Neha Deopa
and
Piergiuseppe
Fortunato

Division on Globalisation
and Development
Strategies, UNCTAD

Neha.deopa@graduateinstitute.ch

piergiuseppe.fortunato@unctad.org

Coronagraben. Culture and social distancing in times of COVID-19

Abstract

Social distancing measures have been introduced in many countries in response to the COVID-19 pandemic. The rate of compliance to these measures has varied substantially. We study how cultural differences can explain this variance using data on mobility in Swiss cantons between January and May 2020. We find that mobility declined after the outbreak but significantly less in the German-speaking region. Contrary to the evidence in the literature, we find that within the Swiss context, higher generalized trust in others is strongly associated with lower reductions in individual mobility. We attribute these results to the German-speaking cantons having a combination of not only high interpersonal trust but also conservative political attitudes which may have altered the trade-off between the chance of contracting the virus and the costs associated with significant alterations of daily activities.

Key words: COVID-19, Culture, Social distancing, trust, political attitudes

UNITED NATIONS

Contents

1. Introduction

After the initial outbreak in Wuhan in early January 2020, COVID-19 quickly spread across all regions of the world, achieving a pandemic status. Flattening the contagion curve has rapidly become a priority in many countries in an attempt to reduce the load on the healthcare system and the overall mortality rate. A two-months strict lockdown was introduced in the Chinese province of Hubei on January 23, and Western democracies followed suit enacting shelter-in place and social distancing measures and large cut backs on production activities. Many countries have also tried to reduce interpersonal contact and mobility through massive "stay at home" media campaigns aimed at altering citizens habits. While the health measures enacted have been, on average, homogeneous across countries, compliance to these rules varied widely within the local context. In the absence of perfect enforcement capacity by the states, cultural attitudes and behavioral norms, which typically vary from country to country, can make an important difference and explain deviations in voluntary compliance. This is all the more true when it comes to individual mobility decisions, which entails a delicate trade-off between the chance of contracting (or diffusing) a disease and the economic (and individual well being) costs associated to significant alterations of daily activities.

There are major cultural differences, for example, in the physical distance that people keep when interacting with others, with Southern Europeans preferring closer interpersonal distance than Northern Europeans and Northern Americans (Remland et al. (1995); Sorokowska et al. (2017)). Since social contact patterns are a crucial factor behind the spread of the disease, the benefit of abiding to strict social distancing rules and reducing mobility will be higher in societies accustomed to close interactions (Prem et al. (2017); Oksanen et al. (2020)). Can there be a role for cultural biases in the spread of pandemics? We study how cultural values may play a role in the evolution of individual mobility under COVID-19 measures. Our work contributes to a growing body of studies linking cultural variables, social distancing, and the spread of COVID-19 (Durante et al. (2020); Barrios et al. (2020); Borgonovi and Andrieu (2020); Brodeur et al. (2020); Egorov et al. (2020)). Building on these papers, we investigate various dimensions of culture and focus our analysis on Switzerland, which provides a unique case due to its native language groups which are shared by the adjoining countries and the distinct linguistic geographical areas with deep historical roots. These areas are associated with specific cultural traits and an example that highlights this is the collo- quial name for the border between the French and German speaking region, called Röstigraben. Rösti refers to a hashed potato dish which originated in the canton of Bern and is typical of Swiss German cuisine, and Graben is a trench or division. The intensity of the COVID-19 pandemic has varied substantially between the Swiss regions and the divide around the spread of the virus has been defined by some observers as a *Coronagraben*, in reference to the cultural border. We discuss this in further detail in section 2.

We add to the existing literature by focusing on a set of cultural dimensions and mechanisms that might have shaped the actual adherence to social distancing in Switzerland. More precisely, we examine the relationship between average distance travelled in a day and language, trust, altru- istic beliefs, political leaning and preferences for re-distributive policies. Using European Social Survey and Swiss Household Panel, we measure these cultural values and attitudes. To capture the adherence to social distancing, we rely on phone location tracking records of 3000 individuals, collected by Intervista on behalf of the Swiss Federal Statistical Office (FSO). Our analysis focuses on two important dates. The first is February 25, when the first COVID-19 case was reported in Switzerland, marking the beginning of the outbreak in the country. The second is March 16, when the Swiss government declared an "extraordinary situation" over the coronavirus, instituting a ban on all private and public events and closing places such as restaurants and bars. In our empirical model, we include canton and daily fixed effects and also control for time-varying number of COVID-19 cases reported and fatalities at the canton level and the interaction of a rich set of geographic, demographic, and socio-economic controls with time dummies.

Using this approach, we find surprising results showing that cantons in the German linguistic re- gion, which are also high in generalized trust towards others and have higher altruistic beliefs, reduced their mobility significantly less than the French speaking cantons. Therefore, within the Swiss context, high interpersonal

trust is strongly associated with lower reductions in individual mobility. These findings are at odds with Durante et al. (2020) and Brodeur et al. (2020), who document a significantly higher decline in mobility in areas with higher civic capital and trust. The results maybe explained due to the belief that other individuals in society will respect, among other things, infection prevention and control norms (IPC), thus making mobility reduction less relevant. Additionally it is important to note that these cantons are also relatively right leaning on the political scale, support a limited role of the state in maters of welfare and greatly value individ- ual freedom. For these cantons, reducing individual mobility due to government imposition could be perceived as a sacrifice of a taller order than in more collectivist regions. Overall, our results show that the costs and benefits associated with compliance changes with culture and suggests that contextual conditions, shaped by the culture of reference, are key in determining how traits such as interpersonal trust, preference for re-distributive policies and political attitudes, mediate the social distancing process.

The remainder of the paper is organized as follows. Section 2 presents our conceptual framework, discusses the cultural differences in Switzerland and gives a background on the COVID-19 emer- gency in the country. Section 3 describes the data used for our analysis and Section 4 presents our empirical and identification strategy. Section 5 discusses the results while Section 6 concludes.

2. Cultural dimensions

We first clarify what we mean by culture. We follow the definition proposed by Guiso et al. (2006), where culture is defined as a set of "customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation". We focus on language as a proxy for culture and further look at two specific dimensions or traits of culture and explain their place in the context of Switzerland:

Language: There is a large literature linking culture and language. These are based on The Sapir–Whorf hypothesis also known as the linguistic relativity hypothesis, which highlights how the language one speaks influences the way one perceives the world. This hypothesis is a culmina- tion of several early contributions in anthropology that explored this link, spanning from the works of van Humboldt (1836) to Mandelbaum (1951), Whorf (1956), Sapir (1968) and Boas (1982) whose work on cultural relativism further highlighted that language and culture were interdependent. Several studies, across various disciplines, have shown that an examination of cultural groups can be engaged by language since it has an impact on identity, values, attitudes and behaviour (Heslop et al. (1998); Schulz et al. (2006); Laesser et al. (2014)). More recently works of economists such as Bisin and Verdier (2011) and Ginsburgh and Weber (2020) show that the notion of a common na- tive language is inextricably linked with cultural proximity. This goes beyond language proficiency and ability to speak and in fact captures the vertical and horizontal transmission of values.

Generalized trust: One of the most commonly defined cultural trait is generalized trust towards others i.e. the beliefs held about others' trustworthiness. Alesina and La Ferrara (2002) hypothesize that this belief is a moral or cultural attitude and is positively correlated with individual charac teristics such as the level and type of education received and occurrence of recent misfortunes. They also show the importance of community characteristics such as high income inequality which often leads to low interpersonal trust. From the early work of Arrow (1972), who recognized the importance of mutual trust in commercial and noncommercial transactions, the relation between generalized trust and economic development is well established (Algan and Cahuc (2014); Butler et al. (2016)). It is important to note that this differs

from the concept of trust in institutions, which may simply be capturing the efficiency or corruption of the government in power.

Preferences for redistribution: Alesina and Giuliano (2011) define preferences for redistribu- tion as a situation in which one agent also cares about the utility of somebody else. They reject the notion of these preferences being unpredictable "social noise" and highlight the role of culture as an important determinant. Different cultures may have distinct approaches in contrasting the merits of equality versus individualism. As shown by Alesina and Giuliano (2015), views on in- equality and redistribution emphasize both the value and belief component of culture. Luttmer and Singhal (2011) highlight the former by showing a significant correlation between second-generation immigrants' redistributive preferences and the average preference in their birth countries. An in- dividual's predisposition to support a welfare state may also be determined by cultural traits such as perception of poverty and fairness. Think of an individual who not only cares about his own income but dislikes inequality due to luck rather than effort and ability. His belief that success is primarily determined by luck and personal connections, rather than hard work, will determine his preferences for redistribution and social policies. Furthermore, these cultural values and attitudes are significantly persistent and tend to remain fairly stable over time and generations.

Alesina and Giuliano (2011, 2015) show that these preferences also underlie the formation of po- litical attitudes and are in fact a crucial factor in dividing the political left and the political right. Perception about fairness (work vs. luck) in the income-generating process is key in formation of political attitudes and supporting a welfare state. Luttmer and Singhal (2011) find evidence that cultural influences affect voting behaviour by documenting that immigrants from high-preference countries are more likely to vote for more pro - redistribution parties.

2.1 Why Switzerland?

Switzerland provides an excellent case of where language is in fact a very appropriate proxy for culture (Bu̇chi (2001)). Switzerland has twenty-six cantons and four official languages having equal status in law - German, French, Italian and Romansh. According to the 2000 census, German is spoken by 63.7% of the population, French by 20.4%, Italian by 6.5%, and Romansh by 0.5%. Three cantons - Valais, Fribourg, and Berne - are bilingual (French, German); one canton - Graubu̇nden - is officially trilingual (German, Romansh, Italian). From the remaining cantons, seventeen are German speaking, four French speaking and one Italian speaking. Looking at Panel (a) in Figure 1, we observe that there are geographically distinct linguistic regions. These language borders have deep historical roots and with the exception of few minor movements, the early historical development of the German-French and German-Italian language boundaries has been relatively stable since AD 1100 (Sonderegger et al. (1967); Egger and Lassmann (2015); Bu̇chi (2001)). For example, historically the border of the canton Valais traced along the border of the Roman-Catholic Diocese of Sion and most of the canton Graubu̇nden was once part of a Roman province called Raetia, which was established in 15 BC, resulting in multilingualism (Eugster et al. (2017)). These language borders are a measure of cultural values and beliefs manifested by means of differences in native languages. Therefore these explicit language regions can be thought of as pockets of different cultures and the Rȯstigraben exemplifies this fact. The language frontier manifests itself through different preferences in many aspects of everyday life and provides an ideal context to study the effects of culture. There are several works of public economics and trade that have exploited this unique variation in languages within Switzerland (Eugster et al. (2017),Athias and Wicht (2014), Egger and Lassmann (2015) and Eugster and Parchet (2011)).

These distinct language zones also capture the variation in preferences for redistributive and social policies. One can see this in the voting shares of Swiss citizens on several federal popular initiatives[1]. These initiatives tackle various socio-economic issues and are very informative about the attitudes and perception of cantons towards matters of welfare and social spending. One issue that has always brought the cultural divide to the forefront is the unemployment insurance (assurance- chˆomage). In 1997 and 2010, the citizens voted on whether there should be further cuts on the financing of unemployment benefits. The variation in vote share, as seen in Panel (b) of Figure 1, results in a map with demarcations that look strikingly similar to the language borders seen in Panel (a). Despite the thirteen year gap, note the persistence in the preferences across the cultural borders. Thus one can say the Rˆostigraben is also reflective of the left-leaning voting behavior of the French-speaking part, especially for votes on social policy issues (Germann et al. (2012)).

2.2 COVID-19 in Switzerland

The first case of COVID-19 in Switzerland was confirmed on February 25 a 70-year-old man tested positive in Ticino, followed by a second case on February 26 in Geneva. Due to its proximity to Lombardia, Ticino took early restrictive measures while the only rule imposed on the remaining cantons was a relatively moderate step taken by the federal government - to raise the alert level to "special situation" by banning events with more than 1,000 people[2]. However by mid March the country was particularly affected by the epidemic, the increase in confirmed cases accelerated with the reproductive number oscillating between 1.5 and 2 (Scir´e et al. (2020)). With more than 2,600 people infected, there was a need to mobilise up to 8,000 members of the military to help contain the rapid spread, representing the largest army mobilisation since the Second World War. The Swiss government also introduced border checks with Germany, France and Austria. This was the turning point for Switzerland and on March 16 the government declared an "extraordinary situation", instituting a ban on all private and public events and closing restaurants, bars, leisure facilities and shops apart from grocery stores and pharmacies. It is important to note that unlike its neighbours, Switzerland did not announce a definite lockdown but encouraged its citizens to follow "social distancing" as one of the precautions called for as part of an information campaign by the Federal Office of Public Health (FOPH). The first phase of relaxing the restrictions began on April 27. Figure A.1 shows the evolution of the total cases reported in Switzerland for three different periods.

The intensity of the health crisis has varied substantially in the country. An invisible border has divided Switzerland during the emergency: the French- and Italian-speaking parts have been significantly more severely affected than the German-speaking areas, with only few exceptions. The cantons of Geneva, Ticino and Vaud lead by far the ranking of most cases per 10,000 inhabitants, recording values that more than double the majority of German speaking cantons. This linguistic divide around the spread of the virus has been defined by some observers as a Coronagraben, in reference to the cultural Röstigraben.

3. Data

Before we proceed to describe the variables we use for our empirical analysis, we address one major limitation. Although it would be ideal to have data at the municipal level and use the multilingual cantons as a way to investigate our research question, unfortunately neither the mobility data nor the statistics related to the pandemic are available for municipalities. All the data described below is at the cantonal level.
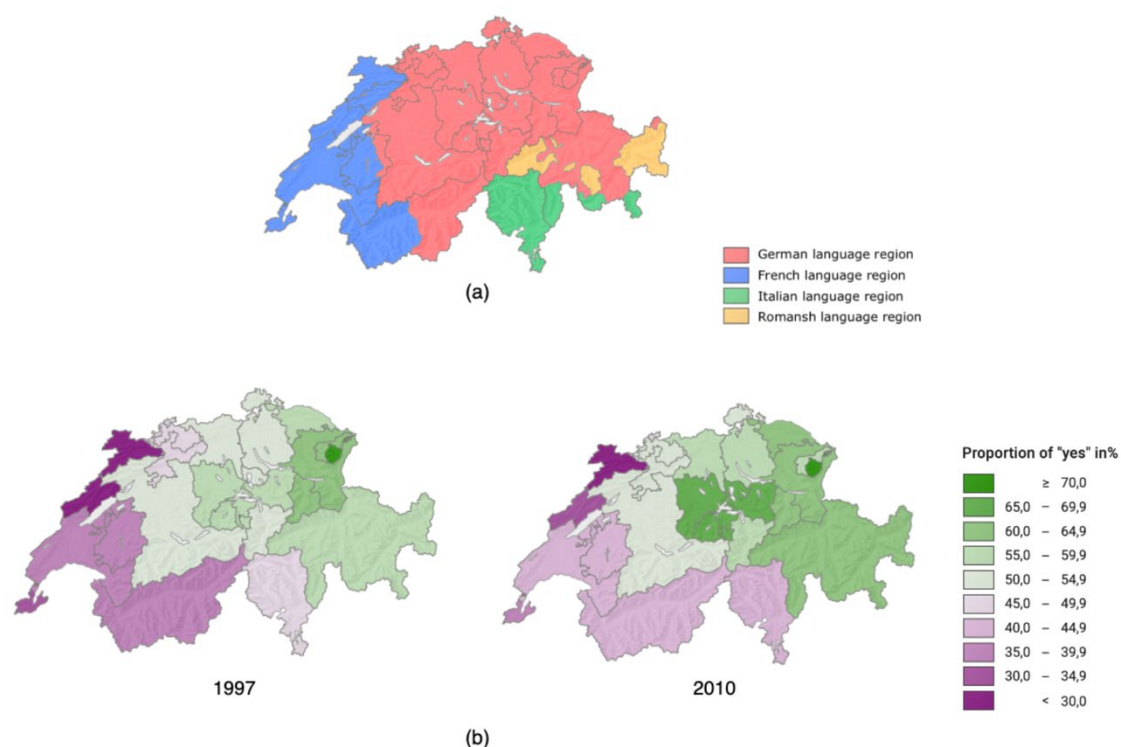
---

[1] This is a unique aspect of Swiss democracy which allows citizens to propose changes to the Swiss Federal Constitution. For a popular initiative to succeed, those launching the initiative need to collect 100,000 signatures from people entitled to vote within eighteen months. If Parliament decides that the initiative is valid, it is put to a popular vote.

[2] This included football and ice hockey championships, carnivals in Basel and Lucerne, the Geneva Motor Show and Baselworld watch fair

Therefore we drop five cantons from our sample of twenty-six: Bern, Valais, Fribourg and Graubünden, as they are officially multilingual. Additionally we also drop Ticino because of it's proximity to the Italian region of Lombardia which may bias our results. This limits our focus to studying the the impact of cultural differences between the French and German speaking cantons.

Social Distancing: We use daily data on individual mobility in each canton between January 1 and April 27, 2020. This has been collected by Intervista, a market research institute, on behalf of the Swiss Federal Statistical Office (FSO). It is based on the phone location tracking records of 3,000 individuals, selected according to several criteria, such as sex, age, canton of residence and mobility behavior in accordance with the representative guidelines provided by the FSO. The data consists of average distance travelled each day as well as the radius of daily travel, both in kilometres. The former indicates the sum of all journeys made by an individual during a day, by foot or by means of transport such as car, bicycle or public transportation. The daily radius indicates the distance from the overnight accommodation, the night before, to the most distant location reached in one day as the crow flies.

Culture: For the first indicator of culture, language, we associate each canton with a dummy variable equal to one if the official language is German and zero if French. This information is available on the official websites of the FSO and of every canton. To measure cultural traits we use two surveys: Swiss Household Panel[3] (SHP) and European Social Survey (ESS)[4].

(a)

German language region
French language region
Italian language region
Romansh language region

1997   2010

Proportion of "yes" in%

≥ 70,0
65,0 – 69,9
60,0 – 64,9
55,0 – 59,9
50,0 – 54,9
45,0 – 49,9
40,0 – 44,9
35,0 – 39,9
30,0 – 34,9
< 30,0

(b)

---

[3] It is an annual panel study based on a random sample of private households in Switzerland over time. The aim is to observe social change, in particular the dynamics of changing living conditions and representations in the population of Switzerland. We use wave 19 (2017) and wave 20 (2018).

[4] The ESS is a cross-sectional survey administered in a large sample of mostly European nations, containing infor- mation on individuals' social values,cultural norms, and behavioral patterns. We use round 8, 2016 for Switzerland.

Figure 1. Panel (a) - Language regions of Switzerland. The grey lines are the canton borders. Panel (b) - Percentage of yes votes for the Law on unemployment insurance in 1997 and the revision of this law in 2010. Source: Swiss Federal Statistical Office (FSO)

For generalized trust towards others, the survey elicits beliefs by asking - *Would you say that most people can be trusted or that you can't be too careful in dealing with people, if 0 means "Can't be too careful" and 10 means "Most people can be trusted"?* Using the average intensity of trust beliefs we classify cantons as "high trust in others" and "low trust in others". To gauge interpersonal trust we also look at an additional question - *Would you say that most of the time people try to be helpful or that they are mostly looking out for themselves?* Similar to above, the response is on scale from 0 to 10, where 0 means people mostly look out for themselves and 10 means that people mostly try to be helpful. The intended contrast is between self-interest and altruistic helpfulness. We classify cantons as "high altruistic beliefs" and "low altruistic beliefs ".

To capture views on equality and beliefs about preferences for redistribution, the survey asks the respondents to agree or disagree with the statement - *Large differences in people's incomes are acceptable to properly reward differences in talents and efforts.* Using the percentage of respondents who agreed, we classify cantons as "high acceptance of income differences" and "low acceptance of income differences"[5]. As discussed in Section 2, cultural perceptions of the role of state are central to formation of political attitudes and ideologies. Utilizing the survey question - *In politics people sometimes talk of "left" and "right". Where would you place yourself on this scale, where 0 means the left and 10 means the right?* - we focus on political positioning along the left-right spectrum and classify cantons as "right leaning" and "left leaning". The cantonal distribution of these measures can be seen in Figure 2.

Other variables: To distinguish the effect of culture from other factors, we include a rich set of economic, demographic and geographic controls at the cantonal level. To capture the quality of the health system and hospital capacity, we use data on the number of hospital beds per 1000 inhabitants. We also control for two measures of vulnerability to the pandemic: the share of population older than 65, representing the at-risk individuals and the tourism statistics which is the total number of arrivals in hotels and health establishments. Our specification also includes population density, area, share of urban and foreign population in the canton, graduation rate in higher education institutions, household disposable income, temperature and GDP per capita. These help control for the fact that they maybe potentially correlated with both mobility and the cultural traits. This information is publicly available on the FSO website. Additionally to control for the severity of COVID-19 at the local level, we control for the total cases reported and fatalities recorded. The data on daily COVID-19 statistics is taken from the website corona-data.ch, which uses official information communicated by the cantons and FOPH.

Finally, to ensure the effect we are capturing is from our stated cultural dimensions and not other elements of