The power of the past: An analysis of the effect of structural determinants shaping COVID-19 policy response in the European Union

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Abstract

The COVID-19 pandemic displayed a crisis with complex policy issues and relied on the responses of national governments. This study seeks to investigate the influence of structural determinants on these responses, rather than short-term mechanisms. The responses could either be perceived as stringent or liberal, based on data extracted from the Oxford stringency index. Earlier research shows that long-term conditions have a larger effect on crisis policy response and offer more predictive results. Based on these structural determinants, five conditions were found using academic literature and turned into testable hypotheses. The level of democracy, political trust, economic development, the level of social safety net and state capacity to shape crisis policy response were derived from the literature and chosen for this research. Accordingly, a multiple regression analysis was performed to examine the relationship between a combination of these independent variables and the Oxford stringency index, serving as outcome variable. The results found that there is a significant relationship between these independent variables and the stringency index of the COVID-19 policy response. Particularly the economic development and state capacity of a state were deemed to be significant.

Key words: COVID-19, policy response, structural determinants, stringency index, liberal and authoritarian regimes, European Union

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1. Introduction

1.1 Setting the scene

Since the beginning of the COVID-19 pandemic, the first objective was to contain the spread of the virus among civilians and finding a cure accordingly. Due to policy measures and the rapidly developed vaccines, the virus could be tempered and could be mitigated from spreading throughout countries. Although the virus is still present in society and the pandemic has not come to an end, it can be valuable to evaluate the type of policy measures taken by governments to put a stop to the spreading of the COVID-19 virus. Even though the European Union (EU) member states were ambitious to cooperate and coordinate together during this crisis, each government decided its own policy response (European Commission, 2020). Different approaches were used by different European countries and it is therefore interesting to research which conditions laid the foundations for these different approaches. COVID-19 has led to a health crisis, but also creates huge complex policy issues. Governments are pressured to lead their citizens out of this crisis by taking the correct steps and following the right procedures. The national health aspect of this problem was quite simple: avoid the spread of the virus and protect people from hospitalization, or worse, death. However, the political and governmental aspect varies from country to country and can have an effect on the eventual policy response.

The COVID-19 policy response is entangled with a country's long-term policy and politics (Greer, 2020). In this research, a quantitative analysis will be made between all EU states. All member states differ in their historic aspects and have had different paths to a democratic system. Looking at the current response to the COVID-19 crisis, EU countries tend to differ from a more liberal to a more stringent style. Several conditions are behind these aspects and can be independently investigated on their influence on current COVID-19 policy restrictions. So far, governments have made policy measures in response to daily facts and numbers like hospital beds and the number of infections, but long-term conditions cannot be left unnoticed. The different approaches of governments can be exceedingly affected by structural determinants rather than crisis-related factors (Egger et al., 2021). Most research will focus on the rapid response policy of governments in short-term time frames. Be that as it may, long-term conditions have influenced policies for a longer time and should be used for research as well. These are more predictive and can serve as a more thorough explanation for a policy response. These policies can have long-lasting effects and can influence crisis policy response for future crises. Exceptional measures can be decisive for future policy and can have a durable impact on a nations' institutional factors which may impact the response issues in the long

term. For this research, several long-term conditions will be used that have had an influence on the shaping of a country (see table 1). These conditions will then be used to determine whether they have an effect on the government's policy response for COVID-19. Proceeding on the article of Egger et al. (2021) some vital aspects came forward which predominantly can shape a country's long-term policy plan.

Table 1

Overview of structural conditions

Conditions
1. Democratic experience
2. Political trust
3. Economic development
4. Level of social safety net
5. State capacity to shape crisis response

These conditions have been chosen to use in this research for their usefulness and explanatory power in answering the research question. This can be justified by investigating credible sources and academic literature. First of all, states can be influenced on a policy level by their own experiences with democracy. It can be said that a transition from an authoritarian regime to a democratic regime can have lasting effects on the social and political institutions of a state (United Nations, n.d.). Likewise, the level of political trust can shape state policy. Countries, where citizens have less trust in political institutions, tend to have more support for radical change because of the feeling of neglect from the ruling establishment (McKay et al., 2021). Next, economic development has a major influence on electing new leadership, as strong economic growth and higher wages give citizens reason to maintain the status quo (IMF, 2020). The social security situation of a nation can have a lasting effect on public policy as well and is, therefore, one of the long-term conditions discussed in this research. Government programs can have considerable influences on the socio-economic situation of unhealthy disadvantaged people within society and they temper health inequalities between social groups. Research shows this will thereafter boost the purchasing power of the poor and raise the standard of living (Shahidi et al., 2019; Lundberg et al., 2008). State capacity will then be discussed for the

reason that it is seen by Skocpol as a state's capability to implement its goals (1985, as cited in Mao, 2021). A component of this is the intergovernmental relationship within states and the ambiguity of decision-making by different levels of government (Pattyn et al., 2020). For example, Germany struggled for a long time during this crisis with their federal state structure. The federal government would be in favor of stricter policy while the regional governments would impose looser restrictions as the latter had more of an interest in economic growth and political gain rather than the public health interest of the federal government. Governments are entangled in trade-offs between public health and the economy, therefore influencing their government's effectiveness and state capacity (Deutsche Welle, 2021; Christensen & Lægreid, 2020).

Several studies have been performed to research the policy response of national governments during this pandemic. Migone (2020) has looked at the policy characteristics of national governments and compared them regarding their containment policy. It can be put forward from this that countries who acted early with a proactive approach, performed better in containing infections that holds independently from the level of stringency of the final policies. Several countries finally set up stricter policies, but missed the 'window of opportunity', and therefore had a limited effect on the national outcomes. After this window closes, the outcome relies more on government capacities regarding health care and hospital beds. Earlier research also shows that developing countries have a harder time containing the virus since it explicitly hits economically disadvantaged people the hardest (Patel et al., 2020). A country can be affected by the structure of government. For example, a federal structure, like in the United States and Germany, can create discrepancies between the interests of regional governments and the national government (Capano, 2020; Hegele, 2020). As said, some countries acted differently on the crisis than other countries did. A study from Shaw et al. (2020) on Asian countries' response policies also hammers on the fact that although pandemics are global, responses are local. This results in countries being dependent on their own national regulations and governance mechanisms.

1.2 Research question

Although current conditions and characteristics of states can have an effect on the policy response, much more effort for research should be put on the long-term conditions which are integrated into a country for years. Comparing the long-term conditions of states in this crisis response can be a valuable contribution to current research and may shape future precedents on dealing with such a crisis. It is therefore that the following research question will be adopted: what is the effect of structural determinants on the national COVID-19 policy

response of European Union member states? To answer this question, a quantitative study will be performed in which five hypotheses will be designed and tested focusing on the possible effects of five different structural determinants on the policy outcome. The terms long-term conditions and structural determinants will be used interchangeably.

1.3 Scientific relevance

The research will be the first of its kind to compare the recent COVID-19 pandemic and its policy response to structural factors of countries. A lot of papers have been written about policy responses on COVID-19. However, no paper has used these structural determinants and then applied them to different policy approaches by different European states. More stringent or liberal policy can have an influence on the policy outcomes, and it can therefore be interesting to investigate the long-term conditions behind these approaches. Linking these concepts has not been performed yet. There has been smooth European cooperation when looking at the fair distribution of vaccines. However, each country chooses its own path when determining which restriction rules apply to its citizens. It is therefore a pioneering research that focuses on recent political developments. Existing research on COVID-19 policy responses has also urged for detailed studies on this topic to get a better picture of comparative crisis management on COVID-19 (Toshkov et al., 2021). This research is doing that by providing new insights on national responses.

1.4 Societal relevance

At the time of writing this thesis, the crisis in Europe is tempered and infection rates are diminishing. This is mainly due to the rollout of the COVID-19 vaccines and the measures taken by national governments to decrease movements of their citizens (in either a strict way or a looser way). However, the virus will still circulate in society and, in the worst case, possibly lead to a new outbreak with all previous measures having to be installed again. This research can contribute to the societal and governmental response to crisis situations and particularly health crises. Although crises like these have major impacts on daily life, it is at the same time an opportunity for scholars to come up with new findings and insights on how to tackle these issues in a possible future crisis. It can be of value for policymakers when designing new regulations for policy responses.

1.5 Roadmap research

This thesis will begin with forming a theoretical framework that conceptualizes the theories that are to be used for this research. First, an explanation will be given with a thorough

look at the theories of crisis policy response and authoritarian and liberal regimes which will form the basis of the research question. Next, the conditions described above will be further explained and connected to the main theories to conceptualize and operationalize these concepts. Hereby, hypotheses will be formed that can act as a tool for answering the research question in parts. The methodological framework will be set out to give a detailed view on which approach is taken in this research and the methods that will be utilized. This research will conclude with analyzing the results and finally give a conclusion on this, while also handing out practical advice on future research.

2. Theoretical framework and conceptualization

In this chapter, the current literature will be reviewed while diving deeper into the academic research that has been performed on crisis management, policy-making, and authoritarian and liberal regimes. After this, the conditions will be further conceptualized by granting more literature that can specifically give meaning to them and place them in the context of policy formations. Prior research provides terms and information that can be utilized for forming a basis for conducting this research.

2.1 Crisis policy response

The outcome variable that is being researched in this thesis is the policy response to the COVID-19 crisis. For the sake of argument, COVID-19 will be regarded as a crisis in this research. Certain literature has defined the word 'crisis'. 't Hart (1993) defines crisis as "a breakdown of familiar symbolic frameworks that legitimizes the pre-existing political order''. Rosenthal, Boin & Comfort describe that crisis entails a threat to the core values of (the functioning of life-sustaining) systems and must be dealt with rapidly under conditions of deep uncertainty (2001, as cited in Boin & McConnell, 2007). Most of the literature on crises is focused on causes, however, there are other dimensions that are seen as crucial in defining a crisis: that is the degree of uniqueness and uncertainty and the degree of transboundary features. Ansell et al. (2010) describe these transboundary features, as crises have a tendency to cross political, functional, and timespan boundaries. The crisis that will demand the most of governments are "those that transcend administrative levels, sectors, and ministerial areas and at the same time are unique, ambiguous, complex, and involve a lot of uncertainty'' (Christensen et al., 2016). To manage a crisis a government must respond firmly and with leadership as the core values and pillars of a society are jeopardized. Governments are required to act swiftly which causes complications seeing the outcome will be uncertain and complex.

When connecting this to institutional systems, Boin et al. argue that democratic countries have more trouble handling crises than authoritarian regimes, because they face more institutional constraints like social pressures from within society and the rule of law (2017, as cited in Mao, 2021). In this regard, authoritarian regimes have more space for repressing policies and using co-opting for the social elites. It is therefore that the outbreak of a crisis like the current COVID-19 pandemic can be a challenge for democratic regimes. Another scholarly view on this is that the lack of independent information sources does in fact create a disadvantage for effectiveness of crisis policy response in authoritarian regimes (Kavanagh, 2020). Information politics like the struggle to gain accurate information and rapidly providing information to the public prevented the Chinese government from forming a speedy response at the very beginning of the pandemic outbreak. Thus, there does not appear to be consensus in the literature on the question of which government system is better at tackling crisis situations.

So, even though there is a lack of consensus on the most effective type of government regime in tackling a crisis, there are different policy responses enacted by governments. Even in times of non-crises, governments perform different policy responses. In case of a crisis, different policy responses can be seen. Some states focus on resilience at a community, individual or economic level, other states focus on mitigating economic impact, relieving pressure on healthcare etc. (Donoghue, 2020). For mitigating the effects of a crisis, it is obvious that something has to be done and that in one way or another the citizens of a state will feel the effects of this. However, the degree to which the citizens are affected depends on the policy response a government takes. Policy responses can be taken that limit the citizens' freedom to a large extent, but also some states adopt a policy response that does not curtail citizens' freedom. For this research, a distinguishment is made between two types of policy response to COVID-19: stringent/strict or liberal/loose policy response. The terms will be used interchangeably.

A stringent or strict policy response to COVID-19 is one where the government takes far-reaching and draconian measures to mitigate the consequences of the crisis. Measures such as school and workplace closings, limited (inter)national travel, stay-at-home orders, and restrictions on gatherings impact the daily life of the people (Ritchie, 2020). The rationale behind these strict measures is that the spread rate of the virus will be lowered. Indeed, there is research that proves this, such as the work of Zhang et al. (2020). However, governments can also choose to adopt a policy response that is less of a burden for their citizens. A more loose or liberal policy response implies that the freedom of the citizens to travel and continue with

their daily activities is somewhat upheld. A loose policy response to COVID-19 means that society is not fully shut down.

2.2 Liberal and authoritarian regimes

Now that crisis policy response has been further discovered, it is necessary to shed further light on the institutional background of government regimes responding to crises. The previous section already scraped a bit on the different types of regimes namely: liberal and authoritarian regimes. This research does not seek to classify countries into liberal and authoritarian states, but rather reflect upon the liberal or authoritarian structural determinants in a country and their effect on the policy response. It is, therefore, necessary to find aspects of these approaches so as to conclude whether these forms of governance have an influence on the way policy is made in a country.

In recent years the number of autocratic regimes has increased and for the 15th consecutive year, global freedom has declined (Freedom House, 2021). It is difficult to place these regimes in the policy process because of the opacity that is present in authoritarian policymaking and the difficult task to acquire numbers and facts in these settings (Ghandi et al., 2020). The decision-making is purely dominated by the autocrat who will make the decision based on information from the elites and with the minimization of the chance, it will agitate the public. Although it is common for the autocrat to personally take decisions, even in this system delegation is necessary. Complex and unpopular decisions require different viewpoints and calls for elites and institutions to take part in decision-making (Williamson & Magaloni, 2020).

According to Levitsky & Way (2002) modern democratic regimes have to suffice on four criteria: open, free, and fair elections, citizens' right to vote, political rights, and civil liberties, and the elected authorities must have real authority to govern. Although some democratic governments will neglect to achieve these criteria from time to time, it will not be systematic enough to fundamentally alter the playing field of parliamentary decision-making. In autocratic regimes, however, this will occur frequently enough to impede the democratic fundamentals. In the decision-making, process consensus is valued as the best legitimacy of political institutions of a liberal democracy (Landes, 2017). Consensus flows from the liberal school of thought of individual autonomy where every citizen has the same level of fundamental liberties and is, therefore, a central concept for liberals.

These different forms of decision-making and fundamental values in society can often be traced back to the historical background of a state. As this research seeks to uncover the effect of structural determinants on the policy response, five different structural determinants

will be explored below. They will be individually defined, placed into the context of either liberal or autocratic regimes, and placed into the policy response debate.

2.3 Determinant 1: Democratic experience

As this research tries to look at the effect of structural determinants on policy response, several long-term characteristics of European states will be studied. First, it matters whether a country has experienced a democratic system for a lengthy period. Common knowledge is the fact that the EU was initiated by Western democracies in the 1950s. Over time, other countries joined this intergovernmental political system. After communist states were failing in maintaining their political system, lots of them slowly transitioned to a liberal democracy. A result was that these former communist states applied for membership of the EU finally resulting in 11 former communist states being part of the EU (EU, 2020). In this research, the question will be asked whether these states with a short experience of democracy differ from their European counterparts who have experienced this system for a longer time.

The minimal definition of democracy was given by Schumpeter and that is a requirement for political representatives to compete over the people's vote (1942, as cited in Boix et al., 2012). Other research requires for democracy to have civil liberties, universal suffrage, or social rights and equity. Dahl uses a definition based on a high score on two dimensions: political representation and political contestation (1971, as cited in Boix et al., 2012). The notion of civil liberties, social rights, and equity are of specific relevance for this research. Democracies function in such a way to ensure that individuals are free to live their lives without being under the control of the government. This idea of liberties for citizens does not immediately erase when a pandemic hits a democracy. Citizens are used to enjoying freedom, and when their freedom is suddenly restricted, they will not let this pass without any noise.

Thus, the longer a state has experienced a democracy, the more the citizens of a state are used to individual freedoms. In a democracy, a pandemic is less likely to drastically influence the policy to implement restrictive measures. Previous research already showed that autocracies were quicker to implement measures that restricted individual freedoms than democracies (Engler et al., 2021). From this, the following hypothesis can be derived:

H1: A higher level of democracy leads to a more lenient policy response to COVID-19.

2.4 Determinant 2: Political trust

Political trust can be a sensitive indicator to use for research and has been defined in many research papers. Simply stated it can mean "the basic evaluative orientation towards the government'' (Hetherington, 1998) or "the citizen's confidence in political institutions'' (Turper & Aarts, 2017). This is founded on how well the government is operating to the normative expectation of people. A distinction can be made between specific support and diffuse support (Easton, 1965 as cited in Hetherington, 1998). With the first referring to the satisfaction with governments output and how political authorities are performing, whereas the latter refers to the public's attitude toward 'regime-level political objects' whilst not looking at performance. Political trust can be used to investigate the stability of a political system or regime and can serve as a 'reservoir of goodwill' to a government when its daily acts are failing society. Therefore, it is seen as a crucial factor that must be necessarily present in a well-functioning democratic system.

Political trust is generally seen as a pro-democratic value and seen as a necessary component for a well-functioning democracy. However, also with lower levels of political trust, a democracy can still be well-functioning. Enough research has been done on the link between political trust and the type of regime. A general consensus exists that in countries with a liberal democracy, political trust is higher than in authoritarian regimes (van der Meer, 2016). As argued above, a liberal democracy has to uphold four criteria, one of which is the right to civil liberties. Civil liberties are seen as a fundamental right and are also greatly valued by the public. In liberal democracies, the citizens are used to a certain degree of liberties and generally trust the government to uphold these liberties. Moreover, liberal democracies and their leaders enjoy maintaining high levels of political trust and thus create policies that will do as little harm as possible to the trust the citizens have in the government (Hetherington, 1998). This principle of mutual trust is important in establishing a policy to mitigate the harm of the COVID-19 crisis. Because leaders are democratically elected in a democratic regime, they act in such a way that they will be re-elected in new elections.

In times of a crisis, Devine et al. (2020) argue that trust between the government and the citizens is seen as essential to facilitate good governance. Various studies have been performed about the relationship between trust and the corona pandemic. One viewpoint is that in states with a higher level of political trust, the government seeks to manage the crisis through individual responsibility based on the principle of mutual trust (Dryhurst et al., 2020). Because the citizens trust the government, the government departs from the idea that the citizens will comply with its policy response and relies on the citizens' rationale and responsibility. Additionally, if trust is high, hard law restrictions and prohibitions seem to be outweighed by

soft law measures and recommendations. Following this, Toshkov et al. (2021) argue that in states with higher levels of trust in the government, the government is less likely to impose a complete lockdown, and if it does so, it will be slower than in states with low levels of political trust. From this the following hypothesis can be adopted:

H2: High levels of political trust lead to a more lenient policy response to COVID-19.

2.5 Determinant 3: Economic development

Development surrounds the social and economic progress of a state and it requires economic growth as a necessary condition although it cannot guarantee development. According to Nobel Prize winner Amartya Sen, economic development should be seen as an effort to advance in pursuing the individual liberties people enjoy instead of focusing on quantitative factors like GDP or income per capita (Harvard Business Review, 2012).

A common school of thought is that liberalism or a liberal democracy pursuing progressive development achieves higher levels of economic development. Examples of this are numerous, such as the United States at the end of the Cold War, but also Germany after the reunification in 1990. From the 1960s onwards the debate has been present in academia on the link between (liberal) democracy and economic development (Okilie et al., 2021). The argument that characteristics of a democracy such as (political) stability, respected human rights, and innovations create an environment in which human and capital development can be fully explored. These developments foster the economic development of a state (Goodin, 1979). Antagonists to this argument also exist and argue that liberal democracies pursue short-term profitable economic policies that foster development, but these are insufficient in the long run (Gupta et al., 1998).

The arguments presented above present the relationship from a liberal democratic perspective to economic development. For this research, it is more relevant to uncover this relationship in the other direction. Reverse thinking is required to analyze how economic development influences the policy response to COVID-19. As mentioned before, economic development in a democracy is often paired with high individual liberties and living standards indicate economic development. Knutsen (2015) argues that civil liberties do in fact promote and stimulate economic growth as it paves the way for innovation and creativity. Once the citizens of a state are used to these liberties and standards, that have been effectuated by economic development over a number of years, it is difficult for a state to adopt a policy that can restrict the liberties. Thus, the structural economic development of a country has led to higher individual liberties and living standards. The advent of a pandemic creates a difficult

scenario for states as they want to uphold economic development as well as maintain the freedoms of the citizens. Subsequently, a hypothesis can be formed from this:

H3: High levels of economic development lead to a more lenient policy response to COVID-19.

2.6 Determinant 4: Social safety net

Social security has been defined by several academics and international organizations. The International Labor Organization says "social security is a human right which responds to the universal need for protection against certain life risks and social needs'' (ILO, n.d.). A pandemic poses threats to these universal needs. When looking at the COVID-19 crisis, a lot of health care systems were not prepared for a situation like this as some countries underestimated the risk, did not have a crisis management plan beforehand, lacked the necessary equipment, or simply underfunded their social spending the last few years. There also appeared to be regional disparities within countries and differences in (de)centralized structures (OECD, 2021c). The group that was hit hardest by the pandemic were the people of social groups living in vulnerable situations like older people, disabled people, or migrants. According to research, poor people are negatively impacted the most when looking at health and economic situations. This can bring about long-term consequences with these situations of unemployment and inequality not improving after the crisis (UN, 2020). To overcome these conditions, governments spend money on providing social care for people who are in need of it the most.

Social security in a state is designed in such a way that the poor, vulnerable and disabled are protected and have access to basic needs. Most social security systems are set up to provide financial aid or benefit programs to those in need, for example when they are unable to work. The degree to which social security is covered in states differs. Social expenditures are a considerable share of the EU member states' budgets. They are meant for designing programs that oppose the growth of income inequality or social exclusion. The EU has designed a strategy for 2020 which includes inclusive growth: ''fostering a high-employment economy delivering social and territorial cohesion'' (European Commission, 2010). Several targets were set but were not met, partly due to the differences in social policies between member states. The diversity of the member states limits their possibilities to grow further in this area, although a centralized European strategy would not be a solution considering the heterogeneity between those states (Korzeniowska, 2021).

Several models have been described in research regarding the welfare systems in the original EU countries: the Scandinavian model (Denmark, Finland, and Sweden), the continental model (Austria, Belgium, France, Germany, and Luxembourg), the Anglo-Saxon model (Ireland and the United Kingdom) and the Mediterranean model (Italy, Spain, Greece, and Portugal). According to Antonelli & De Bonis three objectives of welfare policies exist the maintenance of a certain standard of living, income support for vulnerable groups, and redistribution of resources to reduce inequality (2016, as cited in Korzeniowska, 2021). Moreover, this will create an impact on the economical situation of a state. Spending 1% more on social security will increase GDP by 0.1% (Furceri & Zdzienicka, 2012). Increased social spending will raise the living standards of underprivileged groups and accordingly enable them to embrace practices that will enhance their own health (Shahidi et al, 2019). Hence, a robust welfare system will ensure further economic growth and individual opportunities thereby creating more wiggle room for maintaining a slightly more open economy during a time of crisis. Governments experience a trade-off between the well-being of their citizens and suppressing the negative economic impact. When radical measures are installed in a crisis, a state also requires to account for economic side-effects (Christensen & Lægreid, 2020). Increased social spending and therefore obtaining sufficient government resources and the possibility of stimulus packages to restart the economy, therefore give way for a more lenient approach during COVID-19. It is with this reason that the following hypothesis can be designed:

H4: High levels of social safety nets lead to a more lenient policy response to COVID-19.

2.7 Determinant 5: State capacity to shape crisis policy response

According to Mao (2021) state capacity is the ability of a state to achieve its goals from three different capacity contexts. These are administrative, extractive, and coercive and are seen as the core dimensions of state capacity (Hanson, 2018). State capacity plays a crucial role in implementing an effective crisis management system because it lets the government handle crisis by "coordinating different organizations, analyzing information and delivering public services.'' (Christensen et al., 2016). For this research, especially the administrative capacity is of relevance, because it defines the ability of a state to design and implement policy within a specific area and has the resourcefulness of regulating the economic and social spheres. Thus, administrative capacity emphasizes the ability of a state to ensure the policy is rapidly accomplished and is, therefore, a sufficient indicator when looking at crisis policy response.

State capacity influences a crisis situation in several ways. In the first place, it already plays a role in the lead-up to a crisis. The larger and better the state capacity, the more capable it is to detect (health) crises and gather information, build models to draft different policy responses, prepare communication to the public, etc. The capacity of the administration thus has an influence on the preparedness of a state for a crisis. If a state has a higher capacity, it is capable of developing protocols and plans for different (emergency) situations. Having such protocols, even though they will always need tailored adjustments to each crisis, generates a direction in the crisis response.

Moreover, crisis policy response relies on cooperation. Both vertical, within the government apparatus, and horizontal, with other field actors such as hospitals. But cooperation requires coordination and a clear alignment of tasks. The administrative capacity of a state thus plays a central role in the web of actors that are needed to tackle a crisis. For the capacity to be sufficient, there needs to be enough staff, expertise, and time available to coordinate the response by the different actors (Christensen et al., 2016). Building on the preparedness argument, the more the coordination between the different actors is set in stone before the crisis, the better the response and the less chaos there is at the time of crisis.

A principle closely related to state capacity in crisis response is government effectiveness. A state can have a large capacity of people to manage the administration, but if these people do not work efficiently the work of the government is not effective. Overkill bureaucracy, large and time-consuming policy procedures, lack of flexibility and consistency are a few of the things that hinder effective state capacity in governing a crisis (Garcia-Sanchez et al., 2013).

A combination of better preparedness, capacity to coordinate, and higher efficiency influence the policy outcome. A higher governance capacity leads to an increase in policy tools that can be used quickly. Furthermore, higher state capacity is paired with higher levels of the legitimacy of policy actions as perceived by the public (Toshkov et al., 2021). Governments mostly seek to uphold high levels of legitimacy, so they act in a way that the public will not rebel against policy actions. A combination with this thought and the idea that preparedness leads to less chaos and thus more room for a liberal policy response produces the following hypothesis:

H5: Flexible administrative capacity to shape crisis policy response leads to a more lenient policy response to COVID-19.

3. Methods

3.1 Research design

This research seeks to analyze what the effects of structural determinants are on the degree stringency of COVID-19 policy response. To answer the research question, this research will take a quantitative approach. By gathering data from 27 cases from different datasets, a new dataset will be built, and a statistical test will be conducted to uncover the relationship between structural determinants and policy response.

Quantitative analysis lends itself to uncovering the relationship between (an) independent variable(s) and a dependent variable. The five conditions mentioned in the theoretical framework are the five independent variables in this research. They are fixed in a given state, but all influence the outcome variable, which is the COVID-19 policy response. Quantitative research can be divided into the experimental and descriptive design. This research will focus on the latter, which entails that the variables are measured once, rather than before and after treatment, and seeks to establish an association between variables rather than causality (University of Southern California, n.d.).

Rather than focusing on a single or few cases, 27 cases will be analyzed. This number is picked according to the number of member states the EU currently has. Doing a case study of one or two countries could bring more in-depth information. However, for this research multiple cases are analyzed as no country in the EU is likely to pursue either completely liberal or stringent policy. Most governments have some aspects of these or go back and forth with their policy choices. The EU is however a collection of countries with shared values and a common long-term view. Also, by evaluating a few countries, this research would not contribute enough to prior research. The focus will therefore be put on these European countries whose data are easily accessible through different European and global databases. In doing this research, a big advantage will be the conglomeration of the data that is being collected for all EU member states. This way, the collected data will mostly come from matching sources. A substantiation of this case selection can be found in the following section 3.2.

A quantitative approach is adopted over a qualitative approach because more cases can be easily selected and analyzed. It is a straightforward process that can quickly collect data and analyze it using statistical software. There will be no influence of personal bias or data manipulation, as the data collected is factual and openly accessible: this factual data will be used for further research and can be exploited for policymaking. The limitation of this approach is the lack of a real detailed case analysis that dives deep into the underlying mechanisms of a

specific problem. It will not uncover the personal reasoning and sentiments that are often present in researchable contexts (Halperin & Heath, 2017).

As mentioned in the theoretical framework above, there are five conditions that need to be tested on the policy outcome. This means that there are multiple independent variables. These independent variables try to predict a single outcome, but also the combination of variables has an influence on this output. Multiple regression analysis allows us to test for the importance of each independent variable on the outcome variable.

3.2 Empirical setting

In this study, 27 cases will be analyzed. All of these cases are member states of the European Union. For a list of all states included in the analysis, see appendix A. These cases were selected for several reasons. Firstly, because these states are members of the EU, they have an overarching supranational COVID-19 policy response regarding containing the virus, aiding the national health systems, and temper the negative social and economic impacts. This includes the EU vaccination strategy where all members share expertise to develop, create and distribute the COVID-19 vaccines among its members. Also, an EU budget was set up to create a recovery plan for the coming years to overcome the economic challenges deriving from the crisis. However, national governments finally execute this individually and through their own governmental system. All 27 states remain independent, but they choose to pool some of their sovereignty in areas where it could be of value to cooperate. In practice, this means that EU members delegate some of their power on decision-making to European institutions which allow the EU to make democratic policy decisions on behalf of their members (EU, n.d.-a)

Secondly, the membership of the EU pertains to the states having a certain degree of similar norms and values they must adhere to and practice. Additionally, in order to be admitted to the EU, a country has to fulfill the conditions of Copenhagen criteria: "a free-market economy, a stable democracy and the rule of law, and the acceptance of all EU legislation, including of the euro'' (EU, n.d.-b). This will have an influence on the national policy response in the sense that a certain direction has to be chosen in designing policy. However, each country will individually assess the context of its policy situation and will subsequently take its own approach.

Thirdly, the regional proximity of the states creates a phenomenon of peeking at one's neighbors to align the policy. If countries actively seek to cooperate or in general seek to align their policies, this can influence the policy response. However, this research will remain to focus on the individual structural determinants of a state rather than the regional proximity as an indicator. Nonetheless, there are also states in the EU that have a similar history and

potentially this can influence the structural determinants that influence the policy which would be interesting to research.

Finally, also for practical reasons for data collection, the EU member states were chosen as research subjects. Because the conditions for the individual variables do not exist in a single dataset, multiple datasets have to be combined. European Union member states are generally included in these data sets and the presence of data for all states fosters this research. Although these countries operate within a community of European cooperation, it is not indisputable that this will result in identical policy outcomes. For example, corruption will more often take place in countries like Romania and Bulgaria, rather than the Scandinavian countries (European Commission, n.d.), and GDP per capita will be far higher in Luxembourg than in Poland (Eurostat, 2021a).

3.3 Methods of data collection and operationalization

The collection of data for this research consists of various steps. Because there is no single dataset that comprises all the variables, several datasets will be combined into a new data set. The new dataset will be created in Microsoft Excel and transferred to SPSS for the running of the statistical test. Section 3.4 on operationalization will explain how the variables are operationalized and created.

Even though the data of the conditions comes from different datasets, there is consistency among all cases. This means that for each case, the data from an individual variable comes from the same dataset. In other words, the inconsistency in values in different datasets forms no harm to the data in the research, because it is consistent among all cases per variable. An overview of the indicators of each variable and their origin is presented in table 2.

Table 2

Operationalization of independent variables

Variable	Indicator	Dataset origin	Year
Democratic experience	Democracy index	Economist Intelligence Unit	2020
Political trust	Trust in government	OECD	2020
Economic development	GDP per Capita	European Union Eurostat	2020
Level of social safety net	Social spending as % of GDP	OECD	2019
State capacity to shape crisis response	Government effectiveness	World Bank GovData360	2019

The democracy index as formulated by the Economist Intelligence Unit is a widely used indicator of the type of regime and the score a state receives in a given regime. On a yearly basis, the data is collected. The democracy index is based on five categories: the electoral process and pluralism, the functioning of government, political participation, political culture, and civil liberties (The Economist Intelligence Unit Limited, 2021). Based on scores per category, the countries are classified as a full democracy, flawed democracy, hybrid regime or authoritarian regime. The democracy index can be seen as a suitable indicator for the condition of democratic experience, as the democracy index is higher if a country has experienced a democracy for a longer period of time. Even though the indicator is of 2020, it is a suitable determinant for a structural condition because of the long path to democracy countries have walked. The higher the democracy index, the longer a country has experienced a democracy. It is extremely unlikely that a country switches from an authoritarian regime to a full democracy within one year. Therefore, the indicator of 2020 indicates where a state is now, which is based on the past.

Trust is difficult to measure because it can be attributed to many different aspects of public administration (Devine et al., 2020). For this research, data is taken from the OECD data portal. The data used reflects the percentage of the population that has confidence in the national government (OECD, 2021a). Similar to the democracy index, the data from 2020 was used. Even though trust can be influenced by the corona pandemic, it is still a valuable indicator

for this research because trust is something that usually grows. Unfortunately, data is missing for Bulgaria, Croatia, Cyprus, Malta, and Romania.

Economic development can be measured in different ways. It can be expressed in monetary value, but also in terms of unemployment rates, urbanization rates, or infrastructure. For this research, economic development is operationalized as the Gross Domestic Product (GDP) per capita. The indicator is used from the Eurostat Data Browser and the real GDP per capita is the ratio of the real GDP to the average population. The GDP is the combined value of the output of final goods and services by markets, general government, and non-profit institutions (Eurostat, 2021a). The GDP per capita of 2020 was used. The structural determinant of economic development looks at whether a country has experienced general economic welfare in the past until now. The GDP per capita of 2020 indicates the welfare of a state today, but similar to the democracy index, there has been a long road to this GDP. Even though GDPs per capita fluctuate yearly, albeit it often not in large percentages, calculating an average would lead to convergence of the data.

The level of social safety net is measured as the social spending of a government. The indicator of social spending is the social expenditure of (cash) benefits, direct in-kind provision of goods and services, and social-purpose tax breaks (OECD, 2020b). The data portrays social spending as a percentage of GDP. Data was accessible until 2019, so that is the data that is used. Similar to the trust in government, Bulgaria, Croatia, Cyprus, Malta, and Romania are missing cases for this variable.

The final independent variable, state capacity to shape crisis response relies heavily on the effectiveness of the government. An effective government requires high-quality public services, functioning independent of external pressures, and applying credible policies. The GovData 360 by the World Bank measures the government effectiveness based on perceptions of the quality of public and civil services, quality of policy formulation and implementation, the degree of government's independence from political pressures, and the credibility of the commitment to such policies by the government (Worldwide Governance Indicators, 2020). Data for the indicator was available until 2019.

Another way to have used the data was to calculate the average of each indicator over a period of several years (i.e. 10 years (2010-2020) to portray the structural determinant. However, an average hides large-scale or noteworthy differences and leads to convergence of data.

Table 3

Operationalization of dependent variable

Variable	Indicator	Dataset origin
Policy response to COVID-19	Stringency index	Oxford COVID-19 Government Response Tracker (OxCGRT)

The dependent variable of this research, the policy response to COVID-19 is measured through the OxCGRT as the stringency index. This index comprises nine policy measures: "school closures; workplace closures; cancellation of public events; restrictions on public gatherings; closures of public transport; stay-at-home requirements; public information campaigns; restrictions on internal movements; and international travel controls" (Ritchie, 2020). On a scale from 0-100, with 100 being the strictest response all states are indicated every day. For this research, the stringency index on the first day of every month was selected in the period March 2020-March 2021. Then the average stringency index was calculated. An average does not accurately portray extremes within a state, but nevertheless gives an indication about the stringency of policy a state has pursued. For this indicator, it was not an option to bypass averages because if it was opted to choose the stringency index at a given time, there might be large-scale differences in the number of infections. If it was opted to choose for the highest or lowest stringency index there would be too much convergence of data as especially in the first two months of the pandemic there were clear similarities.

$$Y_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \ldots + \beta_p x_{ip} + e$$

Whereby

y_i = the stringency index to COVID-19

β_0= constant

β_p= slope coefficient for each independent variable

x_{ip}= independent variable

e = specification error, or unknown difference between the truth and the statistical analysis.

3.4 Method of analysis

For this research, a multiple regression analysis will be performed to explain the relationship between the dependent variable and the different independent variables. IBM SPSS version 26 was used to conduct the analysis. The dataset was imported from Excel. All

variables were numeric, scale variables with two decimals. A multiple regression analysis was run with the dependent variable and independent variables fit in the respective designated areas. For the regression, the population size of each European Union state is the control variable (Eurostat, 2021b).

For a multiple regression analysis to be valid, there are six assumptions that have to be met, see table 4 (National Centre for Research Methods, 2011). A discussion of the assumptions is presented in section 4.2.

Table 4

Assumptions multiple regression

Assumptions	Test
1. Linear relationship between variab	Linear scatterplot
2. No multicollinearity	Collinearity diagnostics
3. Independent values of residuals	Durbin-Watson test
4. Constant variance of residuals (homoscedasticity)	Plot standardized predicted value, standardized residuals
5. Normal distribution residuals	Normal probability plot
6. No influential bias cases	Cook's distance

3.5. Validity and reliability

Multiple regression analysis has both strengths and weaknesses to the validity and reliability of the research. Reliability refers to the accuracy of how the indicator was measured (Halperin & Heath, 2017). Because this research relies on six data sources that all have different means of measuring the respective indicator, there are risks to the reliability of the indicator. There may be a lack of internal consistency per indicator as to the willingness to cooperate in research or provide accurate data differs per state. However, all data comes from renowned data sources.

The validity of research refers to the degree to which the concept is accurately measured quantitatively (Heale & Twycross, 2015). The validity of the indicators can be seen as a weakness of this research. Because the data only shows the situation in a current year, interesting findings or extremes from the past that are of (in)direct relevance to the structural

determinant can be overlooked. Moreover, the variables of this research have more than one indicator, and by choosing only one indicator, other indicators that offer potentially better explanations are overlooked.

4. Analysis

This chapter will present the results of the multiple regression analysis. First, the overall model and output will be presented, followed by an interpretation of the results and place the results into this research with the hypotheses.

4.1 Empirical results

Multiple linear regression was run to predict the stringency index of the COVID-19 policy response based on five structural determinants present in a state, see table 5. A significant regression equation was found ($F(6, 14)) = 5.183$, $p = 0.005$, $N = 21$ with a R^2 of .690 and a $R^2_{adjusted}$= .557. The stringency index of the COVID-19 policy response can be derived as follows:

$$Y_i = 54.962 - 0.412x_{i1} + 0.182x_{i2} + 0.381x_{i3} + .074x_{i4} - 16.981x_{i5} + e$$

Whereby

y_i = the stringency index to COVID-19

x_{i1}= Democracy index

x_{i2}= Trust in government

x_{i3}= GDP per capita

x_{i4}= Social spending

x_{i5}= Government effectiveness

e = specification error, or unknown difference between the truth and the statistical analysis.

The level of democracy is measured on a 10-point scale, political trust and level of social safety net on a 0-100% scale, economic development in thousands, and state capacity was measured on a scale of -2.5 to 2.5. The economic development of a state and state capacity were significant predictors of the stringency index. The multiple regression model was run with the population size as a control variable. Even though there are 27 member states of the European Union, not all states had data for all variables, the cases with incomplete data were excluded from the regression, therefore N = 21.

Table 5

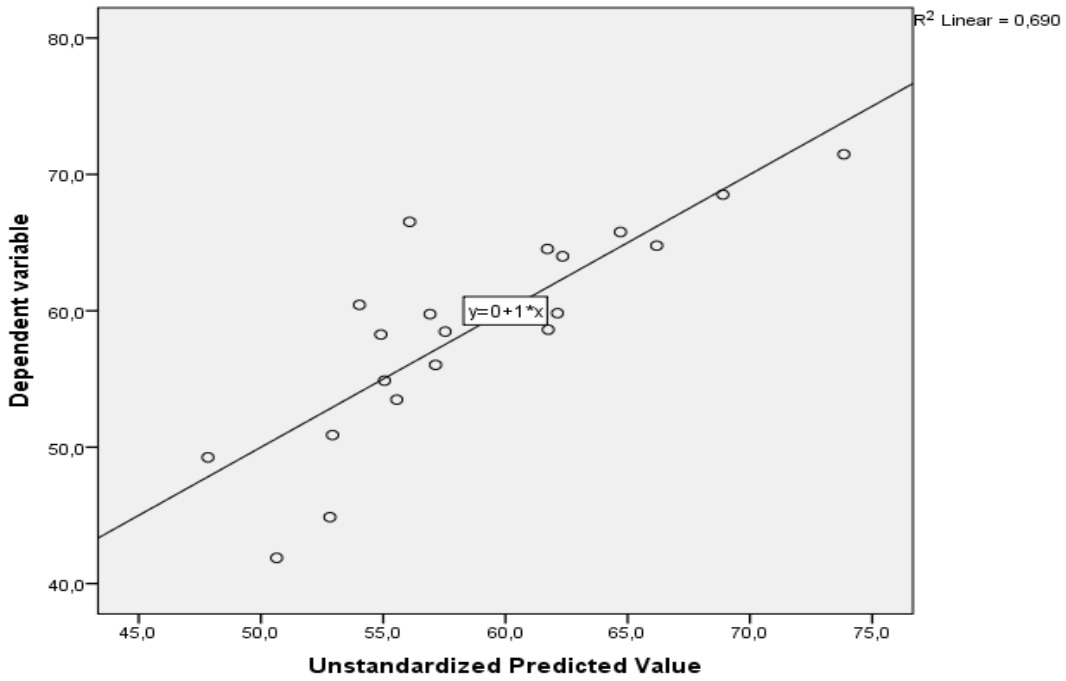
Coefficients

Model		Unstandardized coefficients
		B (Std. Error)
1	(Constant)	57.96 (25.26)
	Level of democracy	-.41 (4.25)
	Political trust	.18 (.14)
	Economic development	.38* (.16)
	Social safety net	.074 (.26)
	State capacity	-16.98** (5.20)
	Control variable: Population size	.14* (.06)

Note. * $p < 0.05$, ** $p < 0.01$

Figure 1

Scatterplot model



The scatter plot in figure 1 shows the relationship between the explanatory power of the predicted values and the outcome variable. In other words, the different values are shown for which the model with the five independent variables and population size as a control variable predicts the stringency index of the COVID-19 policy response. The figure shows that the cases are centered around the predicted value of 60 and a stringency index of 50-70%.

Below, an interpretation of the effects of the structural determinants on the COVID-19 policy response is presented. The first variable that will be looked at is the level of democracy within a country. The democracy index was used to test these hypotheses with regard to the stringency index. The results show that this variable produces a coefficient of β= -0.412, meaning that a higher level of democracy leads to less stringent measures taken by governments for the COVID-19 crisis. The hypothesis *H1: A higher level of democracy leads to a more lenient policy response to COVID-19* is therefore proved. The results, however, do show that this hypothesis is not statistically significant at the 5% level ($p > 0.05$). Therefore, no hard conclusions can be drawn on the effect of the democratic experience on the stringency of COVID-19 policy response.

Political trust was measured using the trust in government data of OECD. After performing the regression analysis, the results show a positive effect for political trust on the stringent policy response with a coefficient of $\beta = 0.18$. This is nonetheless not in line with the hypothesis formulated in the theoretical framework, namely *H2: High levels of political trust lead to a more lenient policy response to COVID-19.* This does, however, not prove the hypothesis as the result shows that higher levels of political trust lead to more stringent government policy. The results do present that political trust is not statistically significant at the 5% level ($p > 0.05$).

The variable of economic development was measured using the GDP per capita of EU member states. The results show that there is indeed a positive effect between the GDP per capita and the stringency index of the COVID-19 policy response. The coefficient of $\beta = 0.38$ can be interpreted as that having a higher GDP per capita leads to a more stringent COVID-19 policy response, which therefore rejects the hypothesis of *H3: High levels of economic development lead to a more lenient policy response to COVID-19.* The result is, however, significant at the 5% level ($p < 0.05$).

The fourth variable that was used in this analysis is the social safety net, which was gained from the data on social spending as part of the GDP of a country. A small positive effect was determined from the data, $\beta = 0.74$, thus stating that increased social spending ensures slightly more stringent policies. This finding goes against hypothesis *H4: High levels of social safety nets lead to a more lenient policy response to COVID-19* and the hypothesis is thus

rejected. The variable of the social safety net does not appear to be statistically significant ($p > 0.05$).

Finally, the relationship between state capacity and the stringency index on COVID-19 policy response was measured by data on the government effectiveness of a country provided by the World Bank. An increase in government effectiveness has a negative effect on the stringency of policy response, as $\beta = -16.981$. This result was statistically significant at the 5% level ($p < 0.05$) and also confirms the *H5: Flexible administrative capacity to shape crisis policy response leads to a more lenient policy response to COVID-19.*

The control variable in the model was the population size of the respective member states and was included as an independent variable. This coefficient $\beta = 0.14$ is statistically significant at the 5% level, implying that a higher population leads to a more stringent policy response. The inclusion of a control variable such as population size helps prevent omitted variable bias.

4.2 Assumptions

When conducting a statistical test, one has to be careful with underlying assumptions. Table 6 presents an overview of the tested assumptions. The linear relationship between the independent variables is met, although the linear relationship is small for some independent variables. No faults of multicollinearity were established as the collinearity statistics VIF values lie between 1.418-9.672. The VIF score may not exceed 10 and be below 0.2. Only the VIF score for the level of democracy is fairly high (VIF = 9.672), however, it is still below 10. The Durbin-Watson statistic has to lie between 1-3, and as close to 2 as possible. For this research, the statistic is 1.820 and therefore the assumption is met and the residuals are independent. The homoscedasticity of the residuals is fairly constant, however, there is a slightly uneven distribution, weighing towards the left and lower standardized predicted values (see appendix B). The distribution of the residuals for assumption 5 is not met, the cases do not lie on the diagonal line, indicating that they are not distributed normally. The final assumption is met because Cook's values over 1 are potential outliers, but no instances of outliers have occurred.

Table 6

Assumptions test

Assumptions	Assumption met
1. Linear relationship between variables	Yes (see appendix B)
2. No multicollinearity	Yes
3. Independent values of residuals	Yes
4. Constant variance of residuals (homoscedasticity)	Debatable
5. Normal distribution residuals	No
6. No influential bias cases	Yes

5. Conclusion

The final chapter of this thesis will present a conclusion of the findings and a discussion of the results. Next, the strengths and limitations of this research will be presented, followed by implications and recommendations for future research.

5.1 Conclusion of findings

The aim of this research was to investigate the influence of structural determinants (democratic experience, political trust, economic development, state capacity, and social safety net) would have on the policy response of EU governments during the COVID-19 crisis. In the introduction of this thesis the following research question was established: What is the effect of structural determinants on the national COVID-19 policy response of European Union member states? It can be concluded that this question is difficult to confirm or deny. Out of the five structural determinants, the multiple regression analysis showed two significant determinants at the 5% level: economic development and state capacity to shape crisis response (government effectiveness). From these two, the latter significant value proved H5, whereas the finding on economic development rejected H3. For the other three structural determinants, democratic experience, political trust, and social safety net, only the hypothesis on democratic experience, H1, was confirmed, albeit it was not significant at the 5% level, so no conclusions can be drawn from this. Thus, a mixed result was given with respect to the hypotheses from the theoretical framework. Therefore, it can be concluded that this research partially proves the

influence of structural determinants on government policy responses. A combination of the structural determinants gives a statistically significant effect on the stringency index of the COVID-19 policy response. In other words, the mutual interaction of the independent variables creates a stronger effect on the stringency index of a state rather than the individual variables alone.

When looking at the results, several findings are noticeable. It is clear that both economic development and state capacity significantly influence the stringency of policy response amidst tackling the COVID-19 crisis. Economic development shows a positive relationship with a significance of $\beta = .182$, $p < 0.05$. Therefore, with GDP per capita rising the policy will become stricter. The variable of state capacity, indicated by government effectiveness, has a negative relationship with the outcome variable. The $\beta = -16.981$, $p < 0.05$ shows the strong effect of government effectiveness on the outcome. This implies that an increase in the government effectiveness, thus a higher state capacity to shape crisis response, leads to less stringent policy measures in the battle against COVID-19.

5.2 Discussion of results

Below, a discussion of the results will be presented. First, a general discussion on the regression will be presented, followed by a discussion per variable.

First, the fact that the model is statistically significant as a whole provides support for the idea that structural determinants have an influence on the COVID-19 policy response. This finding suggests that the policy made during this large-scale pandemic was not only influenced by infection rates, deaths, and the number of available hospital beds. It is often portrayed that the policy measures taken against COVID-19 are a reaction to the statistics of a particular moment. However, this research builds on the work of Egger et al. (2021) and suggests that the past has the power to shape policy in the present.

Moreover, this finding that structural determinants can have an influence on the policy response to a pandemic provides food for thought for administrations to reconsider their structure. For example, the fact that higher state capacity leads to a more liberal policy response can be an interesting matter to consider for states when they recover from the COVID-19 crisis and prepare for the next possible crisis. Economic development in a country is not something that simply changes at a large scale every year, but it is something that is often built by a government. Similarly, the capacity of a state to shape crisis response is the result of a long process of establishing an effective bureaucracy and administration with enough staff, technology, and information.

What has to be considered is that this model shows a combination of five structural determinants, but it is likely that there are other determinants that can also explain the policy response. Furthermore, it can be argued that structural determinants are difficult to measure. For this research, it was decided to choose the data from one year. However, this does not necessarily provide for an accurate depiction of the 'structural' aspect of the condition. As one year is only an indication of the situation in that given year and does not take, for example, the past ten years into account. Also, it must be acknowledged that the severity of the crisis nevertheless has an effect on the policy response. Some member states of the EU were hit much harder (i.e. Italy) than others (i.e. Cyprus and Finland).

The β=-0.412 for the indicator level of democracy for the variable democratic experience suggests that a higher level of democracy leads to a less stringent policy response. This finding corresponds with expectations and empirical examples. For example, Sweden scores high on the level of democracy (9.26) and relatively low on the stringency index (58%), whereas Greece scores on the lower side of the level of democracy in the EU (7.39) and high on the stringency index (66%). However, the effect of the level of democracy on the outcome variable is not statistically significant at the 5% level. Therefore, no hard conclusions can be drawn on the effect of the level of democracy and democratic experience on the stringency of policy response. Moreover, the indicator 'level of democracy' does not display well enough in what sense a state is more authoritarian or liberal. It does therefore not have conditions to be viewed as an indicator that gives a complete structural outlook. The fact that one year has been used, might have troubled the findings, as the foundations of democracy traces back even further than that. It can be argued that the authoritarian backgrounds some EU member states had until the 1980-1990s, can still have an influence on the policy response to COVID-19, i.e. the effects of suppression, but the level of democracy does not reflect this. As states join the EU, they have to prove to be democracies, and therefore the range on the level of democracy indicator in EU states is limited.

When looking at the political trust variable, the multiple regression analysis shows that higher levels of political trust lead to a stricter policy response β = .182, $p > 0.05$. This finding is counterintuitive to the hypothesis developed in section 2.4. Even though the finding is not significant, it is interesting to discuss it. The rationale as described by, amongst others, Toshkov et al. (2021) that states with higher levels of trust in the government are less likely to install a (complete) lockdown because the government relies on the citizen's own responsibility, is countered by the finding in this research. A possible explanation for this is the fact that populations with high political trust often are willing to give their governments more freedom in implementing policy because of confidence in the policy outcomes. Even though there might

be interactive permissiveness between government and citizens with lockdowns being seen as less necessary, possible draconian measures are accepted by people when deemed unavoidable by the government. Another potential explanation for this finding is that the data on political trust was from 2020, a year in which COVID-19 dominated most of the year and therefore also influenced trust as people experienced influence from the government in their daily lives. Therefore, the indicator is not reflective enough on the structural component of the condition of political trust.

The indicator GDP per capita for the variable economic development, $\beta = .381$, $p < 0.05$ indicates that states with a higher GDP per capita, and thus a higher economic development have a more stringent policy response to COVID-19. It was hypothesized that states with higher economic development attach more value to individual liberties and citizens expect such liberties. Therefore, imposing stringent policy measures might lead to dissatisfaction among the citizens, something that governments want to prevent. The statistical significance of this finding suggests that there can be alternative explanations. One potential explanation can be that if states are not developed well economically, they cannot permit themselves to enter a complete lockdown with all negative economic implications and further deteriorate their economic situation (i.e Bulgaria). States that have a high economic development often have the reserves and means to protect the economy (i.e. the Dutch stimulus package).

Then, social spending has a slim effect, $\beta = .074$ on the stringency index of the COVID-19 policy response and is not valued significantly ($p < 0.05$). A possibility for this is that the gathered data included social spending as a percentage of national GDP. This number differed from country to country, but not as expected. Often, wealthier states spend less on social spending than poorer states. However, social spending is a broad concept and can incorporate many aspects. For example, cash benefits can cover a wide range of social groups and it is up to each government to determine which groups will be supported with government assistance. It also includes tax breaks for social purposes and frankly every single benefit that is not provided by the government. The result is that it can alter the percentage of social spending and thus might give a distorted image of how governments use their social spending budget.

Finally, the indicator government effectiveness for the variable state capacity, $\beta = -16.981$, $p < 0.05$, suggests that government effectiveness has a large influence on the stringency index of the COVID-19 policy response. A higher state capacity to shape crisis response leads to a large drop in the stringency of the policy. In other words, it shows that the capacity of an administration brings about preparedness for a crisis. This finding confirms H5 and is an important verdict for the practical world, such as policymakers. Namely, if we depart from the idea that states wish to interfere as little as possible with their citizens and not curtail their

liberties, the finding that more state capacity leads to less stringent measures can serve as an incentive for states to revise their state capacity to shape crisis response to ensure that in the future less stringent measures are required. However, it must be acknowledged that government effectiveness is not an encompassing indicator for state capacity, and future research can further delve into this.

5.3 Strengths and limitations

Conducting research gives insights into the feasible and problematic aspects of the performed type of research. This research has been performed by doing quantitative analysis with using a multiple regression analysis as to come to a result. In hindsight, several strengths and limitations can be listed that were present during this research.

The dataset was constructed using Microsoft Excel. Several sources were used for building this set. What gives weight to this research is the fact that the data was built using reliable sources. Indicators were measured using data from renowned and well-known institutions like the EU, OECD, and the World Bank. It was then gathered into Microsoft Excel and analyzed using IBM's SPSS. Both these applications are perceived as reliable software which is used widely in academic circles and universities. The findings that are presented come from trustworthy sources and can be (re-)checked for their authenticity, paving the way for possible replicable research. However, the establishment of the dataset and data collection was done manually by a single researcher and it cannot be guaranteed that, despite thorough checks, minor mistakes were made.

The conditions used in this research were derived from existing academic literature. The concepts are straightforward and have an extensive open character. This means that a lot of information is available on this topic and the structural determinants are widely available in academic papers.

However, limitations were also present in this research. The analysis was based on structural determinants. Still, the 'structural' part was difficult to apply as some indicators were too focused on the present situation and lacked a historical path in their indicator. Also, certain data was missing as some countries did not show up in some datasets contrary to their European counterparts. Although the missing data was not widespread, it could have an influence on the eventual outcome of the results. Moreover, what can be seen as a limitation of this research is the lack of insight into the context of the influence of structural developments on the policy response. No insight is given into the policy considerations and how structural determinants influence the debates prior to the establishment of policy. Also, it must be addressed that not all assumptions for the multiple linear regression are met. The problem seems to lie with the

variance and distribution of the residuals. The residuals indicate the distance from the observation to the predicted value. The fact that the residuals are not normally distributed may be due to the fact that the explanatory power of the individual variables is low, but the combined interactive power is higher.

5.4 Recommendations for future research

The results of this research pave the way for exploring more findings on this topic. The topic of policy responses being influenced by structural determinants is one that is open for more elaboration and research. It is able to elucidate on long-term characteristics of a state shaping present decision-making and is, therefore, a tool for predicting future policy outcomes. The issues surrounding COVID-19 will surely demand speedy policy responses. Hence, research on structural determinants provides valuable results and should be further explored in future academic papers.

Several recommendations can be made for this future research. In this study, the variable 'level of democracy' was used to measure democratic experience. However, it seems that this might not have been meticulous enough to determine whether a country has experienced democratic values for a longer period of time. Other indicators, and therefore other data, can be used to find a more detailed argument.

Future research can also provide for more cases to be used when investigating policy responses of the government. This research included the European Union member states whereas other states can shed a different light on policy responses, especially developing countries that obtain fewer resources. On top of this, a more detailed case study can be performed to give a deeper insight into the workings of structural determinants.

Finally, the variables selected have given insight into the workings of structural determinants. However, other long-term conditions can be reviewed for their influence on the policy response. Several indicators can be designed to give a more detailed analysis, collected from widely available databases. The historical aspect here can be more thoroughly explored by tracing these conditions back even further, using data from the last decades.

5.5 Final remarks

The COVID-19 pandemic has been a global health crisis and a severe policy challenge for many governments around the world. Although a lot of countries still find themselves entangled in lockdowns or in problematic health circumstances, there seems to be light at the end of the tunnel when perceiving the increasing global use of vaccines. The policy responses that were put into effect at the beginning of this crisis had to be agile and quick, sometimes

making governments take the road less traveled and carry out 100% of their decisions with 50% of the knowledge. Be that as it may, governments are now slowly finding the right way in the decision-making process. The present responses are not only shaped by the factual daily numbers, but also by long-term determinants that can shape policy for a longer period of time. It is with this regard, that a necessity exists to acknowledge the power of the past.

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Appendix A

List of European Union states included in research (alphabetical order)

Austria
Belgium
Bulgaria
Croatia
Cyprus
Czechia
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Ireland
Italy
Latvia
Lithuania
Luxembourg
Malta
Netherlands
Poland
Portugal
Romania
Slovakia
Slovenia
Spain
Sweden

Appendix B

SPSS output

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,830[a]	,690	,557	5,05053870	1,820

a. Predictors: (Constant), CV: Population size, Economic development, Level of social safety net, Political trust, State capacity , Level of democracy

b. Dependent Variable: Outcome variable: stringency index

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	793,309	6	132,218	5,183	,005[b]
	Residual	357,111	14	25,508		
	Total	1150,420	20			

a. Dependent Variable: Outcome variable: stringency index

b. Predictors: (Constant), CV: Population size, Economic development, Level of social safety net, Political trust, State capacity , Level of democracy

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	57,962	25,258		2,295	,038		
	Level of democracy	-,412	4,254	-,045	-,097	,924	,103	9,672
	Political trust	,182	,136	,405	1,337	,203	,242	4,136
	Economic development	,381	,159	,701	2,390	,031	,258	3,875
	Level of social safety net	,074	,259	,051	,286	,779	,697	1,434
	State capacity	-16,981	5,195	-1,073	-3,268	,006	,206	4,865
	CV: Population size	,143	,056	,456	2,569	,022	,705	1,418

a. Dependent Variable: Outcome variable: stringency index

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions						
				(Constant)	Level of democracy	Political trust	Economic development	Level of social safety net	State capacity	CV: Population size
1	1	6,180	1,000	,00	,00	,00	,00	,00	,00	,01
	2	,570	3,294	,00	,00	,00	,00	,00	,00	,63
	3	,147	6,484	,00	,00	,00	,16	,03	,01	,08
	4	,058	10,346	,00	,00	,08	,35	,01	,16	,06
	5	,028	14,989	,01	,00	,14	,00	,64	,13	,14
	6	,017	19,149	,01	,00	,62	,00	,31	,47	,03
	7	,001	95,672	,98	,99	,15	,49	,00	,22	,06

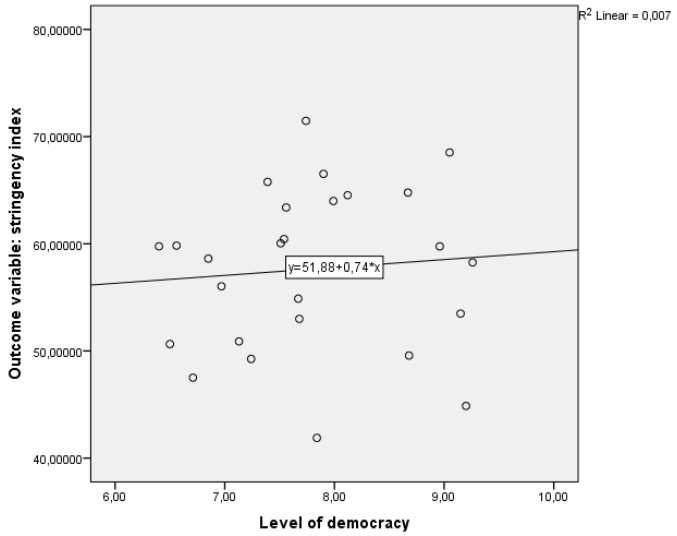
a. Dependent Variable: Outcome variable: stringency index

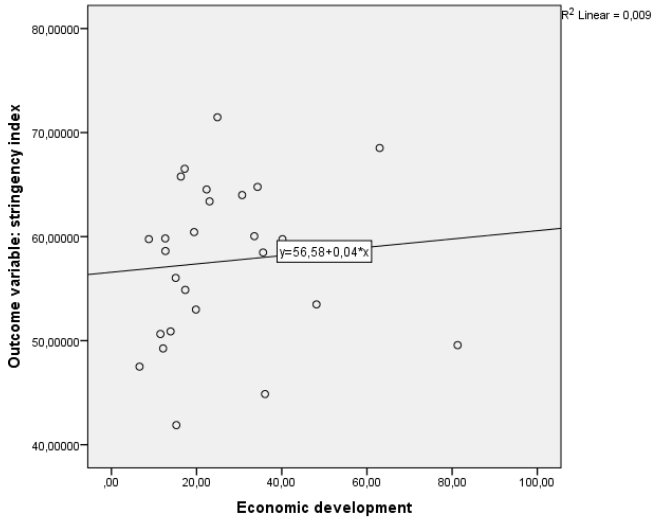
Residuals Statistics[a]

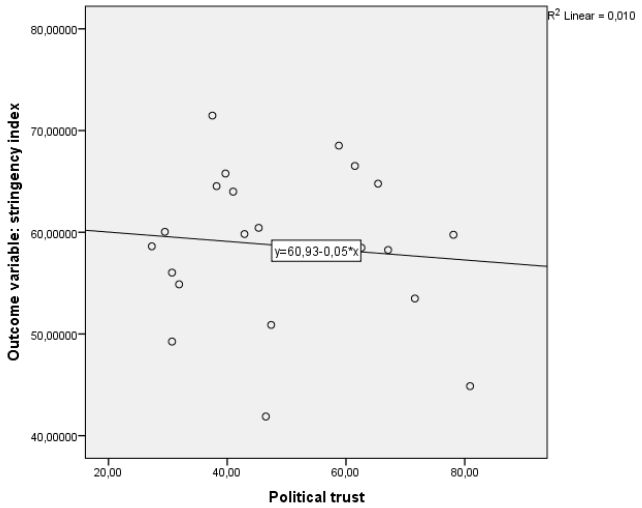
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	47,8306465	73,8417130	58,6818676	6,29805043	21
Std. Predicted Value	-1,723	2,407	,000	1,000	21
Standard Error of Predicted Value	1,541	4,581	2,840	,678	21
Adjusted Predicted Value	47,0590591	75,7936935	58,9696947	6,73165010	21
Residual	-8,76045132	10,44380569	,00000000	4,22558384	21
Std. Residual	-1,735	2,068	,000	,837	21
Stud. Residual	-1,998	2,343	-,021	,975	21
Deleted Residual	-12,80796146	13,40618038	-,28782706	5,80207745	21
Stud. Deleted Residual	-2,277	2,896	-,018	1,099	21
Mahal. Distance	,908	15,503	5,714	3,240	21
Cook's Distance	,000	,349	,051	,087	21
Centered Leverage Value	,045	,775	,286	,162	21

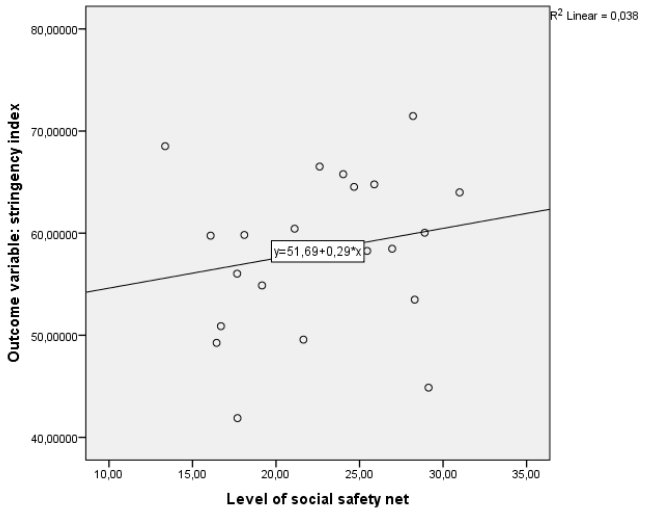
a. Dependent Variable: Outcome variable: stringency index

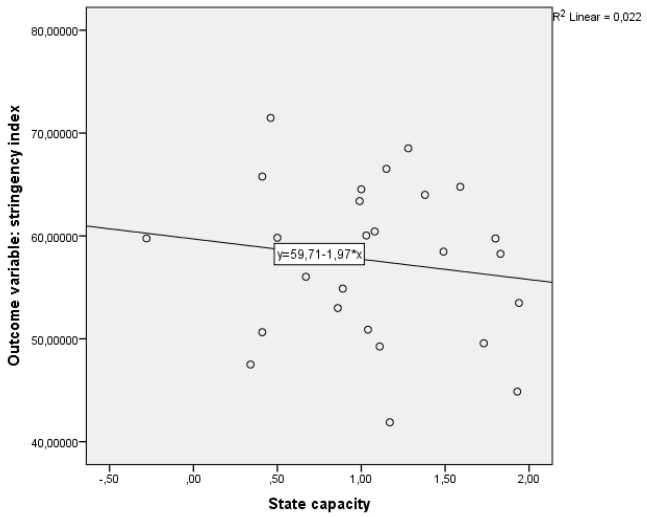
Assumption 1: Linearity



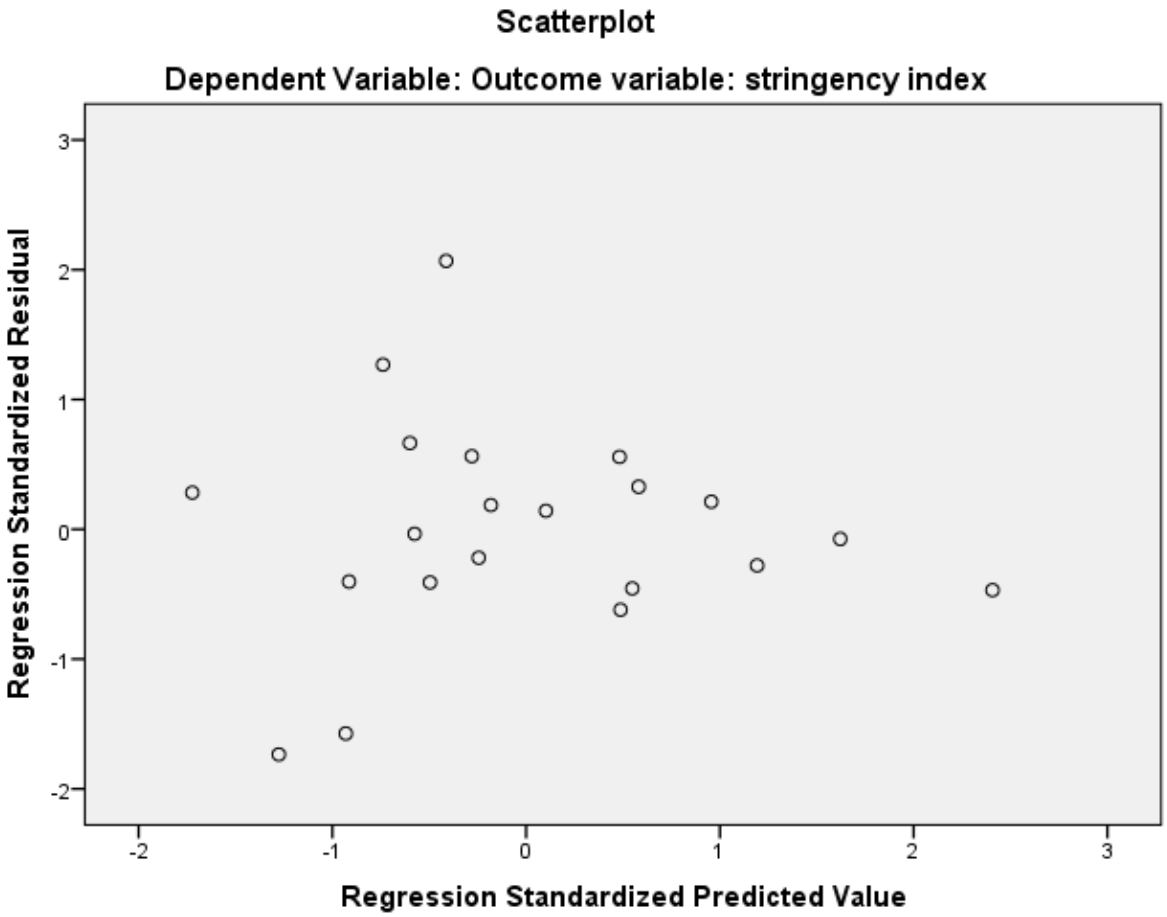

R² Linear = 0,009
Outcome variable: stringency index
80,00000
70,00000
60,00000
50,00000
40,00000
y=56,58+0,04*x
,00
20,00
40,00
60,00
80,00
100,00
Economic development


R² Linear = 0,010
Outcome variable: stringency index
80,00000
70,00000
60,00000
50,00000
40,00000
y=60,93-0,05*x
20,00
40,00
60,00
80,00
Political trust

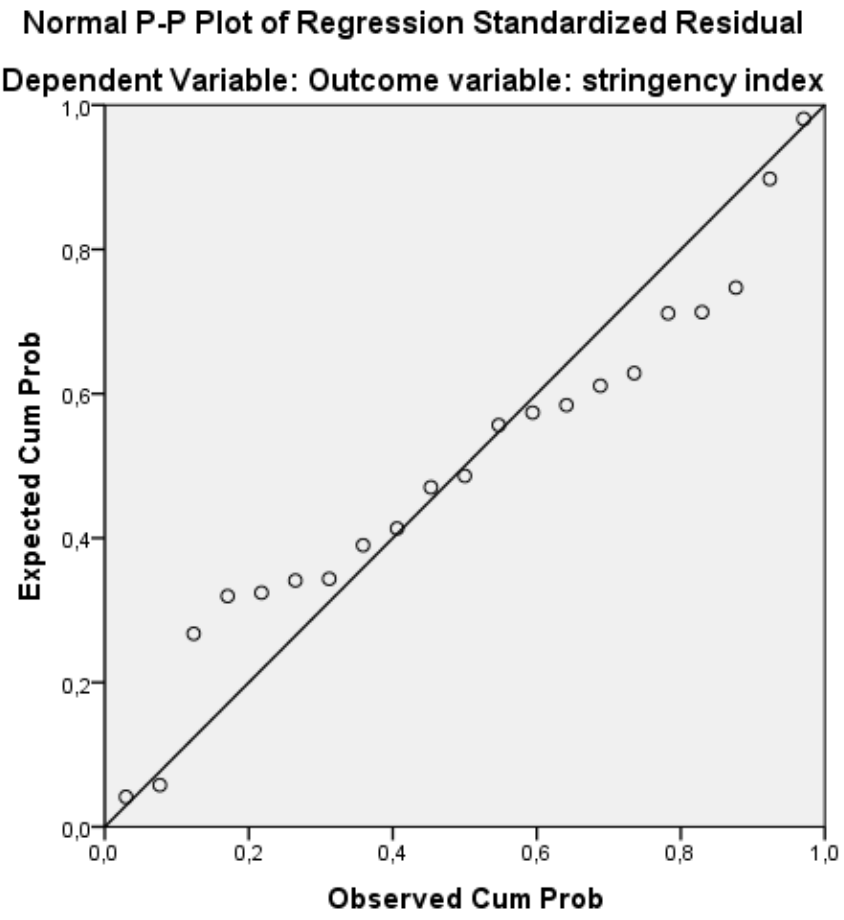

R² Linear = 0,038
Outcome variable: stringency index
80,00000
70,00000
60,00000
50,00000
40,00000
y=51,69+0,29*x
10,00
15,00
20,00
25,00
30,00
35,00
Level of social safety net



Assumption 4



Assumption 5



Appendix C

Dataset

	Country	Levelofdemocracy	Politicaltrust	Economicdevelopment	Levelofsocialsafetynet	Statecapacity	Outcomevariablestringencyindex	CVPopulationsize	PRE_1	COO_1
1	Austria	8,16	62,60	35,61	26,95	1,49	58,47538	8,9327	57,53499	,00208
2	Belgium	7,51	29,50	33,56	28,90	1,03	60,04308	11,5560	59,32356	,00526
3	Bulgaria	6,71	.	6,60	.	,34	47,50692	6,9165	.	.
4	Croatia	6,50	.	11,50	.	,41	50,64077	4,0364	.	.
5	Cyprus	7,56	.	23,05	.	,99	63,38923	,8960	.	.
6	Czechia	7,67	31,90	17,34	19,16	,89	54,87846	10,7018	55,05385	,00008
7	Denmark	9,15	71,60	48,15	28,30	1,94	53,49000	5,8400	55,55646	,01281
8	Estonia	7,84	46,50	15,25	17,69	1,17	41,88231	1,3301	50,64276	,16020
9	Finland	9,20	80,90	36,07	29,13	1,93	44,87154	5,5338	52,81877	,34867
10	France	7,99	41,00	30,69	30,99	1,38	63,99538	67,4390	62,33950	,01869
11	Germany	8,67	65,40	34,31	25,88	1,59	64,77923	83,1550	66,18796	,02825
12	Greece	7,39	39,70	16,30	24,02	,41	65,77615	10,6825	64,70231	,00675
13	Hungary	6,56	42,90	12,64	18,10	,50	59,82846	9,7308	62,13079	,04116
14	Ireland	9,05	58,80	62,98	13,36	1,28	68,51769	5,0059	68,89329	,02069
15	Italy	7,74	37,50	24,89	28,20	,46	71,47462	59,2576	73,84171	,04722
16	Latvia	7,24	30,70	12,13	16,44	1,11	49,25538	1,8932	47,83065	,00949
17	Lithuania	7,13	47,40	13,89	16,70	1,04	50,89000	2,7957	52,92541	,00902
18	Luxembourg	8,68	.	81,29	21,64	1,73	49,57231	,6347	.	.
19	Malta	7,68	.	19,84	.	,86	52,99231	,5161	.	.
20	Netherlands	8,96	78,10	40,16	16,08	1,80	59,75692	17,4754	56,91517	,03908
21	Poland	6,85	27,30	12,68	21,34	,60	58,61846	37,8400	61,75041	,01518
22	Portugal	7,90	61,50	17,20	22,61	1,15	66,52462	10,2983	56,08081	,22242
23	Romania	6,40	.	8,78	.	-,28	59,75846	19,1852	.	.
24	Slovakia	6,97	30,70	15,09	17,67	,67	56,03538	5,4598	57,14206	,00141
25	Slovenia	7,54	45,30	19,42	21,11	1,08	60,43385	2,1090	54,02826	,02599
26	Spain	8,12	38,20	22,35	24,67	1,00	64,53077	47,3942	61,71625	,02259
27	Sweden	9,26	67,10	42,65	25,45	1,83	58,26154	10,3793	54,90426	,02449