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Religious Attendance and COVID-19. Evidences from Italian Regions

Abstract

By changing many aspects of everyday life, the COVID-19 pandemic and the social distance policies implemented to face it have affected the behaviour of many people, all over the world. Has the pandemic also affected people approach toward the divine? Previous evidences suggest that the prayer search over the Internet rose during the pandemic and that people tend to mainly rely on intrinsic religiosity rather than extrinsic to cope with adversity. In this contribution, by the means of a set of panel random effect estimators, we compare the change in religious attendance in Italian regions before and during the pandemic. Our results suggest that there is an increase in religiosity during the Covid-19 pandemic. Our findings are robust to several specifications of the model and to different estimators. This suggest that people derive more comfort from extrinsic religious activities during hard times, characterized by uncertainty.

JEL-Codes: Z120, N340, I120.

Keywords: COVID-19, coronavirus, religious attending, mass, mass streaming.

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Introduction

Beginning in December 2019, the coronavirus infectious disease (COVID-19) rapidly spread across the world. The intensity of pandemic changed over time and across countries, as well as did the measures taken in order to mitigate the effect of the pandemic. There have been very different approaches from the different authorities all over the world (Piguillem and Shi, 2020), that may be divided into two big families: strictly *health-related* or *non-pharmaceutical* measures. While the first ones are aimed to strengthen the capacity of the health system to deal with the effects of COVID-19 (and thus includes policies such as plans for expansion of the health workforce, support to companies producing medical supplies, and so on), the latter aimed to reduce the probability per each single citizen to contract the virus (and thus this group includes policies such as the lockdowns and other social distancing measures).

There is a growing literature in social sciences aimed to address the efficacy of this second kind of policy, usually in terms of the reduction of new COVID-19 cases. Alfano and Ercolano (2020), adopting a cross country perspective, detect the efficacy of lockdown measures in containing the diffusion of the virus. The authors suggest that, on average, the efficacy of lockdown in reducing new cases exists from 7 up to at least 20 days after the implementation. Other scholars, like Sarwar and Sarwar (2020), looking at the Indian case and adopting a within-country perspective, suggest that such efficacy could be different looking at different provinces. Obviously *non-pharmaceutical* measures may have an impact also on economic activities. Correa et al. (2020), investigating the implementation of such measures during the fall of 1918 do not found that stricter non pharmaceutical measures were associates to a larger decline in economic outcome in the years following the pandemic. In more detail, *ceteris paribus*, cities that experienced strictly non pharmaceutical measures during the pandemic, registered also a relative increase in economic activity from 1919 onwards. In fact, according to the authors, despite the fact that social distancing constrains interactions and thus economic activities, however during a pandemic, households tend to reduce their consumptions and labour supply in order to reduce the probability to be infected. In this rationale, their results support the idea that these measures are able to reduce disease transmission without exacerbating the negative economic impact.

Following this framework, Kaplan et al. (2020), try to quantify the trade-off between saving lives and worsening economic outcomes due to the implementation of a lockdown, and the related distributional effects due to COVID 19. According to the authors, pandemic may have different impact on different individuals, due to different degrees of economic exposure, triggered by pandemic. The different exposure could depend on how their jobs are linked with production of social goods, as well as the accessibility to government transfer. Their findings suggest that the most exposed individuals are also the most vulnerable ones. Moreover, in absence of lockdown measures, the second wave of pandemic

could be associated with a more important economic cost, especially on the most vulnerable individuals.

Nevertheless, other than focusing on the impact of the policies, it is important to study the social causes that may help spread the contagion and its effects on the population. Another branch of this literature is emerging, and it is devoted to investigating the effects of such exogenous shock, on several different outcomes.

It is easy to imagine that the fear of a pandemic, as well as the imposition of social distancing and the movements' limitations due to lockdown measures, generated a deep and fast modification in individuals' behavior. More precisely, several scholars tried to analyze these changes, and some of them used statistics from web researches. Among this, Brodeur et al. (2020), using Google trend data for Europe and the U.S., found an increase in the search intensity for terms such as boredom, loneliness, worry, and sadness: this suggests a possible negative effect of lockdown on people's mental health. Nevertheless, according to other scholars, lockdown measures could have also some positive impact. For example, Ding et al. (2020), using Google trends data, found an increase in population-level interest in engagement with physical activity. According to the authors, this result could depend on a large availability of discretionary time, as well as on the recommendations coming from media, governments, and health authorities.

The combination of the fear of the pandemic and the imposition to stay at home deeply could also push people to find in religion help, in order to overcome a moment characterized by material and immaterial adversity. In this interesting and potentially fruitful framework, Bentzen (2020) finds that during March 2020, Google searches for prayer rose to the highest level ever recorded. This result seems to be quite common all over the world, despite some differences that seem to occur among different religions, suggesting that 'when faced with uncertainty and adversity, humans tend to use religion for comfort and explanation' (*ibidem*, p. 73). As a matter of fact, a common finding in the literature is that people use their religion to cope with adversity (Pargament, 2001; Norenzayan and Hansen, 2006; Cohen and Wills, 1985; Park et al., 1990; Williams et al., 1991). This literature, to which the current study aims to contribute, links religiosity, which is a cultural value with very important implications for economic outcomes, to the need for coping with a world-wide calamity. As Bentzen (2020) highlighted: 'If the COVID-19 pandemic strengthens religion permanently, this may have socio-economic consequences later on'.

Nevertheless, it seems to us that the rise in interest per prayers on the internet, does not suffice to derive as a result a general rise of interest in religion. As a matter of fact, it is possibly only related to the larger availability of discretionary time during the pandemic, a consequences highlighted by Ding et

al. (2020). On the other hand, it could be also a result inflated by a search for alternative sources of spiritual comfort given the impossibility to participate in group cult rites, because of the social distances policies adopted. Furthermore, also accepting the rise in praying found by Bentzen (2020), as we already explained is important and of interest for the social sciences to understand if the pandemic causes also a rise in extrinsic religiosity other than in the intrinsic one. All these reasons lead to another research question: do the coronavirus crisis also cause an increase in organized religious rites' attending? As a matter of fact, the cost-opportunity of investing in personal prayer is much lower compared to the one of investing in attending an organized religious rite. Did areas more affected by COVID-19 saw increased levels of religious attendance in their population? Has been suggested that people tend to mainly rely on intrinsic religiosity (such as private prayer) rather than on extrinsic religiosity (such as, for instance, churchgoing) in order to cope with adversity (Johnson and Spilka, 1991; Pargament, 2001; Bentzen, 2019). Does it also apply to the current case?

In this rationale, the present contribution aims to investigate the relationship between the outbreak of the COVID-19 pandemic and the rise in looking for comfort from attending religious rites. In order to address this research topic, we rely on a quantitative approach, investigating the individual behaviors observed in Italian regions during the COVID-19 pandemic, in the ten weeks between mid-March and mid-May, during which was banned to attend a Holy Mass in person. The Italian case could be the ideal setting to test hypotheses on the impact of COVID-19 on religious aptitude, for two main reasons. First of all, Italy is very well known for the mass diffusion among its population of the Catholic religion (Knill and Preidel, 2015), that makes the country very suitable to investigate the religious-related issue without the possibility of biases due to different religious mandates, aptitudes, and habits in play at once, that may easily confound the results. It is also very interesting since previous research found that the surge in average religiosity after a natural disaster, common to all major religions (Bentzen, 2020) is lower than the average in Catholics (Bentzen, 2019). This suggests that, having a finding in a population mainly constitutes of Catholics, it is likely that it is extendable to other religions, and to measure a bigger magnitude in religiously more heterogeneous population. Furthermore, Italy is one of the countries that has suffered more due to the high levels of contagion that has registered at the beginning of 2020, thus it is a good set to test COVID-related issue, also because, at the same time, the levels of contagion registered are very heterogeneous among the different Italian regions.

As a matter of fact, after the first outbreak registered in Wuhan, the second country severely hit by the pandemic in the spring of 2020 was Italy, which represented a very specific case in Europe at the time. In fact, despite the reduced geographical extension of the country (at least if compared, for instance, with China), the diffusion of the virus has been very different across Italian regions. It is worth noting that when Italy registered the peak of the pandemic around the 21st of the march, three Northern

regions counted more than 68% of the total cases. More specifically, on the one hand, Lombardy registered in that period 25,515 total cases (about 47% of the total cases in Italy), Emilia Romagna 6,705 cases (12.5 %), and Veneto 4,617 cases (8.6%); on the other hand in Southern regions (i.e. the ones less affected by the pandemic): Calabria in the same day counted just 235 total cases (0.4%), Basilicata 66 cases (0.12%) and Molise 61 cases (0.11%). Despite this heterogeneity, on the 11th of March, the Italian government decided to adopt a total lockdown all over the country, in order to contain the diffusion of the virus.

In this rationale we formulate the following research hypothesis:

H1. Has the COVID-19 pandemic had an impact on people's extrinsic religiosity? Do people living in areas more affected by a virus outbreak turned more towards religion?

In order to test our hypothesis, following a well-established trend in applied economics (Choi and Varian, 2009) the present manuscript relies on data extracted from Google Trend. As a matter of fact, we consider possible to exploit to our aims the fact that a lockdown was in place and thus there was the consequent impossibility, on one hand, to physically take part in a mass, and the possibility, on the other, to follow the mass on streaming. This lets us to track down how many people attended the mass in each and any Italian region, during the whole lockdown period. Comparing this data with the attending rates of the Italian regions registered in a pre-pandemic time, we may derive the impact of the spread of the COVID-19 infections and the deaths to it related to religiosity.

The rest of the paper is organized as follows: section 2 describes data and methodology, section 3 discusses the main results while in section 4 we provide some conclusions on the basis of the main findings.

2 – Data and Methodology

In order to empirically estimate the impact of COVID-19 on religion, it is needed: a proxy of the religiosity per each Italian region, both before the pandemic and during the lockdown; the weekly number of COVID-19 cases and COVID-19-related deaths in each Italian region; and a proxy of accessibility to the internet in the different Italian regions.

The data about religiosity in a pre-COVID-19 time are gathered from the Italian Institute of Statistics (ISTAT) *Multipurpose survey on households: aspects of daily life*, in its part about religious practice. It offers data from 2018 (last year for which regional data are available) about the regional share of people older

than 5 years, attending a place of worship at least once per week. This is our proxy per religiosity of the population in the different Italian regions before the COVID-19 pandemic. To proxy the religiosity during the lockdown, on the other hand, we had to apply a different approach. On March the 12th Italian faced a complete lockdown, that among several social distances measures also included a national ban to celebrate the Holy Mass. It is important to notice that this was also accepted and supported by the Pope, that ordered to all the Catholic priests (i.e. to the vast majority of religious ministers that celebrate holy rites in Italy) to suspend the celebration of the Mass. At the same time, the Pope blessed and sponsored the online streaming of masses, which is something traditionally frowned by the Catholic Church. It is notable to notice that the Pope Himself was celebrating each morning a mass in online streaming during the lockdown period. Internet is used as a source of information by many people in Italy and all over the world, and it is especially important when it comes to health-related risks (Risk and Dzenowagis, 2001); Google is by far the most popular search engine. For this reason, we believe that the number of searches on Google of the terms *messa streaming*, is a good proxy of the interest in following the Mass in the different Italian regions, during the lockdown.

To empirically test our hypotheses, we build a panel dataset, with weekly data from the Italian regions used as the basic statistical unit of observation. In formal terms, we estimate the following equation:

$$\Delta R_{rw} = \alpha + \beta_1 i_{rw} + \beta_2 d_{rw} + \beta_3 DD_r + \beta_4 DLom_r + \beta_5 DEas + +\beta_6 T + \varepsilon_{rw} \qquad (1)$$

where ΔR is the difference in religiousness, proxied through mass attending, in the region *r* during week *w*, compared to religiousness proxied in the same region during a pre-COVID-19 time. As should be clear from equation (1), the difference in religiousness in region *r* is a function of the total COVID-19 cases registered in the week (i_{rw}), and of the deaths to it related (d_{rw}), plus a set of control variables: *DD*, a variable to control per the digital divide, and thus the different access to fast-speed internet in the Italian regions, that may affect our operationalization of religiousness; *DLom*, a dichotomous variable signaling whether or not region *r* is Lombardy, which is an outlier among Italian regions and may thus affect the estimates; *DEas*, a dichotomous variable signaling whether or not week *w* is the Easter week, given that more people may attend the mass on this important religious celebration; and finally *T* is a set of N dichotomous dummies included in the model to control per potential temporary effects in the 10 weeks analyzed, and to avoid biases in the estimates due to these cyclic or temporary variability (please note that each of these variables assumes the value of 1 for each week included in the analysis, and 0 otherwise, and that the number of week included in the analysis is equal to N+1).

Figure 1 seems to confirm our hypotheses. It reports the searches of the terms in Italy during the lockdown: the peaks visible at first glance, correspond to the Sundays, the Day of the Lord in Christian

beliefs, and the day in which traditionally it is required to a Catholic to attend the Mass. The greatest peak is on April the 5th, during which recurred Palm Sunday, a day in which the Pope celebrates a very special, and attended, Mass in streaming, from Saint Peter's square, during which He asked to God relief from the pandemic. The subsequent peak registered in the graph, immediately to its right, is in correspondence of April the 9th, the Holy Thursday, an important celebration in Catholic tradition to approach Easter; Easter was celebrated in 2020 on April the 12th, which is the following peak in the graph. In short, the graph seems to confirm how these data should be a good proxy of the request of religiosity in Italian regions, given their correlation with both Sundays and important Catholics celebrations.

Bearing that in mind, our analysis operationalizes Italian regions' demand for religiosity by looking at Google Trends data. Google Trends allows inspecting the evolution over time and region of Google queries that are related to one specific word or expression. For our analysis, Google Trends related to the word *messa streaming* (Italian words for *mass in streaming*, and very likely to be the terms used for a search online while looking for a mass in online streaming) have been inspected, and the extraction of data has been carried out by region. Data extracted through Google trends are normalized on a 0-100 scale, where 100 represents the region with a greater frequency of search on the topic on the total of searches in the region, and the other values are relative shares of this 100.

Our proxy of religiosity previous the pandemic is, as explained, the share of population older than 5 that attended a religious rite at least once per week. We transformed this variable in the same scale used by Google trend, by dividing all the values per the maximum value of the series and multiplying the result per 100. After this normalization, we proceed to compute our dependent variable, the operationalizations of ΔR_{rw}: *RatioRel*, computed as the ratio between the religiosity in 2020 and 2018. It is interesting to notice, as presented in figure 2, that from a preliminary analysis of the regional religiosity it seems true that the pandemic has had an important impact in the habits of the Italian. As a matter of fact, while in 2018, as expected by anecdotical evidence, the vast majority of the Southern regions belong to the higher quantile (darker in the figure), in 2020 this is not anymore true, and the Central and Central-Northern regions, which have been more affected by the pandemic, seems to be way more religious than they used to be.

Another important set of variables in our empirical analysis are data about COVID-19 infections and deaths. Those are gathered from the Italian Ministry of Health's dataset, reporting official data for each province and day. Given the importance of following the Mass on Sunday, the day of the Lord per the Catholic religion, we chose to run our analysis using the week as the basic unit of time. For this reason, we summed the data, obtaining total COVID-19 cases and deaths per week per region, from the week

ending on Sunday 15th March, the first week during which Italy faced a total lockdown, to the one ending on May the 17th, given that from Monday the 18th of May the ban to celebrate the mass with believers attending in person was lifted. Data are gathered from the latest version of this document (taking us up to 17 May). This makes a total of 10 weeks observed, for 20 different Italian regions. From this source, we computed the variable measuring the weekly cases (*Cases*) and the weekly deaths (*Deaths*) due to COVID-19 in each and any Italian region.

Italian regions are very heterogeneous also in terms of the digital divide, and broadband infrastructure is not a good proxy of the digital divide (Quaglione et al., 2020). For this reason, we chose to control per the possibilities to access to online streaming, that may affect the results given our operationalization of the religiosity during the pandemic, via ISTAT's *Multipurpose survey on households: aspects of daily life*, in its part about internet access and availability of technology. More precisely, we employed the share of families with access to a 3G connection per region, as a proxy of the digital divide.

Furthermore, we decided to also control, by including in some of the specifications of our model, per the observations referred to Lombardy, by including a dummy that lets us to exclude this potential outlier from biasing the results.

The final dataset is composed of 10 weekly observations in 20 Italian regions, giving a total of 200 observations. Descriptive statistics of the variables used are provided in Table 1.

Considering that data have several observations for each *r* and *w*, the best estimator to employ is a Feasible–Generalized Least Square (F-GLS) (Aigner and Balestra, 1988; Hsiao, 1986). Our framework needs the use of a random effect estimator, given that we are comparing differences among regions; nevertheless also a Hausman test, presented in Table 2a, and a Mundlak test (Mundlak, 1978) presented in Table 2b, suggests that a Random Effects estimator is to be preferred to a Fixed Effects one.

3 – Results and robustness checks

As can be seen in Tables 3, the more cases an Italian region had faced during the pandemic, the greater is the difference in its religiosity compared to 2018. This first result seems to suggest that there is indeed an impact of the COVID-19 pandemic on the religion. This effect is statistically significant at 10% in specification 3.1, 3.2, and 3.3. While this threshold may be considered low, please notice that our framework involves only 200 observations, and thus this statistical threshold seems to be more than appropriate.

Interestingly enough, the deaths seem to have an opposite effect on religion. This effect is nevertheless mainly driven from Lombardy, that as said has had about half of the total deaths (15,519 out of 31,908). It is confirmed by the fact that, once controlling per the *DLomb*, the dummy discriminating per the region of Lombardy, the significance of this effect, per the usual statistical thresholds, vanishes. This finding suggests that an increase in COVID-19 cases has indeed caused the population to become more religious than it used to be.

Finally, the operationalization of the technological backwardness *Digital Divide* is statistically not significant, suggesting that it does not affect our result. Possibly the diffusion of internet in Italian regions is spread enough to support the attending of masses in online streaming. Nevertheless, the impact of the COVID-19 cases on our dependent variable *RatioRel* is still positive and statistically significant, suggesting a role played by the spread of the pandemic in this relationship.

Conclusions

The entire world is facing a severe pandemic, that has and still is changing many aspects of everyday life for a big part of the population. Given that, it is legit to imagine that many habits and behaviors changed. Among these, we consider of special interest how COVID affected people's approach towards the divine, given also its importance on several economic outcomes and its entangled relationship with many others variables of economic interest.

We consider the closure of churches imposed in Italy per 10 weeks during the lockdown, and the consequent 'blessing' from the Pope of masses in online streaming, a perfect opportunity in order to exploit the data recently offered by Google Trends to obtain a proxy of regional religious attendance during this time. By comparing this data with the most recent pre-pandemic data on regional religious attendance, controlling per possible confounders, we manage to measure the impact of COVID-19 on extrinsic religiosity.

Our analysis suggests that there is indeed an increase in religiosity due to the COVID-19 crisis, confirming some findings in the literature about religiosity during natural disasters (Bentzen, 2019). As a matter of fact, our analysis shows how Italian regions that have been more affected by the coronavirus crisis have seen a greater increase in their religiosity levels (compared to the level registered before the pandemic), compared to regions less affected by the pandemic.

In short, we consider these results of interest, given their importance on confirming some previous results on religious behavior on one hand, and their potential impact on religiosity-related economic outcomes on the other.

Future, further research, may try to build on our findings by applying our framework to a different case, or testing if, as suggesting per previous disasters (Bentzen, 2019) this increase holds even after the pandemic crisis passes.

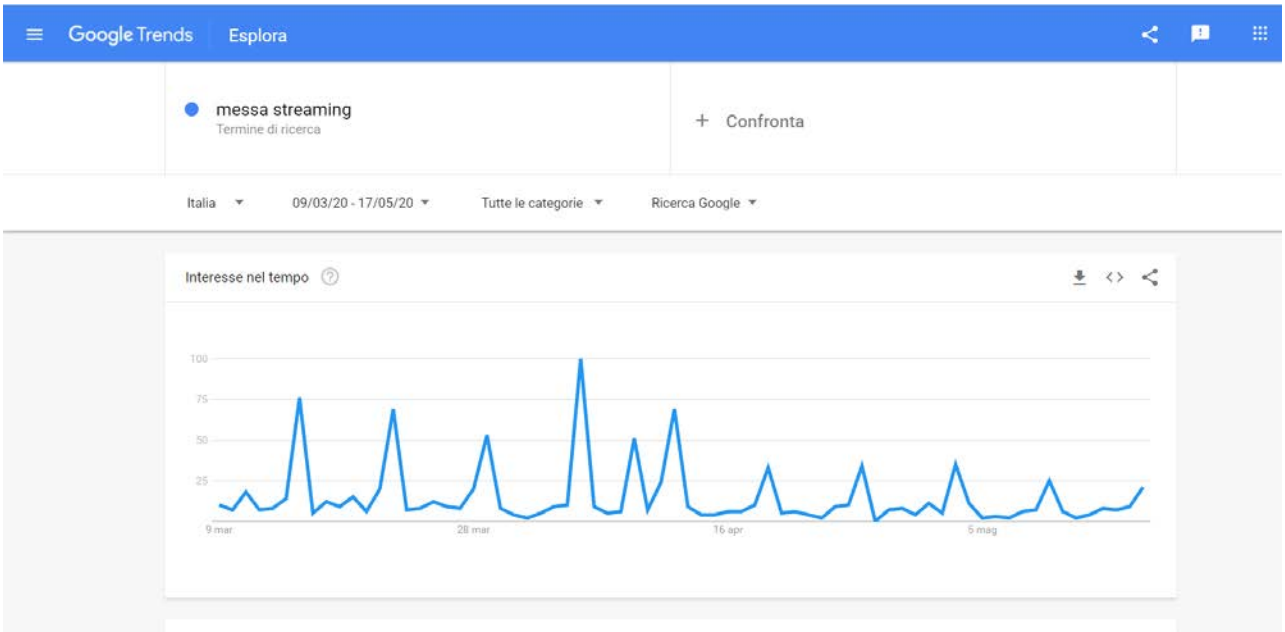

Figure 1 – Google Trend per the string messa streaming *from March the 9th to May the 17th.*

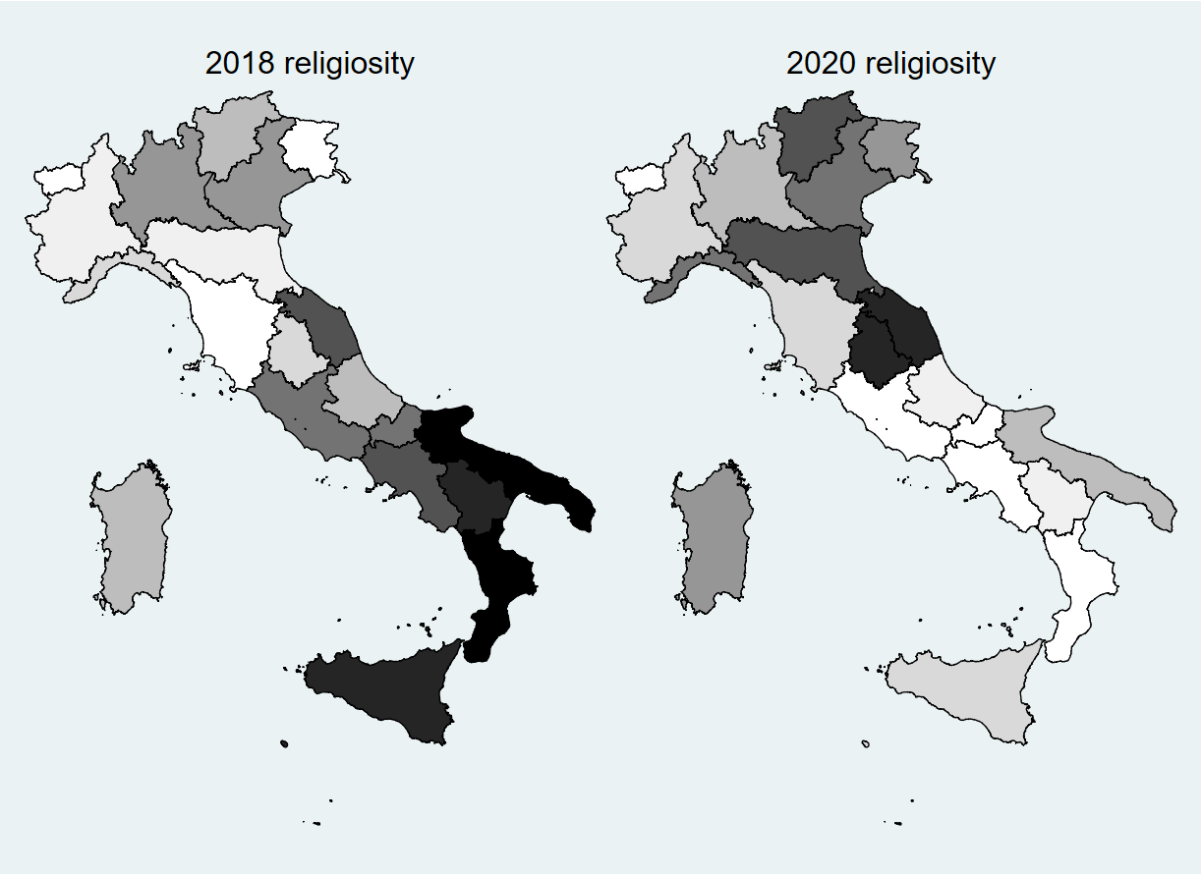

Figure 2 – Heath maps comparing the religiosity (deciles) in 2018 and in 2020, per different Italian regions.

Table 1 – Descriptive statistics

Label	*Variable*	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
RatioRel	Ratio between religiosity in 2020 and in 2018	200	.3835341	.4051973	0	1.957576
Cases	COVID-19 weekly cases in the region	200	48282.43	93066.27	55	572622
Deaths	COVID-19 weekly deaths in the region	200	977.53	2473.629	0	15519
Digital Divide	Share of families in the region with access to 3G connection	200	37.21	3.854111	30.6	48.1
DLom	Dummy equal to 1 if the region is the Lombardy, to 0 otherwise	200	.05	.2184919	0	1

Table 2a – Hausman Test

Ho: difference in coefficients not systematic

chi2(10) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 0.16

Prob>chi2 = 1.0000

Table 2b – Mundlak Test

H0: difference in coefficients not systematic

Chi2(3) = 630.95

Prob>chi2 = 0.0000

Table 3 – F-GLS Religious Ratio (2020/2018) Random Effect

	(3.1)	(3.2)	(3.3)	(3.4)
	RatioRel	RatioRel	RatioRel	RatioRel
Cases	0.00000439*	0.00000431*	0.00000404*	0.00000404*
	(1.92)	(1.86)	(1.70)	(1.70)
Deaths	-0.000151*	-0.000147*	-0.000125	-0.000125
	(-1.78)	(-1.71)	(-1.34)	(-1.34)
Digital Divide		0.00624	0.00514	0.00514
		(0.54)	(0.43)	(0.43)
DLom			-0.208	-0.208
			(-0.66)	(-0.66)
DEas				0.335***
				(2.78)
Dummy Week	YES	YES	YES	YES
Constant	0.162*	-0.0703	-0.0193	-0.0193
	(1.82)	(-0.16)	(-0.04)	(-0.04)
Observations	200	200	200	200

t statistics in parentheses

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

References

- Aigner, D. J. and Balestra, M. (1988). Optimal Experimental Design for Error Components Models, Econometrica, vol. 56, No. 4.
- Alfano, V. and Ercolano, S. (2020). The Efficacy of Lockdown Against COVID-19: A Cross-Country Panel Analysis. Applied Health Economics and Health Policy.
- Bentzen, J. S. (2019). Acts of God? Religiosity and Natural Disasters Across Subnational World Districts, The Economic Journal, Vol. 129, Issue 622, pp. 2295–2321, https://doi.org/10.1093/ej/uez008.
- Bentzen, J. S. (2020). In Crisis, We Pray: Religiosity and the COVID-19 Pandemic. Covid Economics, 20, 52.
- Brodeur, A., Clark, A. E., Fleche, S. and Powdthavee, N. (2020). COVID-19, Lockdowns and Well-Being: Evidence from Google Trends. IZA Discussion Paper 13204.
- Choi, H. and Varian, H. (2009). Predicting the present with Google Trends. Economic Record, 88.
- Cohen, S. and Wills, T. (1985). Stress, Social Support, and the Buffering Hypothesis. Psychological bulletin. 98. 310-57. 10.1037/0033-2909.98.2.310.
- Correia, S., Luck, S., and Verner, E., (2020) Pandemics Depress the Economy, Public Health Interventions Do Not: Evidence from the 1918 Flu. Available at SSRN: https://ssrn.com/abstract=3561560 or http://dx.doi.org/10.2139/ssrn.3561560
- Ding, D., del Pozo Cruz, B., Green, M. A., Bauman, A. (2020). Is the COVID-19 lockdown nudging people to be more active: a big data analysis. British Journal of Sports Medicine Published Online First: 30 June 2020. doi: 10.1136/bjsports-2020-102575
- Hsiao, C. (1986). Analysis of Panel Data, Cambridge University Press, Cambridge.
- Johnson S. C., Spilka B. Coping with breast cancer: The roles of clergy and faith. Journal of Religious Health. 1991; 30(1): 21-33. doi:10.1007/BF00986676
- Kaplan, G., B. Moll, and G. Violante (2020). The Great Lockdown and the Big Stimulus: Tracing the Pandemic Possibility Frontier for the U.S., Working Paper, https://benjaminmoll.com/wp-content/uploads/2020/07/lockdown.pdf
- Knill, C. and Preidel, C. (2015) Institutional opportunity structures and the Catholic Church: explaining variation in the regulation of same-sex partnerships in Ireland and Italy, Journal of European Public Policy, 22:3, 374-390.
- Mundlak, Y. 1978: On the pooling of time series and cross section data. Econometrica 46:69-85.
- Norenzayan, A. and Hansen, I. (2006). Belief in Supernatural Agents in the Face of Death. Personality & social psychology bulletin, 32, 174-87. 10.1177/0146167205280251.

- Pargament, K. I. (2001). The psychology of religion and coping: Theory, research, practice. Guilford Press.
- Park C., Cohen L. H., Herb L. (1990). Intrinsic religiousness and religious coping as life stress moderators for Catholics versus Protestants. Journal of Personality and Social Psychology. 1990; 59 (3): 562.
- Piguillem, F. and Shi, L. (2020). The optimal covid-19 quarantine and testing policies (No. 2004). Einaudi Institute for Economics and Finance (EIEF).
- Risk, A. and Dzenowagis, J. (2001). Review of internet health information quality initiatives. Journal of medical Internet research, 3(4), e28.
- Sabbadini, L. L. and Morano M. C. (2020). Primi risultati dell'indagine di sieroprevalenza sul SARS-CoV-2. ISTAT and Italian Minister of Heath.
- Sarwal, R. and Sarwal, T. (2020). Mitigating COVID-19 With Lockdowns: A Possible Exit Strategy. Available at SSRN 3563538.
- Quaglione, D., Matteucci, N., Furia, D., Marra, A. and Pozzi, C. (2020). Are mobile and fixed broadband substitutes or complements? New empirical evidence from Italy. Socio-Economic Planning Sciences Vol. 71.
- Williams, D. R., Larson, D. B., Buckler, R., Heckmann, R. and Pyle, C. (1991). Religion and Psychological Distress in a Community Sample. Social Science and Medicine, 32: 1257-1262.