males employees)*. Mean reports the mean of the provincial inactive share in 2020. SEs are robustly estimated. Graph (b): suspended workers share over the provincial share of industrial active males on total active individuals. The black line reports the fitted values from an unconditional regression of the former share on the latter. The vertical dashed lines define the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> quartile of the latter distribution. Labeled provinces have the min., max. and median value of both variables.

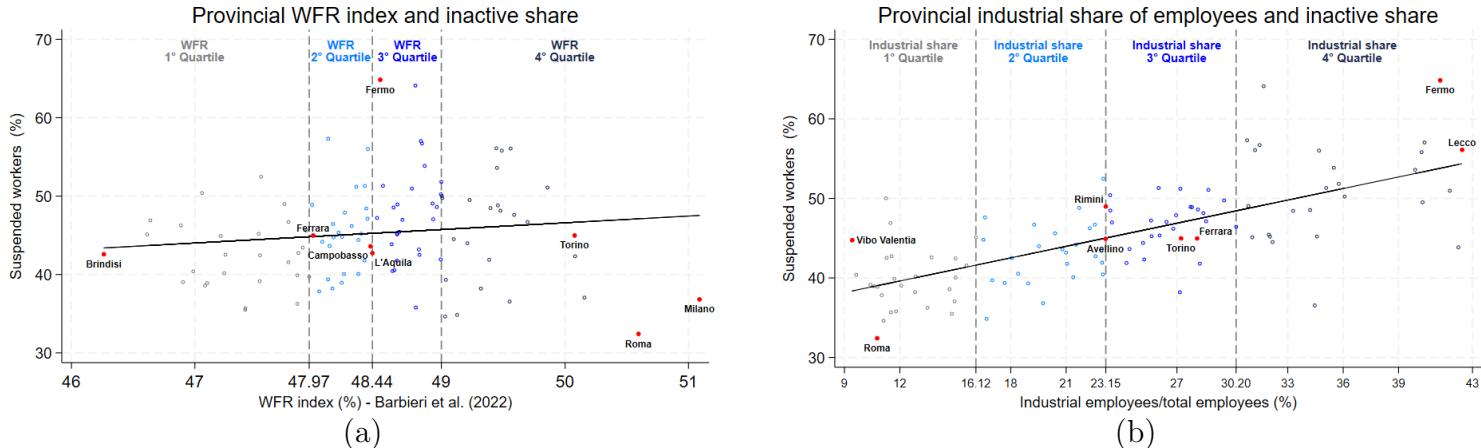


Figure I4: Graph (a): suspended workers share over the Barbieri et al., 2022's WFR index. Graph (b): suspended workers share over the provincial share of industrial active people on total active individuals. The black line reports the fitted values from an unconditional regression of the variable in the y-axis on that on the x-axis. The vertical dashed lines define the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> quartile of the distribution of the x-axis variables. Labeled provinces have the min., max. and median value of both variables.

## J Fertility

	Impacts of work suspension on ARs, differentiating the outcome according to the past reproductive behavior (non-linear estimates)							
	(1) AR with previous pregnancies	(2) AR with no previous pregnancies	(3) AR with previous deliveries	(4) AR with previous abortions	(5) AR with previous live births	(6) AR with previous stillbirths	(7) AR with previous miscarriages	(8) AR with previous VPTs
<i>Post</i> * $\mathbb{1}(I.S_{q2/20} \in Q_4)$	0.13273 *** [0.04645]	0.2771 [0.03877]	0.12369 *** [0.04505]	0.06329 * [0.03698]	0.12274 *** [0.04481]	0.02151 [0.03845]	-0.01620 [0.03022]	0.07755 ** [0.03266]
<i>Post</i> * $\mathbb{1}(I.S_{q2/20} \in Q_3)$	0.08275 ** [0.03889]	-0.00484 [0.03327]	0.08565 ** [0.03699]	0.01967 [0.03147]	0.08431 ** [0.03690]	-0.02675 [0.03254]	-0.00769 [0.02549]	0.01510 [0.02880]
<i>Post</i> * $\mathbb{1}(I.S_{q2/20} \in Q_2)$	0.07003 * [0.03513]	-0.02193 [0.02974]	0.06365 ** [0.03390]	0.04790 * [0.02892]	0.06177 * [0.02282]	0.00298 [0.03003]	-0.01149 [0.02367]	0.04935 * [0.02574]
Observations	109,632	100,112	107,600	95,525	107,552	8,909	77,276	84,020
Policy covariates	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	X	X
Prov. $\times$ Quarterly FE	X	X	X	X	X	X	X	X
Mean	0.729	0.366	0.650	0.357	0.649	0.00672	0.166	0.227

Table J1: The coefficients in Columns (1) to (8) represent the municipal Marginal Effects of the PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the outcome heterogenized according to the past reproductive behavior of the aborting women. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. Mean reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	Impacts of work suspension on ARs, differentiating the outcome according to the past reproductive behavior and the treatment across sectors (linear estimates)							
	(1) AR with previous pregnancies	(2) AR with no previous pregnancies	(3) AR with previous deliveries	(4) AR with previous abortions	(5) AR with previous pregnancies	(6) AR with no previous pregnancies	(7) AR with previous deliveries	(8) AR with previous abortions
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>) (services)</i>	0.00760 [0.01270]	-0.00740 [0.00992]	0.00939 [0.01220]	0.00138 [0.00961]				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>) (services)</i>	0.00420 [0.01078]	-0.01712 ** [0.00767]	0.00718 [0.01040]	-0.038 [0.00799]				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>) (services)</i>	-0.00253 [0.01069]	-0.01558 ** [0.00776]	0.032 [0.01030]	-0.00221 [0.00792]				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>) (industry)</i>					0.02952 ** [0.01270]	0.00168 [0.00992]	0.03140 *** [0.01220]	0.01173 [0.00961]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>) (industry)</i>					0.01859 [0.01240]	-0.00984 [0.00922]	0.01786 [0.01168]	0.00274 [0.00946]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>) (industry)</i>					0.01047 [0.01144]	-0.00454 [0.00911]	0.01378 [0.01076]	0.00478 [0.00914]
Observations	126,448	126,448	126,448	126,448	126,448	126,448	126,448	126,448
R-squared	0.03397	0.02404	0.03188	0.03137	0.03399	0.02403	0.03190	0.03137
Policy covariates	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X
Month–year FE	X	X	X	X	X	X	X	X
Prov. × Quarterly FE	X	X	X	X	X	X	X	X
Mean	0.245	0.138	0.216	0.125	0.242	0.119	0.217	0.118

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

**Table J2:** The coefficients in Columns (1) to (8) represent the municipal OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the outcome heterogenized according to the past reproductive behavior of the aborting women, and the treatment across sectors. Columns 1-4 report the coefficients on the service suspensions. Columns 5-8 those on the industrial ones. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	(1) AR with previous pregnancies	(2) AR with no previous pregnancies	(3) AR with previous deliveries	(4) AR with previous abortions	(5) AR with previous pregnancies	(6) AR with no previous pregnancies	(7) AR with previous deliveries	(8) AR with previous abortions
Impacts of work suspension on ARs, differentiating the outcome according to the past reproductive behavior and the treatment across sectors (non-linear estimates)								
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>) (services)</i>	0.00810 [0.01512]	-0.00836 [0.01242]	0.00984 [0.01474]	0.00206 [0.01316]				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>) (services)</i>	0.00607 [0.01237]	-0.02173 ** [0.01015]	0.00934 [0.01209]	0.65 [0.01064]				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>) (services)</i>	-0.00286 [0.01243]	-0.02059 ** [0.01040]	0.27 [0.01212]	-0.00286 [0.01073]				
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>) (industry)</i>				0.03367 ** [0.01405]	0.90 [0.01187]	0.03705 *** [0.01349]	0.01407 [0.01252]	
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>) (industry)</i>				0.02183 [0.01430]	-0.01306 [0.01136]	0.02187 [0.01362]	0.00285 [0.01235]	
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>) (industry)</i>				0.01055 [0.01335]	-0.00633 [0.01119]	0.01511 [0.01270]	0.00466 [0.01205]	
Observations	321,057	292,810	315,229	279,321	321,057	292,810	315,229	279,321
Policy covariates	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X
Month–year FE	X	X	X	X	X	X	X	X
Prov. × Quarterly FE	X	X	X	X	X	X	X	X
Mean	0.245	0.138	0.216	0.125	0.242	0.119	0.217	0.118

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

**Table J3:** The coefficients in Columns (1) to (8) represent the municipal Marginal Effects of the PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the outcome heterogenized according to the past reproductive behavior of the aborting women, and the treatment across sectors. Columns 1-4 report the coefficients on the service suspensions. Columns 5-8 those on the industrial ones. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impacts of work suspension on ARs, differentiating the outcome according to the number of previous kids or abortions (linear/non-linear estimates)											
	(1) AR with no previous live births	(2) AR with 1 previous live birth	(3) AR with 2 previous live births	(4) AR with 3 previous live births	(5) AR with 4 previous live births	(6) AR with at least 5 live births	(7) AR with no previous VPTs	(8) AR with 1 previous VPTs	(9) AR with 2 previous VPTs	(10) AR with 3 previous VPTs	(11) AR with at least 4 VPTs
$Post * \mathbb{I}(J \cdot S_{q2/20} \in Q_4)$	0.04195 [0.04081]	0.04869 [0.03068]	0.09200 [0.03624]	0.02031 [0.02281]	-0.04016 [0.000]	0.008 [0.03769]	0.08889 [0.04875]	*	0.07133 [0.02850]	0.02992 [0.02747]	0.02478 [0.06687]
$Post * \mathbb{I}(J \cdot S_{q2/20} \in Q_3)$	0.04051 [0.03539]	0.03069 ** [0.02618]	0.05358 ** [0.02818]	0.04526 [0.01953]	0.06918 [0.000]	0.01153 [0.03769]	0.06112 [0.03756]	0.01321 [0.02258]	0.01946 [0.01967]	0.00722 [0.02191]	-0.02844 [0.04080]
$Post * \mathbb{I}(J \cdot S_{q2/20} \in Q_2)$	-0.00974 [0.03137]	0.04180 * [0.02281]	0.04765 [0.02657]	-0.00539 [0.01871]	-0.02907 [0.000]	-0.06613 [0.03652]	0.00257 [0.03756]	0.05102 [0.02258]	0.00904 [0.01967]	-0.01681 [0.02191]	-0.02844 [0.04080]
Observations	103,632	86,862	90,721	61,719	25,289	13,717	113,968	78,815	39,447	14,225	11,664
Policy covariates	X	X	X	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	X	X	X	X	X
Prov. $\times$ Quarterly FE	X	X	X	X	X	X	X	X	X	X	X
Mean	0.445	0.247	0.287	0.0901	0.0199	0.0140	0.867	0.178	0.0380	0.00733	0.0132

**Table J4:** The coefficients in Columns (1) to (11) represent the municipal Marginal Effects of the PPMI estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on ARs, with the outcome heterogenized according to the number of previous children (Columns 1-6) or abortions (Columns 7-11). The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at the municipal level. *Mean* reports the mean of the treated units pre-treatment.

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

## K Live births

	Impact of work suspension on municipal rates of pregnancies resulting into live births (non-linear estimates)					
	(1) Pregnancy rate	(2) Pregnancy rate	(3) Pregnancy rate	(4) Pregnancy rate	(5) Pregnancy rate	(6) Pregnancy rate
$Post * \mathbb{1}(I. S_{q2/20} \in Q_4)$	0.18648 [0.15421]	0.09564 [0.11545]	0.19157 [0.15473]	0.09772 [0.11593]	0.19198 [0.17103]	0.08489 [0.13174]
$Post * \mathbb{1}(I. S_{q2/20} \in Q_3)$	0.07411 [0.12459]	0.05157 [0.09789]	0.07043 [0.12520]	0.04717 [0.09835]	0.05417 [0.13563]	0.02808 [0.10705]
$Post * \mathbb{1}(I. S_{q2/20} \in Q_2)$	0.05540 [0.11916]	0.02771 [0.09300]	0.05419 [0.11930]	0.02651 [0.09318]	0.04106 [0.12193]	0.01579 [0.09547]
Observations	101,816	101,816	101,816	101,816	101,816	101,816
Policy covariates			X	X	X	X
Municipal FE	X	X	X	X	X	X
Month–year FE	X	X	X	X	X	X
Prov. × Quarterly FE					X	X
Weight		X		X		X
Mean	7.722	7.722	7.722	7.722	7.722	7.722

Table K1: The coefficients in Columns (1) to (6) represent the municipal Marginal Effects of the PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the municipal rates of pregnancies turning into live births 9 months after, normalized by the municipal population in fertile age. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating births at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

	Placebo linear estimates: impact of work suspension on municipal pregnancy rates, at Q2 of the different years in the sample										
	(1) Pregnancy rate	(2) Pregnancy rate	(3) Pregnancy rate	(4) Pregnancy rate	(5) Pregnancy rate	(6) Pregnancy rate	(7) Pregnancy rate	(8) Pregnancy rate	(9) Pregnancy rate	(10) Pregnancy rate	(11) Pregnancy rate
$Post * \mathbb{1}(I. S_{q2/2018} \in Q_4)$	0.14968 [0.23275]	0.27593 [0.24249]	0.15891 [0.23310]								
$Post * \mathbb{1}(I. S_{q2/2019} \in Q_4)$				0.04109 [0.13925]	0.43332 [0.22139]	0.06468 [0.15492]	0.48555 [0.20271]				
$Post * \mathbb{1}(I. S_{q2/20} \in Q_4)$								0.33835 [0.25577]	0.23009 [0.15803]	0.29522 [0.16219]	0.26974 [0.24524]
Observations	71,127	31,612	63,224	71,127	31,612	63,224	63,224	31,612	94,836	63,224	39,515
R-squared	0.16697	0.30120	0.17944	0.16697	0.27891	0.17944	0.16780	0.27321	0.13491	0.16778	0.23611
Policy covariates								X	X	X	
Excess mortality							X	X	X	X	
Municipal FE	X	X	X	X	X	X	X	X	X	X	
Month–year FE	X	X	X	X	X	X	X	X	X	X	
Prov. × Quarterly FE	X	X	X	X	X	X	X	X	X	X	
Time-span	'18-'19, '21	'18	'18-'19	'18-'19, '21	'19	'18-'19	'19-'20	'20	'18-'20	'19-'20	'20-'21
Mean	8.113	8.113	8.113	7.759	7.454	7.759	7.454	7.640	7.722	7.631	7.640

Table K2: The coefficients in Columns (1) to (11) represent the OLS placebo estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the pregnancy rates, obtained by interacting the suspended workers share's distribution with Q2 of various years across the dataset, and at different sample sizes. Columns 1-3 consider 2018Q2 as the treatment event. Columns 4-7 2019Q2. Columns 8-11 2020Q2. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating births at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impact of work suspension on municipal Abortion Ratios (linear estimates)							Impact of work suspension on municipal Abortion Ratios (non-linear estimates)						
	(1) Abortivity ratio	(2) Abortivity ratio	(3) Abortivity ratio	(4) Abortivity ratio	(5) Abortivity ratio	(6) Abortivity ratio		(1) Abortivity ratio	(2) Abortivity ratio	(3) Abortivity ratio	(4) Abortivity ratio	(5) Abortivity ratio	(6) Abortivity ratio
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	9.80620 ** [4.38194]	10.11692 ** [4.33384]	9.98114 ** [4.38197]	10.31095 ** [4.33737]	6.23252 [4.81508]	6.83577 [4.80299]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	11.06531 * [6.03860]	10.26344 * [5.63701]	11.20935 * [6.04102]	10.42181 * [5.64457]	6.88156 [6.71017]	6.81692 [6.28474]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.37257 [4.41271]	0.65708 [4.26418]	0.58223 [4.41333]	0.87678 [4.26832]	-1.49803 [4.58851]	-1.28786 [4.45510]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	3.22136 [5.56678]	2.21137 [5.13370]	3.39440 [5.57498]	2.40031 [5.14596]	0.34136 [5.81824]	-0.27634 [5.37480]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	-3.21523 [4.32421]	-1.94473 [4.15086]	-3.11239 [4.32240]	-1.85594 [4.15039]	-4.34428 [4.40992]	-3.23510 [4.22969]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.06919 [0.11916]	0.29399 [0.09300]	0.23400 [0.11930]	0.46207 [0.09318]	-2.09225 [0.12193]	-1.56822 [0.09547]
Observations	102,739	102,739	102,739	102,739	102,739	102,739	Observations	86,216	86,216	86,216	86,216	86,216	86,216
R-squared	0.15676	0.15528	0.15679	0.15533	0.17062	0.16935	Policy covariates		X	X	X	X	X
Municipal FE	X	X	X	X	X	X	Municipal FE	X	X	X	X	X	X
Month–year FE	X	X	X	X	X	X	Month–year FE	X	X	X	X	X	X
Prov. × Quarterly FE					X	X	Prov. × Quarterly FE				X	X	X
Weight		X		X		X	Weight				X	X	X
Mean	117.9	117.9	117.9	117.9	117.9	117.9	Mean	117.9	117.9	117.9	117.9	117.9	117.9

(a) OLS

(b) PPML

**Figure K1:** The coefficients in Columns (1) to (6) of both tables represent the municipal OLS (a) and Marginal Effects of the PPML (b) estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the municipal abortion ratios. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impact of work suspension on municipal pregnancy rates, with the outcome differentiated across marital status (linear/non-linear estimates)								
	(1) Pregnancy rate (Single)	(2) Pregnancy rate (Married or in civil union)	(3) Pregnancy rate (Divorced or separated)	(4) Pregnancy rate (Widow)	(5) Pregnancy rate (Single)	(6) Pregnancy rate (Married or in civil union)	(7) Pregnancy rate (Divorced or separated)	(8) Pregnancy rate (Widow)
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.02728 [0.07717]	-0.00948 [0.09427]	0.01379 [0.01178]	0.00449 *	0.03302 [0.00229]	-0.00340 [0.07913]	0.03525 [0.09309]	0.07689 ** [0.02414]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	-0.01102 [0.08329]	0.02078 [0.10440]	0.02121 *	0.00286 [0.01235]	-0.00469 [0.00342]	0.02426 [0.08366]	0.05365 ** [0.10483]	0.03324 [0.02572]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.17972 [0.11375]	-0.00920 [0.12561]	0.00444 [0.01608]	-0.039 [0.00261]	0.16801 [0.10398]	-0.00531 [0.13006]	0.01671 [0.03168]	-0.02350 [0.04980]
Observations	102,739	102,739	102,739	102,739	99,073	100,646	53,295	7,761
R-squared	0.12967	0.14508	0.09098	0.08720				
Policy covariates	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X
Month–year FE	X	X	X	X	X	X	X	X
Prov. × Quarterly FE	X	X	X	X	X	X	X	X
Mean	2.814	4.563	0.138	0.00815	2.814	4.563	0.138	0.00815

**Table K3:** The coefficients in Columns (1) to (8) represent the municipal OLS and Marginal Effects of the PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the municipal rates of pregnancies turning into live births 9 months after, normalized by the municipal population in fertile age. The outcome is differentiated across the marital status of mothers. Columns (1) to (4) refer to OLS estimates. Columns (5) to (8) to the MEs of the Pseudo-Poisson Maximum Likelihood (PPML). The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating births at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impacts of work suspension on pregnancy rates, differentiating the outcome by marital status and the treatment by sector								
	(1) Pregnancy rate (single)	(2) Pregnancy rate (married/civ. union)	(3) Pregnancy rate (divorced/sep.)	(4) Pregnancy rate (widow)	(5) Pregnancy rate (single)	(6) Pregnancy rate (married/civ. union)	(7) Pregnancy rate (divorced/sep.)	(8) Pregnancy rate (widow)
<i>Post * 1(I. S<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.13308	0.27145 ** [0.11315]	-0.02234	0.00308				
<i>Post * 1(I. S<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.06007	0.15189 [0.07897]	0.00930 [0.09768]	-0.00026 [0.01392]				
<i>Post * 1(I. S<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.01078	0.24291 [0.07624]	-0.00146 [0.09539]	0.00276 [0.01406]				
<i>Post * 1(I. S<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i> <i>(industry)</i>					-0.01129 [0.12338]	-0.05927 [0.12956]	0.03041 [0.01629]	0.00001 [0.00263]
<i>Post * 1(I. S<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i> <i>(industry)</i>					-0.04940 [0.11442]	-0.01671 [0.11609]	0.02447 [0.01407]	0.00216 [0.00299]
<i>Post * 1(I. S<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i> <i>(industry)</i>					-0.02661 [0.10511]	-0.05316 [0.10823]	0.01628 [0.01229]	0.00246 [0.00251]
Observations	102,739	102,739	102,739	102,739	102,739	102,739	102,739	102,739
R-squared	0.12964	0.14516	0.09100	0.08719	0.12962	0.14508	0.09099	0.08718
Policy covariates	X	X	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	X	X
Prov. × Quarterly FE	X	X	X	X	X	X	X	X
Mean	2.712	1.467	0.121	0.00868	2.177	1.806	0.138	0.00862

Table K4: The coefficients in Columns (1) to (8) represent the municipal OLS estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the municipal rates of pregnancies turning into live births 9 months after, normalized by the municipal population in fertile age. Columns (1) to (4) report the coefficients on the suspended workers in the service sectors. Columns (5) to (8) refer to the industrial sector. The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Impact of work suspension on municipal pregnancy rates - differentiated according to minors in the family (linear/non-linear estimates)						
	(1) Pregnancy rate (1 minor)	(2) Pregnancy rate (no minors)	(3) Pregnancy rate (more than 1 minor)	(4) Pregnancy rate (1 minor)	(5) Pregnancy rate (no minors)	(6) Pregnancy rate (more than 1 minor)
<i>Post * 1(I. S<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.08043 [0.07219]	-0.03657 [0.08965]	-0.02557 [0.04105]	0.08527 [0.07312]	-0.03071 [0.08872]	-0.02786 [0.04615]
<i>Post * 1(I. S<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.08673 [0.07804]	-0.10174 [0.09648]	0.03708 [0.04430]	0.08836 [0.07934]	-0.09353 [0.09501]	0.04328 [0.04962]
<i>Post * 1(I. S<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	0.04504 [0.09393]	0.12412 [0.13213]	0.00417 [0.05715]	0.04748 [0.09768]	0.11070 [0.12317]	0.00609 [0.06291]
Observations	102,739	102,739	102,739	99,086	100,581	91,247
R-squared	0.10669	0.10427	0.13050			
Policy covariates	X	X	X	X	X	X
Municipal FE	X	X	X	X	X	X
Month-year FE	X	X	X	X	X	X
Prov. × Quarterly FE	X	X	X	X	X	X
Mean	2.813	3.595	1.166	2.813	3.595	1.166

Table K5: The coefficients in Columns (1) to (6) represent the municipal OLS and Marginal Effects of the PPML estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution on the municipal rates of pregnancies turning into live births 9 months after, normalized by the municipal population in fertile age. The outcome is differentiated across the number of children already present in the head of the family's household. Columns (1) to (3) refer to OLS estimates. Columns (4) to (6) to the MEs of the Pseudo-Poisson Maximum Likelihood (PPML). The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating births at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## L Contraception

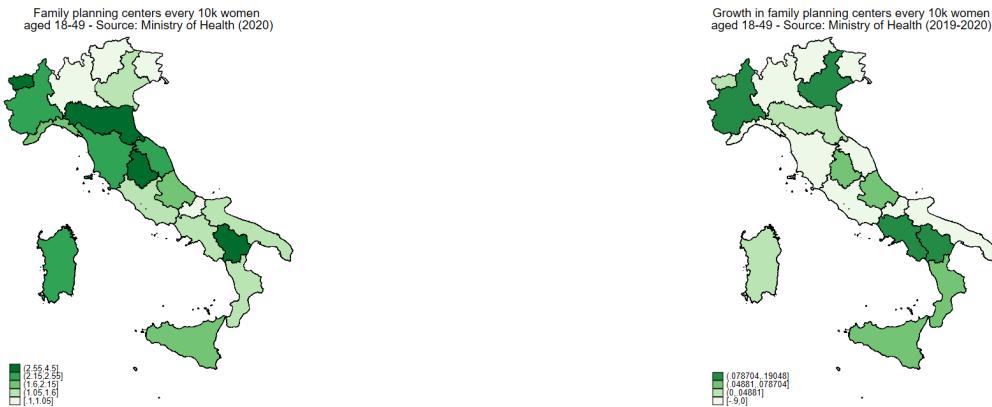


Figure L1: Family planning centres in Italy in 2020. Left panel: number of family planning centres every 10,000 women aged between 18 and 49 in 2020. Right panel: growth in family planning centres every 10,000 women aged between 18 and 49 between 2019 and 2020. Source: Ministry of Health

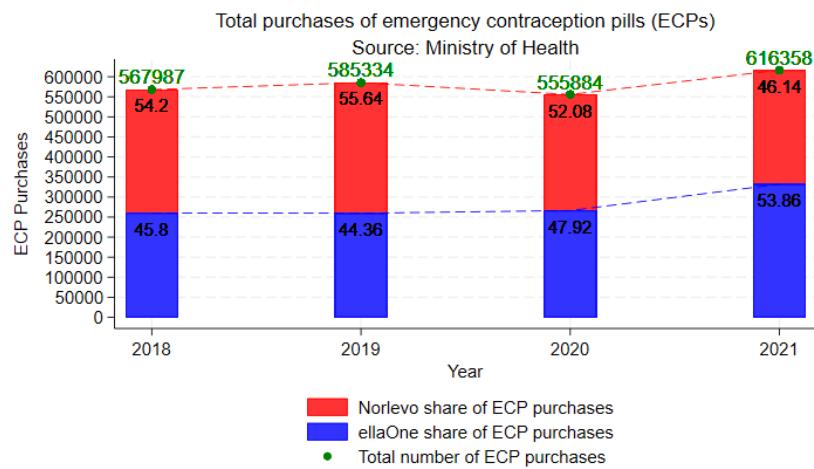


Figure L2: ECP sales in Italy between 2018 and 2021. Source: Ministry of Health.

	Impact of work suspension $\times$ Post 2020Q3 on municipal ARs of minors (linear estimates)						Impact of work suspension $\times$ Post 2020Q3 on municipal ARs of minors (non-linear estimates)						
	(1) AR (minors)	(2) AR (minors)	(3) AR (minors)	(4) AR (minors)	(5) AR (minors)	(6) AR (minors)		(1) AR (minors)	(2) AR (minors)	(3) AR (minors)	(4) AR (minors)	(5) AR (minors)	(6) AR (minors)
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.00882 [0.00918]	0.00513 [0.00655]	0.00864 [0.00904]	0.00498 [0.00648]	0.01316 [0.01091]	0.00848 [0.00776]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>4</sub>)</i>	0.03421 [0.03219]	0.01806 [0.02180]	0.03430 [0.03187]	0.01787 [0.02162]	0.05223 *	0.03286
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.00636 [0.00692]	0.00400 [0.00535]	0.00630 [0.00690]	0.00393 [0.00534]	0.00933 [0.00755]	0.00615 [0.00583]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>3</sub>)</i>	0.02138 [0.02315]	0.01196 [0.01613]	0.02072 [0.02329]	0.01130 [0.01618]	0.01326 [0.02432]	0.00847 [0.000]
<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	-0.00347 [0.00443]	-0.00357 [0.00380]	-0.00344 [0.00443]	-0.00360 [0.00380]	-0.00326 [0.00467]	-0.00370 [0.00393]	<i>Post * 1(I. S.<sub>q2/20</sub> ∈ Q<sub>2</sub>)</i>	-0.01500 [0.01949]	-0.01307 [0.01376]	-0.01480 [0.01947]	-0.01315 [0.01376]	-0.01683 [0.02091]	-0.01471 [0.000]
Observations	126,448	126,448	126,448	126,448	126,448	126,448	Observations	32,208	32,208	32,208	32,208	29,024	29,024
R-squared	0.06461	0.06524	0.06462	0.06525	0.07395	0.07377	Policy covariates		X	X	X	X	X
Policy covariates			X	X	X	X	Municipal FE		X	X	X	X	X
Municipal FE	X	X	X	X	X	X	Quarter-year FE		X	X	X	X	X
Quarter-year FE	X	X	X	X	X	X	Prov. $\times$ Quarterly FE		X	X	X	X	X
Prov. $\times$ Quarterly FE					X	X	Weight			X	X	X	X
Weight		X		X		X	Mean			X		X	X
Mean	1.098	1.098	1.098	1.098	1.098	1.098		1.098	1.098	1.098	1.098	1.098	1.098

(a) OLS

(b)

**Figure L3:** The coefficients in Columns (1) to (6) of both tables represent the municipal OLS (a) and Marginal Effects of the PPML (b) estimates of the ITT effect of belonging to different quartiles of the suspended workers' share distribution, interacted with a dummy  $Post_t = 1$  if  $t \geq 2020Q3$  (when ECP was made available OTC for minors) and 0 otherwise, on the municipal ARs of underage women. Table (a) refer to OLS estimates. Table (b) to the MEs of the Pseudo-Poisson Maximum Likelihood (PPML). The policy covariates include the quarterly average municipal stringency index, the total number of red, orange and yellow area days (white area is the reference) and municipal excess mortality. The panel is built by aggregating abortions at the municipality of residence level. The SEs are clustered at municipal level. *Mean* reports the mean of the treated units pre-treatment. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

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