

Cultural Fractionalization and Policy Response to COVID-19: A Comparative Study on the Case of OECD Countries

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Abstract

This study investigates the relationship between cultural fractionalization within a state and the stringency of COVID-19 policy responses in 38 countries. Using quantitative metrics including ethnic, religious, and linguistic diversity to measure cultural fractionalization, the study applies a standardized process of quantitative measurement to analyze the data. From a constructivist perspective, the study argues that domestic policies are shaped by the knowledge structures within society and finds that countries with more cultural fragmentation tend to have looser quarantine policies, while those with more cultural homogeneity tend to have stricter ones.

For three years, COVID-19 had been raging across all countries, during which every country stood on the same ground to fight the pandemic, which made a great impact both on economic growth and political development. There is no doubt that a pandemic is a difficult problem for all countries because no country has had adequate knowledge about the disease and potential solutions. Some may argue that a pandemic is inherently different from other crises, such as floods or earthquakes, because the cause of the crisis is clear, but during the very first stage of the pandemic, it was not (Rodriguez et al. 2007). Yet these uncertainties caused different governments to act quite differently under pressure to put forward their policies in order to stop the spread of such a novel disease and to deal with the disastrous impacts. Global action on the crisis has been triggered, but not at the same moment, nor in the same way, or with the same stringency. Measures like quarantine, distancing, closure of schools and airports, testing, and face-covering for example, are the most common policies

a government would adopt, but even though, the balance of the mixture and the stringency of each policy differs a lot among all countries.

It must be said that the pandemic has been a highly valuable opportunity for all political science research since all countries have responded to the same crisis in different ways which would provide us with sufficient information on how specific states have acted during the crisis and what could have caused the states to act in this way. Thus, this paper would like to make full advantage of the opportunity to practice a thematic study on world politics

During the ongoing pandemic, many policy-related aspects require further research. However, this article focuses on the policies that countries put forward to control the spread of the disease, which include full-scale to partial lock-downs, quarantine measures of various intensities and models, social or physical distancing, various 'track, test, and trace' measures and so on. To be clear, the speed and timing of political response to the pandemic could also differ among countries, but the timeline of response depends on when countries confirmed their first cases of the virus, which makes the evaluation of the timing highly uncertain. Because it cannot be sure whether countries act on the discovery of the virus outside the country or their own first confirmed cases, or both.

One may question how these different policy responses are related to the factors within states. This research believes that in this matter, that in this matter is the domestic culture has an impact on policymaking, it may not be the most influential factor but still has its effects directly or indirectly. This article take culture as an idea itself. Further discussion on methodology will be provided below. To begin the research, it is be assumed that domestic culture will somehow affect the policy-making process even related to an emergency such as the COVID-19 outbreak, based on common sense and true faith,

To simplify the problem, this research takes the stringency of different policies as the dependent variable, which is an index measured on twelve different indicators including testing policies, face-

covering policies, and travel controls. And to treat cultural fractionalization within states as the independent variable, and question whether there is a connection between these variables or not.

Cultural fractionalization is an index measuring whether the culture within a country is formed in a homogeneous or a heterogeneous way and how diversified it is, which is surely an inclusive concept that can be measured from many aspects. This article defines culture in a broader sense that differs from political culture studies, where scholars consider only civic culture. In this short paper, three key indexes would be measuring diversity levels: ethnic diversity, religious diversity, and linguistic diversity. To be clear, it is unclear how the three factors are independently related to outcome. It is unclear whether any cultural diversity is related to policy stringency in any way. The main reason to adopt such a method of dividing cultural fractionalization is only that it is at least one of the measures mostly used by researchers to study the problem of cultural fractionalization. At least one of the measurements must be adopted to measure cultural fractionalization, for the continuation of the research, and indeed, the trichotomy of culture could be a better solution. And these three indexes are intuitive, quantitative, and easy to evaluate, as this article would argue further below.

Literature review

In recent research, many scholars have used the comparative method to question why different policy responses between different countries occurred, but most of those studies lack discussions of domestic cultures.

Existing institutional arrangements can be a key factor in influencing the behavior of governmental responses to public health crises. Capano, Howlett, Jarvis, Ramesh and Goyal demonstrated how preparation and experience could impact leaders' decisions on fighting the pandemic (Capano et al. 2020). Countries were divided into four categories, some of the Asian countries that fought with SARS-CoV-1, H1N1, and MERS in their early years would deal with the recent pandemic more steadily and confidently. For example, China and Italy, where the virus first affected, were not prepared to deal with the novel virus, which caused chaos at the beginning. Preparation has been identified through their research as a key factor, but it fails to help

explain why countries with advanced public health systems show very different policy responses to the pandemic. This article would like to focus more on political institutions rather than on medical experiences.

In addition to public health management, governmental and political factors can have various impacts on controlling the pandemic. Toshkov, Carroll and Yesilkagit, asking what factor could account for the various response to the first wave of COVID-19 in European countries, built their research on variables including (1) general governance capacity, (2) crisis management preparedness, (3) health care specific capacity and organization, (4) political institutions, (5) government type, (6) party-political ideology, and (7) societal factors (Toshkov and Yesilkagit 2021). They were successful in organizing different factors into groups and the result is very comprehensive. But in contrast to their intricate independent variables, they set their dependent variables rather succinctly, which only measure school closure and national lockdown. The term ‘cultural factor’ that this article would like to argue in this paper is similar to the term ‘societal factors’ mentioned above, but the authors measured the quality of society only by a survey about three factors of societal value, on which this article would tend to dig deeper into the core of the question to understand where culture lies.

About how to sort out different measures adopted by governments, Nihit Goyal and Michael Howlett, use CoronaNet as a database and sort different policies into a dataset in the order of semantic categories, and keep notes on how long each policy takes its effect, from which they obtained their exciting findings (Goyal and Howlett 2021). The paper concludes that there are 16 key policies in response to COVID-19 and thus the authors questioned how it is related to governing resources. It’s interesting that they also conducted research on the key terms associated with the discussed policies, and measured these terms by their occurrence and exclusivity, by doing so, the authors aimed to measure the balance of the policy mix. Their idea of organizing the data and sorting them into groups is enlightening for this research, and this research will be using a similar method.

Similarly, in searching for the factors affecting different policy responses, Moshe Maor and Michael Howlett also conducted their research by comparing different political responses among countries and concluded that three independent factors could affect politicians in making their policies during the COVID-19 pandemic (Maor and Howlett 2020). The three factors mentioned in the paper are psychological factors, including elite panic and limited government attention spans, institutional factors, implying the level of government effectiveness, and strategic factors, including political considerations. This article will question a similar research problem but by addressing the influence of cultural factors, the difference is that their previous article proposed the factors after asking the question, while this article will do the opposite.

Different from foregoing comparative research on mass data, Paula Serafini and Noelia Novoselb did regional research on Argentina alone, questioning how local cultural understanding underpins COVID-19 policy response (Serafini and Novosel 2021). Research found that freelance workers are suffering the most from the control policies. In response, Argentina adopted a series of measures to protection of cultural works. In the paper, the authors conclude that Argentina's diverse culture made the government adopt a caring but limited cultural policy of solidarity during the COVID-19 pandemic. The following research will be conducted not in one country alone, but in 38 different countries, but the research will be looking into the effect of cultural factors similarly. There is no doubt that culture had a great influence on pandemic restrictive policies, but how it is related, was not clarified in the previous paper.

In summary, while all these scholars tried from different perspectives to question what could be the factors in the complex formation process of policy responses to COVID-19, this article attempts to have cultural and social dimensions to understand the various policies. It should be noted that sorting out different factors during the decision-making process was never an easy task, before or after the pandemic, but the novel virus brought us much closer to the secret answer of policy decision-making than did any of those political events of the past since all countries act towards the crisis synchronously. But the questions remains for scholars from all schools of thought. For example, prior research on choices of policy responses

would largely ignore the role of domestic culture and any qualities to do with it, such as cultural diversity, identity, and national character, which will be the main focus of the discussion in this short paper.

Conceptual framework

This article seeks to explain the different processes of policymaking among countries by applying a comparative method to the study. It argues, that the COVID-19 crisis provides a golden opportunity for any political comparative studies because it can bridge one of the major gaps between political facts and scientific methods which is the replication of the same motivation. In this paper, the article holds regional culture as the independent variable while examining the ‘laboratory’ of the world’s political system, for comparative policy outcomes. While the article strives to take a hard science approach in its research, it recognizes that there are many intermediate variables that cannot be thoroughly measured in the ‘black box’ of decision-making, which inevitably leads to differences between politics and hard science. However, the paper will be as precise and careful as possible in its research as it can be. It is also considered ‘scientific’ due to its adoption of a behaviorist perspective. In examining political phenomena, this research will focus only on those that are observable in order to avoid epistemological critics as much as possible. I’m aware that post-modernism distrusts any interpretation without sorting out the horizon one’s looking, from which one may even conclude incommensurability between paradigms, but this article would rather abandon the possible falsehood of epistemic intermediaries but turn to entities itself, with so-called ontological turn. However, in this paper, the research would like to simplify the philosophical analysis only to show that a spectator can annotate a political phenomenon.

While most statistical researchers tend to neglect the explanatory discussion in their study, this article attempts to argue in a constructivist way how policies are formed radically by shared ideas among actors and how actors act based on the knowledge they have

for the society, which eventually reinforces the knowledge itself. It adopts a perspective of holism and idealism in order to make such an argument. Culture, as this article argues, does not present the institution itself, implying a causal relationship between culture as a starting point and policy as result, but rather a constitutive relation between them. The detailed arguments will be presented below.

This article seeks to explain the result from a constructivist perspective, in contrast to the causal relations argued by most scholars. Culture, or shared ideas, among individuals can significantly impact how people act towards policy decisions. One may ask what kinds of shared ideas could affect policymaking because there are so many kinds of shared ideas in societies. These may include norms, rules, identities, ideology, discourse, or ideas themselves, some of them may affect the policymaking process while others may not. Reality is not as important because all actors interpret it differently. As constructivist theory suggests, both the public and politician act based on of their knowledge (or prior understanding) of the world, and the interaction reconstructs or enhances their knowledge of others. It is easy to imagined that the prior understanding direct both ends of policymaking and forms the culture between them.

Methodology

This paper gathered its data on policies mainly from two resources. CoronaNet is a project that collects all policy responses made by governments related to COVID-19, from the beginning of the pandemic. Over 500 researchers gathered data from 195 cases to collect as much information as possible. The project also includes with a table of COVID-19 Policy Intensity Scores, which will be explain and be referred to in a later section of this paper. Another source of policy data is OurWorldinData.org which has also done an excellent job of collecting information on the pandemic. Researchers on the program have created 3165 charts addressing the world's largest problems, including many related to the pandemic. On their site, policies are separated by time and region.

The ethical, religious, and linguistic diversity indexes used in this paper were collected from the work of Alesina and Ferrara et al. who compared ethnic, linguistic, and cultural fractionalization across 215 countries (Alesina et al. 2003). They gathered data on 'ethnic

composition', 'language', and 'religious affiliation' from yearbooks of *Encyclopaedia Britannica*, which collect data from official government reports and national censuses. The fractionalization of the three variables is represented by a numerical result from the 'one minus the Herfindahl index' formula, which varies from 0 to 1. A result of 0 indicates a perfectly homogeneous countries, while a result of 1 refers to the most fractionalized countries. This formula calculates the probability that two randomly chosen individuals from a country belong to different ethnic groups, speak different languages, or follow different religions. The calculation only considers groups comprising more than one percent of the country's population; smaller groups are not taken into account.

This paper selected 38 countries that are members of the Organization for Economic Co-operation and Development (OECD) for analysis. These countries are generally highly developed, and vary in size, population, culture and faith. The selection of countries from different continents allows for a broad range of development levels and policy systems to be analyzed. Membership in the OECD signifies a country's interest in participating in globalization and could also be seen as an indication of their economic development and modernization. The process of selection can be considered representative and neutral as the set of countries wasn't chosen by any scholar or organization but rather arose itself throughout history.

In choosing the countries for this study, the availability and credibility of social survey data was also taken into consideration. Developed countries tend to have more mature and reliable social survey systems, often with independent agencies responsible for their administration, such as the Bureau of Economic Analysis in the US, INSEE in France, or the Office for National Statistics in the UK. As an epidemic, COVID-19 spreads through the circulation of materials and people. Therefore, relatively developed countries, which have a higher level of globalization and were more likely to come into direct contact with the virus at the beginning of the outbreak, were selected for this study. On the other hand, less globalized countries may not

have had sufficient exposure to the virus at the beginning of the epidemic, as was the case for many less developed countries in Asia, Africa, and Latin America at the time this paper was written. Globalization was therefore an important factor in the selection of countries for this study.

Secondly, the fact that most OECD countries are developed gives their governments greater confidence in their ability to make rational and well-considered decisions. The economic success of these countries also reflects the strength of their government and the cooperation of the public. In comparison to less developed governments, developed and complete governments are better able to respond to their domestic culture, making them more valuable subjects of study. Without a mature bureaucratic system and policy-making process, political decisions made by the government may be unstable and inaccurate, and therefore lack value in research. As mentioned at the beginning of this research, it is essential to ensure that domestic cultures in the countries have at least some influences on the policy-making process, which can be achieved through a mature bureaucratic system. It is not to say that undeveloped systems are incapable of this, but rather that it would be difficult to ensure. In the development of political systems, those that act stable and accurately and interact with their cultural groups tend to succeed, while those that do not either reform or face failure.

Another reason for the paper's choice of OECD countries is to exclude China from consideration due to its unique position in the COVID-19 timeline as the place where the virus was first discovered. Other countries faced the virus more or less simultaneously, so excluding China could potentially reduce uncertainty resulting from the diachronic sequence. From today's perspective, China has indeed implemented a different pandemic policy compared to other countries, so it may be advisable to exclude China from the list of options.

Taking these considerations into account, it can be argued that OECD countries are a good choice for this research as they represent a wide range of world cultures, from Asia to America, and from Christian to Islamic. This diverse selection will likely increase the sample size and credibility of the research. While the OECD countries may not be an exhaustive choice, they provide a balance between comprehensiveness and rationality.

The question then arises about policy responses. There are several ways to classify these responses. Goyal and Howlett (2021) divided them into 16 groups: curfew and lockdown, border restriction, quarantine and tracing, government services, information management, (non)essential business, testing and treatment, public gathering, education, physical distancing, funding and stimulus, advisory and warning, protective equipment, public event, health screening, health resources. It can be seen that M. Howlett et al. have adopted a broad concept in the evaluating policy responses, including those aimed at stimulate economic growth and social propaganda. G. Capano et al. classified different policies into 18 groups: tax payment deferral, tax regulation relaxation, business loan, leave and underemployment, travel advisory and restriction, social distancing, monetary policy, health facilities, medical supplies, social security, immunization and treatment, patient care, information and advice, support for the vulnerable, school and university closure, COVID-19 epidemiology, financing relief, health-care spending. G. Capano et al. have chosen an even border concept in defining the policy responses for COVID-19, including epidemiology research and financing. In the 'CoronaNet' research project, researchers classified policies into 6 different categories, which are business restrictions, health resources, health monitoring, school restrictions, mask policies, and social distancing. The classification is rather rough but easy to manage for such a sizeable project like 'CoronaNet'.

This article would follow the classification provided by T. Hale, N. Angrist et al., which is as follows: school closure, workplace closure, cancel public event, restriction on gathering, closed public transport, public information campaigns, stay-at-home, restriction on internal movement, international travel control, testing policy, contract tracing, face covering, vaccination policy. These policies are specific and easy to measure and can be assigned to a index to measure stringency of each.

The point in time chosen for sampling in this research was mid-March 2020, when all countries were just beginning to take action

against the threats of COVID-19. The reason for not choosing an earlier or later time is that any earlier time would not have been sufficient for countries to realize the severity and novelty of the virus and to take serious action against it, and any later time would allow countries to imitate the methods of others and make their actions increasingly homogeneous. There is evidence showing how countries imitate each other in response to the threat of COVID-19. However, mid-March may be the golden period when each country acted toward the crisis independently, without any paradigms to follow. The policy stringency index calculated is presented in Table A2.

Data analysis

Table A1 shows the work summarized by Alesina et al. (2003), which this paper will use in the research. This paper will use the concept of 'Cultural Fractionalization' to measure this concept. To obtain the basic value of how each country is diversified, this article will simply add up the fractionalization index.

However, by simply adding them up, this article concludes as a *priori* that the three contribute only and equally to the diversity of culture, which this research cannot prove whether it is true or not. 'Cultural Fractionalization' is an 'untouchable' index without tools to approach it. However, it can be argued that the concept of 'Culture Fractionalization' is simply a result of mathematical calculation rather than an index representing status of society, which would avoid the criticism from empirical research. The result of the calculation of 'Culture Fractionalization' is presented in Table A2. This research will continue further research based on such calculations.

The figure is presented at the end of the document, showing the relationship between the policy stringency index and four different fractionalizations linear fitting results. The graph of the result is presented in Figure A1, Figure A2, Figure A3, and Figure A4. All four different linear fitting results have a negative slope from the calculation, but the slope of the linear fitting result in each figure is slightly different. The attribute of the linear fitting result are presented in the up-right table of each figure, including slope and R-square, which are both important for further discussion. The data will be discussed in the next section.

Discussion

As the analysis above shows, all four relations indicate a negative correlation between policy stringency and fractionalization. While this correlation may not be immediately apparent, the linear fitting result reveals the underlying tendency that may not be easily discernible. From the analysis, it can be seen that as cultural fractionalization increases, countries tend to choose a looser policy response, and as cultural fractionalization decreases, countries tend to choose the opposite.

Some may argue that the tendency should not be taken seriously if the slope of the linear fitting result is not steep enough to ensure that the two variables are truly connected. However, the first point to refute this argument would be that this research used a large group of data. This article chose a large group of countries in order to reduce error, and if all four figures indicate the same trend, it can further be argued that this should not be a coincidence due to the repetition.

The second point is that the selection of different countries may be little related to the final result. Different countries may have very different fractionalization indices across linguistics, religion, and ethnicity. A country may be highly diversified ethnically, but homogeneous in language, or vice versa, but the fitting result remains unchanged. If a country is culturally fractionalized, it may not be fractionalized in ethnicity or language, or religion, which makes it unrelated to the country selected for this research. Every country differs in its contributions to the four fractionalization indices, but the output is the same - all four show a negative correlation, which means the final result cannot be changed.

Policy stringency may be most closely connected with linguistic diversity within countries because, in all four graphics, the slope of linear fitting result of linguistic diversity and policy stringency is the steepest. This could be explained by the fact that all policies require language to propagate, and a more fractionalized country makes this process more difficult. Different linguistic groups may require additional translation for certain policies to be effective, which would

delay the propagation process. Religious fractionalization is the least relevant to policy stringency because the linear result is nearly flat. This can be explained by the fact that policy nowadays has little connection with religion. Religion may play a more indirect role in policy decisions in response to the COVID-19 crisis by affecting other factors in society, such as the strength of conservative forces.

The article would like to conclude its deduction in the following two parts. The first dimension this article to consider is interpersonal trust. Previous research identified a social factor influencing the decision-making process during the pandemic, which includes trust in government and interpersonal trust (Toshkov and Yesilkagit 2021). These studies conclude that this trust can help government be more confident in making tougher restrictive policies, which could also help explain the negative correlation in the findings. People from different ethnic groups may not tend to trust each other as much as those from the same ethnic group, religion, or language. This dimension would take interpersonal trust as the key factor in explaining the negative correlation in the findings. The distrust may emerge from a person's deepest fear of the unknown, but if one is aware that the other person shares the same cultural background, it would reduce the fear of the unknown. Between different cultural groups, this research believes that distrust could occur and be sensed by people, which would hinder confidence in adopting policies. High-trust societies would have enforced and endorsed tougher restrictive measures. Interpersonal trust is a matter of 'idea down', it is common knowledge people within a country would have shared. Once such common knowledge of trust is formed, it would not change easily.

The other dimension to consider is how shared ideas are determined by political ideologies, which is another factor that thoroughly constituted by shared ideas among individuals. This ideology would affect both immigration policy and policy response to the COVID-19 crisis - looser immigration policy allows in residents from other cultural groups and increase their cultural fractionalization. In conclusion, it is not the fractionalization itself conduce to the loose policy during the pandemic, but both of them are attributed to the ideology of the government. A government that shares a looser culture in adopting measures of policy measures would choose a looser policy on both immigration policy and restrictive measures, resulting in the

tendency the research has found. Ideology is another constituted idea among actors, and it would further instruct how an actor will act.

There are a multitude of factors that could potentially impact the relationship between cultural fractionalization and policy stringency. However, in the current analysis, I have only focused on two key dimensions: interpersonal trust and political ideology. These were chosen because they were considered to be the most relevant and had a logical connection to the main research question. Other factors, such as economic conditions, demographic characteristics, or historical context, were not included in the analysis because they did not fit well within the logical framework of the study.

It is possible that these other factors could have an impact on the relationship between cultural fractionalization and policy stringency, but they were not considered in this analysis because they were not deemed to be as relevant or important. Additionally, there may be other factors that have not been identified or analysed in this study, and it is possible that these could also have an impact on the relationship between cultural fractionalization and policy stringency. However, given the complexity of the research question and the limited scope of this analysis, it was necessary to focus on a smaller set of factors and exclude others.

In conclusion, the current analysis has provided some insights into the relationship between cultural fractionalization and policy stringency, but it is important to recognize that there may be other factors at play that have not been considered in this study. Further research is needed to fully understand the mechanisms that drive this relationship and to identify any additional factors that may be relevant. So, it is crucial to continue to explore and analyse this relationship in order to gain a more complete understanding of the factors that influence policy making in culturally diverse societies.

However, the discussions made above are only hypotheses, this research has only revealed a possibility of explaining the result based on basic logic, which still awaits further systemic research.

Conclusion

This study uncovers the inner connection between cultural fractionalization and policy response to the COVID-19 virus. Most previous studies neglect the impact culture has on policy decisions during the pandemic. The research compared previous data calculated on pandemic policy stringency and work done by Alesina et al. (2003) on the fractionalization of different countries. This article has chosen March 15th in this research to inspect different policy responses among 38 countries that entered the OECD, which would hopefully represent the rest of the world and provide trustworthy data on their cultural links. To choose an early stage of the crisis, this article aimed to state their autonomous response rather than stimulate each other's action. By comparing 38 countries across four variables and their policy stringency, this article found an inconspicuous negative correlation between cultural fractionalization and policy stringency, wherein cultural diversity rises, stringency declines.

Though the tendency is inconspicuous, this article tried to argue that the phenomenon itself is not a coincidence because it is unrelated to what and how many countries this article chooses, but an implicit relation the research has revealed. After such a phenomenon is confirmed, this article tried to explain the such matter by two possible logics with a constructivist flavor. The first is interpersonal trust, which may be lacking in a fractionalized society, and will eventually reduce confidence in restrictive policy announcements. The second is ideology, a compact style of policy-making that would affect both immigration and restriction measures in the pandemic crisis.

Some questions may be asked to inspire further research on this problem. The first problem is why some country, like the UK, are limited in language and ethnicity but diversified in religion, yet they have adopted a rather looser restrictive policy response. Those countries may be diversified in one or two domains, but narrowed in the rest, and whether they hold a looser or stricter policy, they will all be a problem for the study, which may still await further investigation into what happens in those countries. Another question is that this short research lacks a discussion on exceptions. To explain exceptions, the research needs to take a closer look at their domestic situation, which may be a deviation since the topic focus on general tendency only. Exceptions such as Canada, Iceland, and Czech could be due to

the disease in their counties wasn't severe in mid-March, but researchers still need to carefully investigate such matters. The last question would be the causal relationship between immigration policy and restrictive policy during the pandemic. This paper conjectures that both of them are influenced by a bigger concept, 'political ideology'; however, the restrictive policy could be directly influenced by immigration policy, which is the core reason for cultural relations within countries.

To study the policy response during the pandemic, scholars would be benefits not only from one temporary crisis, but would also reveal basic knowledge in policymaking. Though some of the hypothesis in this paper still awaits further verification, the tendency the paper found could be well enlightening.

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Appendix A

Table A1. Ethnic, linguistic, and religious fractionalization.

Country	Ethnic	Linguistic	Religious
Australia	0.0929	0.3349	0.8211
Austria	0.1068	0.1522	0.4146
Belgium	0.5554	0.5409	0.2127
Canada	0.7124	0.5772	0.6958
Czechia	0.3222	0.3233	0.6591
Denmark	0.0819	0.1049	0.2333
Finland	0.1315	0.1412	0.2531
France	0.1032	0.1221	0.4029
Germany	0.1682	0.1642	0.6571
Greece	0.1576	0.03	0.153
Hungary	0.1522	0.0297	0.5244
Iceland	0.0798	0.082	0.1913
Ireland	0.1206	0.0312	0.155
Italy	0.1145	0.1147	0.3027
Japan	0.0119	0.0178	0.5406
Luxembourg	0.5302	0.0021	0.6644
Mexico	0.5418	0.644	0.0911
Netherlands	0.1054	0.1511	0.1796

New Zealand	0.3969	0.5143	0.722
Norway	0.0586	0.1657	0.811
Poland	0.1183	0.0673	0.2048
Portugal	0.0468	0.0468	0.1712
Slovakia	0.2539	0.0198	0.1438
South Korea	0.002	0.2551	0.5655
Spain	0.4165	0.4132	0.4514
Sweden	0.06	0.1968	0.2342
Switzerland	0.5314	0.5441	0.6083
Turkey	0.32	0.2216	0.0049
UK	0.1211	0.0532	0.6944
United States	0.4901	0.2514	0.8241

Source: Alesina et al. 2003

Table A2. The calculation of ‘Culture Fractionalization’ and policy stringency among 30 countries (March 2020)

Country	Cultural Fractionalization	Policy Stringency
Australia	1.2489	19.44
Austria	0.6736	48.15
Belgium	1.309	50.93
Canada	1.9854	24.07
Czechia	1.3046	68.52
Denmark	0.4201	65.74
Finland	0.5258	37.04
France	0.6282	49.54
Germany	0.9895	32.87
Greece	0.3406	54.63
Hungary	0.7063	50
Iceland	0.3531	25
Ireland	0.3068	48.15
Italy	0.5319	82.41
Japan	0.5703	40.74
Luxembourg	1.1927	53.7
Mexico	1.2769	2.78
Netherlands	0.4361	53.7
New Zealand	1.6332	19.44
Norway	1.0353	51.85
Poland	0.3904	57.41
Portugal	0.3904	53.7
Slovakia	0.2648	63.89
South Korea	0.4175	55.56
Spain	0.8226	67.13
Sweden	1.2811	30.56
Switzerland	0.491	33.33
Turkey	1.6838	23.15
United Kingdom	0.5465	12.96
United States	0.8687	41.2

Source: OurWorldinData.org

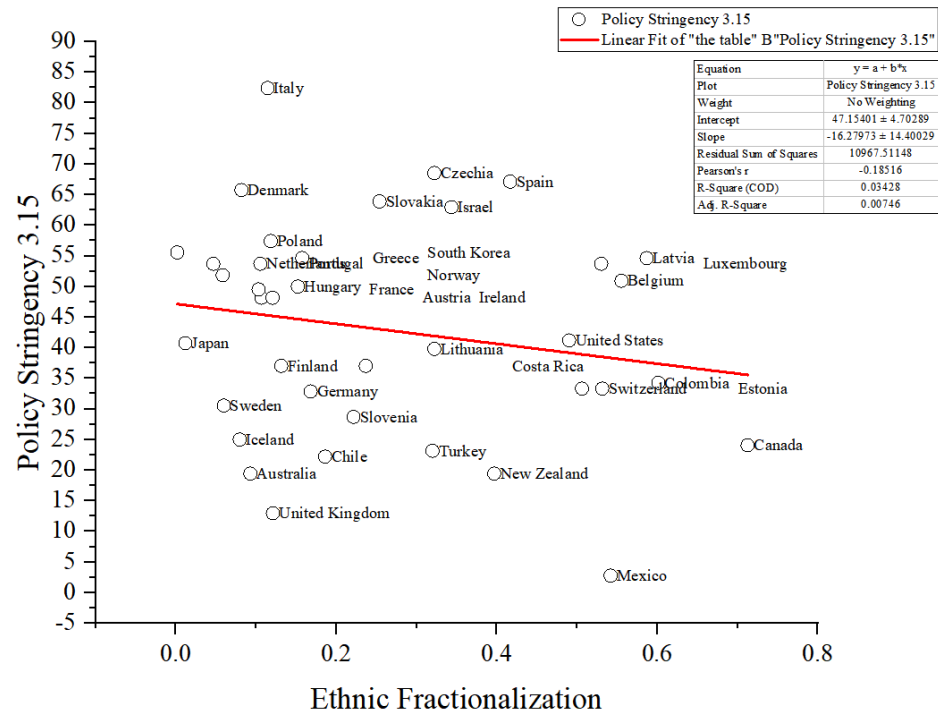


Figure A1. Ethnic fractionalization and policy stringency

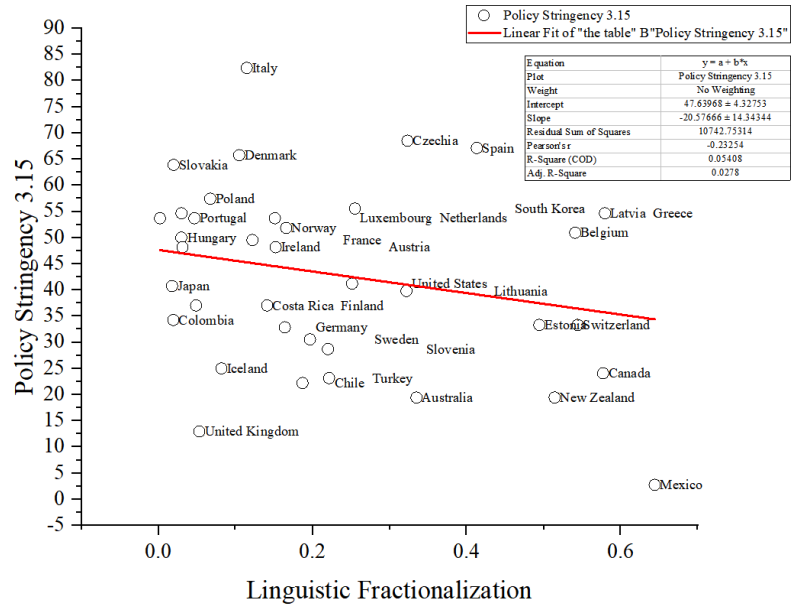


Figure A2. Linguistic fractionalization and policy stringency

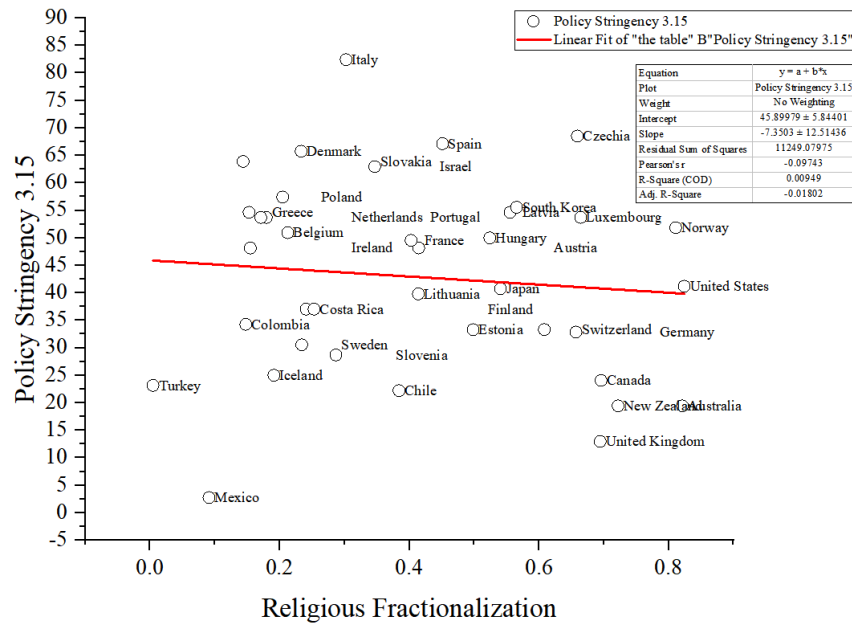


Figure A3. Religious fractionalization and policy stringency

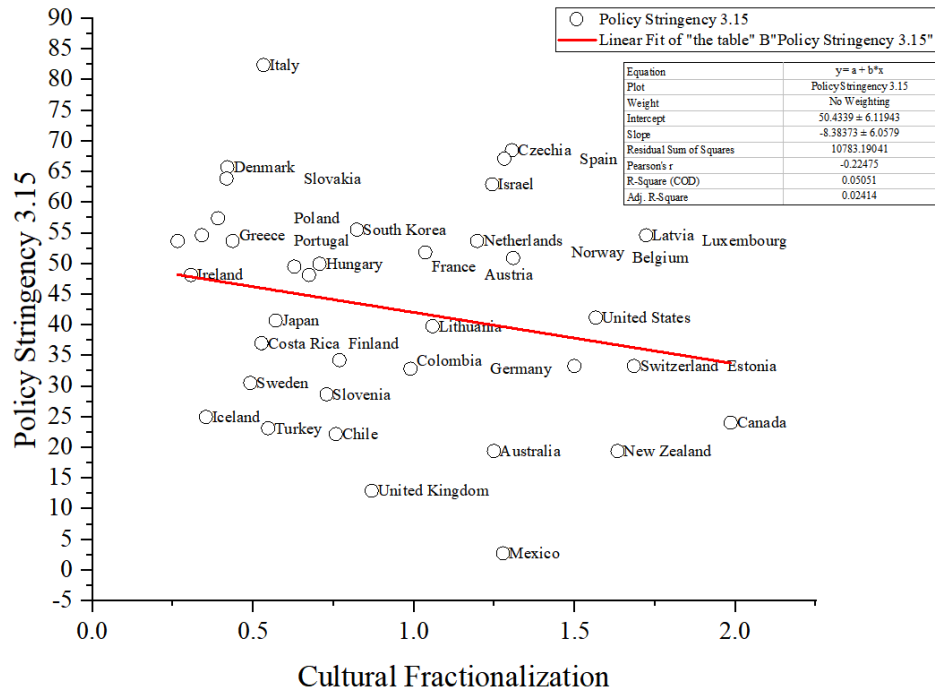


Figure A4. Cultural fractionalization and policy stringency