Blanquerna
RAMON LLULL UNIVERSITY

School of
Communication and
International Relations

UNDERGRADUATE DEGREE IN INTERNATIONAL RELATIONS

FINAL DEGREE PROJECT

The socio-economic consequences of the Covid-19 pandemic on European economies and their economic responses to the crisis.

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Date: 31 May 2021

Abstract:

The economic crisis caused by the Covid-19 pandemic has led to a widespread recession. Its socio-economic impacts could potentially be devastating and long-lasting. Europe has been especially hit. To try to mitigate the negative economic impact, EU Member states have taken fiscal and monetary measures to an unprecedented extent. In this context, this study aims at examining the unequal impact of the pandemic across eight EU Member States. It finds that the impact in terms of GDP and unemployment has differed greatly amongst the countries examined, with southern countries being substantially more impacted, particularly in terms of GDP growth. The study then analyses the measures taken by the countries to limit the pandemic's negative socio-economic consequences. To do so, it groups the measures into four categories depending on who they target: companies and self-employed, individuals, households or the public sector capacities. Finally, the study takes a normative turn to discuss whether the countries' socio-economic responses have been "fair", using Rawls's Theory of Justice which is one of the most influential theories in the field of distributive justice. It finds that while a priori most measures can indeed be considered "fair", it is too soon to conclude - as it depends on how they will actually be implemented.

Key words: Covid-19 pandemic, socio-economic impacts, European economies, Fiscal and monetary measures.

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Acknowledgements:

I would firstly like to thank my supervisor Claudia Saba whose knowledge and expertise was invaluable to me; your insights helped me throughout all the steps of the elaboration process of this research project, but were especially useful to help me find the right approach to the topic and the right structure for this study. I also want to thank you for your patience, optimism and encouragement.

I also want to express my sincere thanks to the two interviewees; Alessandro Trevisan and Antonio Teixeira, who provided me with extremely useful knowledge and recommendations that have helped shape this research.

Lastly, I would like to thank everyone who helped, supported and encouraged me to carry on with this project; from my classmates to my friends and family.

Glossary:

- **Economic measures**: for the purposes of this paper will be defined as the fiscal and monetary measures taken by the national governments as well as some changes in regulations.
- **Fiscal measures:** government measures having an impact on its budget either in spending or tax revenue.
- **Fiscal packages/stimulus packages:** a group of fiscal measures designed to stimulate the economy. In the context of this study, fiscal packages refer to the publicly announced measures taken by a Member State to foster economic growth during the recession caused by the pandemic.
- **Automatic stabilisers:** ongoing fiscal instruments whose goal is to offset the natural fluctuations of the economy's business cycle.
- **Monetary measures**: measures taken by the monetary authorities at the state level or by the European Central Bank to control interest rates and money supply to achieve macroeconomic goals, as for example fostering economic growth during a recession.
- **Sovereign debt interest rates:** interest rate at which national states can issue debt. It represents their cost of financing.
- **Sectoral composition/ structure**: for the purposes of this paper will be defined as the structure of an economy, meaning the share of the different economic sectors in the overall GDP.
- **Gig economy:** is a flexible market system in which predominantly short-term workers and freelancers are hired instead of the traditional long-term employees. Some examples include food delivery companies such as Uber Eats or Deliveroo.
- **Zombie companies:** companies that are currently operating but are not financially viable without state support and thus the risk of bankruptcy is high.

1. Introduction:

The economic crisis caused by the Covid-19 pandemic has led to a widespread recession. The lockdowns and the mobility restrictions imposed by countries around the world have had a huge socio-economic impact and have disrupted the global supply chains:

> *Although the global economy is growing again after a 4.3% contraction in 2020, the pandemic has caused a heavy toll of deaths and illness, plunged millions into poverty, and may depress economic activity and incomes for a prolonged period.* (World Bank, 2020)

Europe has been especially hit by the pandemic and its socio-economic impacts could potentially be devastating in the short-term, medium and even long-term. Due to the slow rollout of the vaccination campaign in the EU, restrictions are likely to stay in place, at least in parts, until summer 2021. A full economic recovery to pre-pandemic levels in terms of GDP/ capita, GDP growth and unemployment may take a long time.

To try to mitigate the negative socio-economic impacts of the Covid-19 crisis, EU member states have taken economic measures to an unprecedented extent and have mobilized fiscal resources of equally unprecedented amounts.

In this context, this study aims at examining the unequal impact of the pandemic across eight EU Member States and at analysing the economic measures that these states have taken in order to limit the pandemic's negative socio-economic consequences. On this basis, the study then assesses whether these measures have been fair based on Rawls's *Theory of Justice* which is one of the most influential theories in the field of distributive justice.

Taking into consideration the huge financial efforts undertaken by the national governments to foster the recovery, analysing not only the measures and its impacts but also their redistributive effects seems particularly important and key for effective policy making.

2. Methodology:

2.1. Research question and objectives of the study:

This paper's main objective is to reply to the following research question (RQ):

RQ: *"To what extent is the different economic impact of the Covid-19 pandemic across European countries associated*[1] *with different national economic responses and to what degree have these responses followed Rawls's theory of justice?"*

Crucially, the research question lays out three objectives: First - using available data- to prove that the degree of the economic shock caused by the pandemic has been substantially different across eight EU Member States. Second, analysing the countries' economic responses. In this paper, "economic responses" refer to the fiscal and monetary measures that national governments have taken to deal with the economic shock caused by the mobility-restriction measures put in place to stop the spread of the pandemic. Lastly, this study takes a normative turn to comment on the morality of these responses. To do so, "Rawls's theory of justice" - one of the main theories in the field of distributive justice - is applied to economics. In other words, the third objective of this paper is to comment on whether the countries' economic responses can be considered to be "fair" under a Rawlsian perspective. A fair response would entail that those individuals and companies that have been particularly affected by the pandemic, together and the most "vulnerable" members of society, are protected in a targeted and deliberate manner.

For feasibility reasons, the time frame of this study - covers only the year 2020 in a selection of eight Eurozone countries, starting in January 2020 when the first Covid-19 case was reported in Europe. Expanding the time frame is not possible because, at the time of writing, most of the data for the year 2021 has not been published yet.

The countries covered by this study are the following: **Belgium, France, Germany, Greece, Ireland, Italy, the Netherlands, and Spain**. This selection is based on the following

[1] This study does not aim at establishing a casualty relation between the economic impact of the Covid-19 pandemic and the different economic responses by EU Member States. Whereas one could indeed have led to the other, the goal of this study is simply to provide an overview of both, without establishing casualty or correlation.

considerations: first of all, this list includes the major economies of northern Europe (Germany, the Netherlands and Belgium) and the main economies of southern Europe (France, Spain and Italy). This choice is important because - as will be explained later in this paper - northern economies have been less affected than the southern ones. To make the study more representative, two small countries (in terms of GDP) have been added, one from the North (Ireland) and one from the South (Greece). According to Sapir (2020), economies in which tourism plays a major role (e.g. contribution to GDP or people employed in this sector) have been more affected than countries where it played a lesser role. Because of this, the inclusion of Greece in addition to Spain and Italy - all three specialising to a high degree in tourism - allows verifying this phenomenon. Greece is also interesting because it is the second most affected country in terms of GDP decline (-8.2% of GDP) after Spain (-10.8% of GDP)[2], but has a relatively low number of Covid-19 cases (Stewart,2021). This preliminarily indicates that even countries that did not suffer a major epidemic impact - in terms of the number of Covid-19 cases- can still be significantly affected by the pandemic's socio-economic consequences. Because it is the only country whose GDP grew in 2020 (by 3.4%)[3], Ireland, being the "deviant case", can help to understand the reasons for its successful management of the pandemic's economic impact.

2.2 Structure of the study:

This study consists of two main parts. Phase 1 consists of empirical research, and Phase 2 is a normative discussion. Phase 1 uses data to show the unequal impact of the Covid-19 pandemic on European economies and qualitatively analyses the countries' economic responses. Phase 2 discusses the economic responses under a Rawlsian theoretical framework. The study is therefore interdisciplinary [4] as well as of mixed nature - empirical and theoretical. Another key element is the triangulation of the findings through the carrying out of two interviews with two economists - Alessandro Trevisan and Antonio Teixeira - who are currently working at the EU Commission. In these interviews, Chattam House Rules were applied and thus their ideas and insights have been used during the elaboration process of this study but are not explicitly mentioned and will not be quoted.

[2] See Table 1 in the findings section of this paper.
[3] See Table 1 in the findings section of this paper.
[4] As stated before, Rawls's *Theory of Justice* is a theory belonging to the field of distributive justice - thus a political theory- wich is combined in this paper with an economic empirical study.

With all the above in mind, the following section will discuss more in-depth the structure of Phase 1 and Phase 2.

Phase 1: **To measure the differentiated impact of the economic shock caused by the pandemic across the countries** a range of different indicators can be used such as GDP growth, GDP at Purchasing Power Parity (GDP PPP), unemployment rates, price indexes (CPI and PPI), consumer confidence, retail sales, trade balance, foreign direct investment (FDI) etc. This study will focus on two; GDP growth and unemployment rates. The reason behind this choice is the following:

- GDP is the most commonly used indicator because it provides information about the size and performance of an economy. The growth rate of real GDP is often used to measure its health because it is widely recognised that an increase in real GDP growth indicates that the economy is doing well. However, this indicator is also often criticised because it only measures the total output/ production of goods and services, but an economy can grow and at the same time perform poorly in other variables that are commonly associated with society's wellbeing such as good governance, quality of institutions, provision of social services etc. It also solely measures the country's total wealth and does not take into account inequalities, wealth distribution, and does not measure the informal economy. Albeit these shortcomings, it is still the most complete and widely used indicator and therefore suitable for this study.

- Unemployment is traditionally closely related to crises because it tends to be high during such it. At the peak of the worldwide recession that began in 2008, the International Labor Organisation (ILO) declared that unemployment had reached the highest levels since the Great Depression (Öner, 2020). However, the measure has some limitations, too: official unemployment rates do not capture the totality of the economy as the workers in the informal economy are not counted in the national statistics as they are by definition not legally registered. Considering that the share of the informal economy is between 13 per cent and 30 per cent of GDP for the eight selected countries, this is quite relevant (see appendix 1). Another aspect it misses out on is how long workers that do have a job work; it could very well be the case that unemployment rates decrease or stay stable, but working hours decrease too. Finally,

employment conditions are not measured either. Thus, it does not capture a deterioration, as illustrated by the debate around the workers in the gig economy, who often gain low salaries and lack social cover and insurance.

The analysis of the countries' economic policy responses to the economic shock caused by the pandemic is done based on data extracted from the EU Commission database laid out in the EU Commission (2020) document. [5] This document contains the economic measures taken by the national governments in 2020 - that have an impact in this same year- and aim to mitigate the socio-economic consequences of the pandemic. These measures include mostly fiscal measures, changes in regulations, and some monetary measures. This data has been qualitatively analysed and operationalised.[6] The results are shown in Table 3 (see findings section), which lists 18 categories of the most common types of economic measures that have been used. To triangulate the findings, a report published by the European Central Bank, also analysing the early fiscal and monetary measures taken by the Eurozone countries - as a whole - in 2020, will be used.[7]

This analysis nevertheless has the following limitations; the first limitation is the lack of data availability in the same manner for all the countries under study. This is mainly because governments do not publish a consistent track record of all the economic measures they take, making data collection challenging. Moreover, even the measures publicly announced as part of the Fiscal Packages were often substantially revised thereafter (Haroutunian et al. 2021, 5). The use of one single document and the triangulation of data aim to address these shortcomings, but some measures might have been missed. There is also no comprehensive data on the length during which each measure was implemented.

[5] The selection of only one document as the basis of the analysis has been done on purpose for feasibility reasons. By using only this document comparison can be made across countries. Because the same source is used as well as a similar level of details are provided.

[6] To see how the information of the EU Commission database contained in the document "EU Commission (2020)" has been operationalised and see appendix 3.

[7] While the study conducted by the ECB - See Haroutunian et al (2021) - does not analyse each country individually it provides the general tendency of the Eurozone countries, which in itself is useful to "double-check" the findings of this study. The ECB's study can in a way been seen as complementary to this study because while it discusses general patterns this study looks at eight of the Eurozone countries individually.

Summing up, the data and documents used in Phase 1 are the following:

Primary sources:

- GDP growth by country for the year 2020 retrieved from Eurostat's website
- Aggregated unemployment data by country for the year 2020 retrieved from Eurostat's website

Secondary sources:

- EU Commission database on the list of measures taken against the spread and impact of the Coronavirus (European Commission, 2020)
- Haroutunian et al. (2021) - published by the European Central Bank

Phase 2: **will discuss whether countries' economic responses have been "fair" under a Rawlsian perspective** by using Rawls's book, *A Theory of Justice* (1971). In addition, this paper will provide some policy recommendations. The literature review - located in the following section - will discuss in-depth Rawls's theory to facilitate the understanding of Phase 2.

3. Literature review and theoretical framework:

A growing number of articles address the impact of the Covid-19 crisis on the European economies. But most articles cover either a specific topic or a partial explanation of why the Covid-19 pandemic has affected countries differently and only a few articles cover the economic impact of the pandemic on European economies as a whole. Most of the literature tends to focus on the differences linked to the sectoral structure of the economy and, in particular, the weight of the tourism sector. The same issues - to an even more considerable extent - are valid for the articles concerning the measures taken by the different Member States. There are no academic articles comprehensively tackling the subject of this research. However, I present in Appendix 2 the list of the main articles consulted.

Because of all the above, the purpose of this literature review is to serve the second half of the research question - Phase 2 - by explaining Rawls's *Theory of Justice* and how some authors have translated it to an economic context.

3.1 Theoretical framework: A Theory of Justice by Rawls

Rawls's book *A Theory of Justice* (1971) is one of the most influential political theories of the late 20th Century. This theory is rooted in the liberal and contractual schools of thought. It integrates Lock's and Rousseau's ideas regarding the creation of a "social contract" between individuals and the state as well as elements of Kant's "categorical imperative". Crucially, Rawls sees individuals not as a means to an end but rather as an end in themselves. He, therefore, argues that the state is morally obligated to preserve each individual's dignity.

Rawls's main contributions to distributive justice are his ideas on what an ideal society looks like. He claims that such society should be based on "fairness" and establishes two principles that are necessary for the creation of this fair society:

The first principle relates to the political rights of each individual (e.g. freedom of expression), which should be guaranteed to each person to the broadest extent possible without interfering with these same rights of other individuals.

The second principle, *"the difference principle",* tackles the distribution of economic and social rights. While Rawls argues that the system should be mainly egalitarian, a fair system

can tolerate inequalities only if they make all -including the "least advantaged" - be "better off" than if all resources were shared equally (Rawls, 1971,86). In this regard, Rawls's idea aligns with the mainstream economic assumption that wealth in a society is not limited but can be expanded by increased productivity (e.g. through technological inventions). To achieve this, incentives that foster increased productivity, such as higher salaries, are necessary. According to Rawls, higher salaries would be an effective way to "increase the pie" but this newly created wealth should be distributed in a manner that benefits all equally - especially the least advantaged. For example, a higher salary of a doctor is compatible with a just society as long as his/her higher earnings contribute to improved quality and access - for everyone - to healthcare, and as long as all members of society could actually choose and have the same opportunity to become a doctor (Birnbaum, 2010).

3.2 Applying Rawls's theory of justice to economics

Rawls's theory is not often used in an economic context since it usually belongs to the social psychology field of distributive justice; however, some authors claim that it should be applied to an economic context as it can provide useful insights. Lamont and Favor (2017) argue that it is a common misconception amongst academics to consider economics and distributive justice as two distinct disciplines. Economic theory, they argue, should be purely factual and refrain from providing moral arguments - because economists only use one moral theory and philosophers in distributive justice work with more. Therefore, they see both disciplines as complementary; while economics explains the functioning of the market, distributive justice tools can be used when it comes to deciding how resources will be fairly distributed and studying the moral implications of different economic policies. Thus, one could argue that Rawls's ideas, as influential as they are in distributive justice, should be used when designing economic policies, especially during a socio-economic crisis such as the current pandemic, as resources are even scarcer than during normal times.

Rawls's Theory of Justice can also be applied to economics to legitimise the existence of the welfare state. When Rawls points out that economic rights can be distributed unequally across society to increase its wealth but have to benefit the most vulnerable individuals, he advocates - indirectly - for a redistributionist tax system that benefits the lower-income classes (Musgrove, n.d. ,5). If the incentives to create an increase in the economy's productivity are higher salaries, taxes are an optimal tool to redistribute this increased wealth in a fair manner.

Moreover, Rawls argues in his book that the welfare state is indeed the best system because it comprises the best elements of a market-based economy and strict egalitarianism. Instead of focusing on how much a given individual can earn, Rawls argues that the focus should lie on redistributing wealth. The best way to do so is through the welfare states' social policies (e.g. unemployment benefits, healthcare, education etc.) (Musgrove,n.d.,5).

If we were to apply Rawls's difference principle to the current pandemic- in that case, we could assume that inequalities (in this case meaning unequal economic and social assistance amongst individuals and companies) could be justified as long as they benefit the most severely affected by the crisis and thus the most vulnerable or those individuals belonging to vulnerable socio-economic groups (already before the outbreak of the pandemic). Moreover, we could argue in favour of policies that protect the welfare state. Phase 2 of this study (the normative discussion) will deal with these issues.

Phase 1:

4. Findings

Through the collection and analysis of data, Phase 1 of the paper will firstly look at the unequal economic impact of the pandemic on the eight countries' economies and secondly, study the countries' economic responses.

4.1 The unequal economic impact of the Covid-19 pandemic across countries

To study the unequal economic impact, the first and most important indicator is GDP growth. Table 1 shows GDP growth (in%) for the year 2020. Table 1 clearly illustrates that the pandemic has impacted European economies to a different extent.

Table 1:

Countries	GDP growth 2020(%)
Spain	-10.8
Italy	-8.9
Greece	-8.2
France	-8.1
Belgium	-6.4
Germany	-4.9
The Netherlands	-3.7
Ireland	3.4

Source: Eurostat database

For some, such as Spain and Italy, GDP has fallen very steeply by -10.8 per cent and -8.9 per cent, respectively. Others, such as Germany and the Netherlands, suffered a lower drop (-4.9 per cent and -3.7 per cent, respectively). Only one economy, Ireland, has grown. Thus, in 2020, the economic shock caused by the restrictions put in place to deal with the pandemic spread has clearly varied across the board. Moreover, we can see a clear pattern: northern European countries seem to have been less affected than southern countries, as their GDP has fallen by considerably less. While Spain, Italy, Greece and France all experienced an exceptionally high GDP decline of over -8 per cent, Germany, the Netherlands, and Belgium's GDP fell by somewhere between 3.7 to 6.4 per cent, which is still a significant decline but definitely less severe in comparison.

Different reasons could explain this pattern: according to the literature on this topic, the most important one is the economies' sectoral composition. What is meant by sectoral composition is how much an economy relies on each economic sector. The latter is important because the mobility restrictions and lockdowns taken - especially in the first half of 2020 - have affected sectors differently. While in some sectors, economic activity has continued almost entirely through teleworking (e.g. business services or education), activity in other sectors had to stop completely because of their high reliance on face-to-face interactions (e.g. the tourism and hospitality sector). It turns out that according to the data provided by Fana et al. (2020)[8] - except for Ireland - southern countries employ more workers in those sectors that had to fully close during the lockdown phases of the pandemic. In addition, the most affected countries, Spain, Italy, Greece and France, also rely more on the tourism sector than the remaining countries (Odendahl and Springford, 2020,2). Thus, this could confirm the consensus within the literature that economies that depend more on the tourism sector have been more severely affected.

[8] See appendix 4

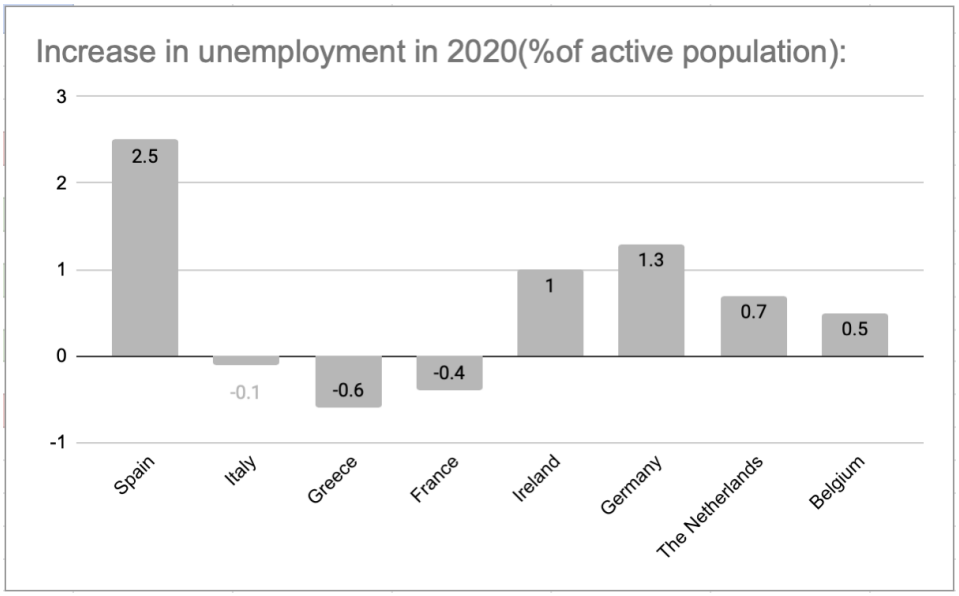
Another factor that can explain this GDP pattern is the length and strictness of the lockdowns, as mentioned earlier. Sapir uses an econometric model to prove that the differences in GDP losses were between 30 and 50 per cent explained by the strictness of lockdowns (Sapir,2020,5). During the first wave of Covid, countries such as Spain and Italy dealt with very high numbers of Covid cases and had - therefore - to implement longer and more severe lockdowns than, for example, Germany or Belgium.

Regarding Ireland's GDP growth, it can be considered the "deviant case" - as it is the only country in Europe whose GDP grew in 2020, a possible explanation could of course be that the country implemented particularly effective economic policies to deal with the pandemic's socio-economic impacts. This will be discussed in the next section. However, other factors could potentially explain this as well; Ireland's pharmaceutical industry and business services grew in 2020 (Flanagan, 2021). As mentioned before, some economic sectors were less affected than others, and these two are definitely amongst the less affected. In addition, Ireland's reliance on large US companies - who use the country's economy as a gateway to European countries and to avoid high corporate tax - could also be an explanation (Jolly, 2021). Large companies are usually more resilient during economic downturns. As will be explained later on in this paper, European economies depend largely on small and medium-sized companies (though including Ireland), and these have been severely affected by the crisis. Finally, and maybe more importantly, over the last years, the GDP growth for Ireland has been substantially higher than for the other countries. In 2015, Ireland's GDP grew as much as 25 per cent[9]. Because the country had a strong growth trajectory before the pandemic, this might explain the sustained growth - albeit lower - despite the economic shock caused by the pandemic.

[9] See appendix 5

The second factor this paper looks at are unemployment rates. Figure 2 shows the increase in unemployment in 2020 (as a % of the active population).

Figure 2:



Source: Eurostat database

As the data shows, the impact of the pandemic has been varied as some countries' unemployment rates have increased whilst others' have decreased. Surprisingly - except for Spain - those countries that have been the most affected in GDP decline (Italy, Greece and France)- have seen their unemployment rates decrease. The latter is surprising because unemployment is expected to rise during deep recessions - as mentioned earlier in this paper. Even for the countries for which unemployment has grown, it has not increased that much compared to the hit in GDP these countries have experienced. For example, Spain experienced the highest increase (of 2.5 per cent), but this increase seems relatively moderate considering its GDP fell by -10.8 per cent.

Two reasons could explain these surprising findings: first, as discussed in the methodology section, the indicator has its limitations. For instance, it does not capture those workers that work illegally in the so-called informal economy(or shadow economy). The Covid-19 crisis has significantly impacted the informal economy (Webb et al. 2020, 2). This could be due to the nature of the jobs in the informal economy, many relying on face-to-face interactions but

also because workers working in the informal economy - thus illegally- did not benefit from the support measures offered by the government. Thus, even if unemployment in the informal economy would have increased, it would not appear in the national statistics. Nevertheless, an increase in unemployment in the informal economy could have impacted GDP growth (by definition of the formal economy). Workers in the informal economy who lost their jobs saw their incomes reduced, and as a consequence, their consumption fell. This could have contributed, at least to some degree, to GDP declines. This idea becomes even more relevant if we look at estimates of how much the informal economy contributes to the overall GDP in each country. For all the eight selected countries, its contribution lies between 15 and 30 per cent which is quite significant (see Appendix 1). Interestingly, Italy's and Greece's informal economies contribute to as much as 30 per cent of their overall GDP. Considering that these two countries saw a significant GDP drop, this could tentatively explain why their unemployment rates do not seem as affected.

A second even more- important reason, as will be explained in the next section, is that all eight countries have **spent an unprecedented amount on economic measures that were aimed at safeguarding employment** (e.g. short-term work schemes) and avoiding a significant rise in unemployment. These measures were announced in the Fiscal Emergency Packages put forward by countries to deal with the immediate consequences of the pandemic at the beginning 2020 but were extended during the second Covid wave. They will cease to have effect in 2021 and beyond and we could expect unemployment to rise at that time.

All in all, unemployment rates confirm an unequally heterogeneous impact of the Covid-19 pandemic but these numbers for 2020 could be "artificial" as workers have been kept employed with money and schemes put forward by the state. But as these end, companies that have been severely affected might not be able to keep those workers employed and unemployment might thus rise quite significantly in the short to long term.

4.2. The European countries' economic responses to the economic shock caused by the Covid-19 pandemic

The results of the analysis on the type of economic measures - taken by the national governments of the eight countries in this study - explained in the methodology section of this paper - have been summarised in Table 3.[10] Table 3 illustrates - for each country - with a tick (✓) whether a specific type of measure has been taken or not. The different colours mark the purpose of such measures, depending on whether they aimed at benefiting/ supporting; (1) corporations and self-employed workers (blue), (2) individuals (green), (3) households (yellow), or (4) measures that increased the budget of the education or healthcare sector (red).

Table 3: Typology of economic measures

	Belgium	France	Germany	Greece	Ireland	Italy	Netherlands	Spain
1- Support for lost income of self-employed workers	✓	✓		✓		✓	✓	✓
2-deferals of loans for self employed								✓
3-Support to companies through short-term work schemes	✓	✓	✓	✓	✓	✓	✓	✓
4-Support specific to SMEs	✓	✓	✓	✓	✓	✓	✓	✓
5- Support specific to corporations			✓					
6-Public guarantees: facilitation of loans and aquiring debt for companies and self-employed	✓	✓	✓	✓	✓	✓	✓	✓
7- *Tax deferr*al or reduction for companies and the self-employed	✓	✓	✓	✓	✓	✓	✓	✓
8- other support measures aimed at improving companies' liquidity	✓				✓		✓	✓
9-Support for lost income of employees				✓	✓			✓
10-Support for those already unemployed	✓		✓	✓		✓		
11-*One-off* measures as emergency payments to certain qualifying groups				✓		✓	✓	✓
12- Extra payments to essential workers	✓	✓		✓			✓	
13- Public guarantees: facilitation of loans and aquiring debt for individuals	✓				✓	✓		
14- VAT reduction	✓	✓	✓	✓	✓	✓	✓	✓
15- Family/ parental support measures	✓		✓	✓		✓	✓	
16- Household support	✓	✓	✓	✓	✓	✓	✓	✓
17- increased budget or support to education	✓				✓	✓	✓	
18- increased budget or support for health sector	✓	✓	✓	✓		✓	✓	✓
TOTAL:	14	8	10	13	10	13	13	12

- Measures targeting companies and the self-employed.
- Measures targeting individuals (employees).
- Measures targeting households and families.
- Budget increases for the education or health care sector.

[10] For a description of how the categories in Table 3 have been created and what kind of measures they include see appendix 3.

The **first and foremost conclusion** that this table provides is that the countries have taken similar economic measures overall. The table shows only a few categories where states haven't taken at least one measure of that specific kind. For example, category 2 and 5 counts to these exceptions, which will be discussed later on in this paper. This finding is coherent with the conclusions of the study conducted by the European Central Bank (ECB) which analyses in depth the fiscal and monetary measures taken by the Eurozone countries. It concludes that since the same exogenous economic shock hit the Eurozone countries, their fiscal responses were similar and resembling instruments were employed. (Haroutunian et al. 2021).

Measures targeting companies and self-employed:

A crucial finding that Table 3 provides is that all countries have taken numerous measures that **supported the companies and the self-employed that have seen their revenues fall dramatically** due to the crisis - either because they were not allowed to operate during the lockdown or because demand for their product/ service has fallen steeply. Measures that fit into this category have mostly been of two types: the first type focused on protecting the viability of these companies by providing financial assistance in the form of bonuses and money transfers. In the case of self-employed people, these measures covered their lost income- partially or fully. The second type - liquidity support measures - aimed at avoiding liquidity shortages for these companies. The latter include, amongst others, tax deferrals, state guarantees, and the provision of affordable loans. For example, all countries implemented some sort of tax deferral or reduction for companies. In addition, all countries used public guarantees to facilitate access to loans.

Another relevant finding is that all governments designed **measures that supported small and medium-sized enterprises (SMEs)** in a targeted manner. In other words, a large number of support measures were exclusively designed to support SMEs. This decision reflects the consensus that SMEs have been severely affected by the pandemic because - unlike big corporations - they are more vulnerable to economic shocks. Due to their size and ownership structure, SMEs have significantly less human, financial and technical resources to face such shock (Juergensen et al. 2020)**.** Since SMEs are often referred to as being "the backbone of the European economy" (according to the "Annual Report on European SMEs", SMEs made up 99.8% of all European companies and provided two-thirds of total employment in 2019

(Muller et al. 2019) it appears logical that governments supported these entities in an increased manner.

Moreover, another aspect of the countries' economic responses is that **"short-term work schemes"** ("ERTE" in Spain, "Kurzarbeit" in Germany, "Chômage partiel" in France..) have been used at an unprecedented scale. Their functioning was broadly similar in all countries. The governments covered - although to a varying extent - the salaries of those workers whose companies' could no longer afford to maintain them employed as a direct result of the pandemic. In some cases, these companies were also exempted from paying worker's social security contributions. Some governments paid companies compensations directly, and in other countries, workers had to apply for unemployment benefits[11] Despite these differences, all these schemes aim at reducing a severe increase in unemployment and the subsequent distress of the economy as a whole. Thus, they safeguard employment and the survival of the most affected companies, and very importantly, they stabilise consumption, which stabilises the economy and drives economic growth. These schemes also avoid the lengthy process of re-hiring new employees and thus should foster faster recovery because, technically, the workers remain employed during the duration of the measures (Haroutunian et al. 2021).

However, not all companies were eligible for such schemes. For most measures - in all countries - companies had to prove that they had been severely affected by the Covid-19 pandemic and were viable companies before the pandemic broke out. In other words, they had to prove that they have had substantial revenues in 2019 or before. The rationale behind this was not to keep unviable firms alive and not to contribute to the number of "zombie companies" (Financial Stability Board, 2021, 18). The Covid-19 pandemic could therefore have speeded up the closure of non-profitable companies.

<u>Measures targeting individuals (employees):</u>

Measures in this category targeted those individuals (i.e. employees) most severely affected by the pandemic. The measures that fit in this category are more heterogeneous - than the measures targeting companies - but they are still broadly similar. Apart from Germany and Ireland - all countries have taken at least one of the following two measures: one-off measures (e.g. payments or bonuses) to certain quality groups or payments to essential workers,

[11] This difference is relevant because how generous unemployment benefits are, varies across countries.

targeting population segments considered especially vulnerable to the crisis. In addition, some countries have opted for providing financial support for the lost income of employees (notably Greece, Ireland and Spain). Others have increased the unemployment benefits of those already unemployed before the crisis or extended the application criteria for unemployment benefits to reach more people (e.g. Belgium, Germany and Italy). All of the above-mentioned measures shared the same objective; to financially support those individuals most vulnerable or affected by the crisis. Another measure in this category consisted in facilitating access to liquidity and financing- for individuals. To fulfil this end, Belgium, Ireland and Italy have issued public guarantees to facilitate individual's access to loans. Lastly, all countries have reduced the VAT (Value-added tax) rate in order to maintain purchasing power and in the hope that increased liquidity would increase spending, which is essential for the economy's recovery.

Measures targeting households and families:

All eight countries have taken measures to support families and households directly. As schools shifted to an online education system during the lockdown, families increasingly struggled with taking care of the kids and, in most cases, continuing to work from home. A common measure has also been to provide support to households in precarious situations. These were very varied and included amongst others; support to pay for including gas/electricity bills support, bonuses, bans on home evictions, social housing for homeless and vulnerable groups etc. It is important to note that the measures that support vulnerable households have a higher macro-economic impact than measures aimed at supporting households' purchasing power in a generalised manner. By targeting those that have a higher propensity to consumer (i.e. lower income groups) economic activity can be fostered. (Haroutunian et al. 2021,8).

Measures concerning states' budgets in the health care and the education sectors:

With the exception of Ireland, all countries increased their health care budget in 2020.[12]Increasing health care capacities has been key to avoiding as much as possible the "life

[12] In 2021, Ireland too announced an increase in its health care budget, but its intersting to note that it did not increase it in 2020. One of the reasons might be because it had already increased its budget in 2019.

vs. economy" trade-off and has therefore been also an important priority in all countries. However, only Belgium, Ireland, Italy and the Netherlands have increased their investments in the education sector during the pandemic.

Differences across countries:

After having laid out extensively all the similarities across the countries, there are two main differences worth mentioning: firstly, Germany is the only country that has implemented a support measure targeting explicitly big corporations provided that they can prove that they are relevant to the market. The so-called "Economic and Stabilisation Fund", ("Wirtschaftsstabilisierungsfonds"), provides financial support in the form of credits to those companies that are either of major size (i.e. turnover of €46 Mio. or at least 249employees) or can prove in specific ways that they are significant for their economic sector or security of the economy. Nevertheless, although Germany is the only country that specifically targeted big corporations in general, the other countries covered by this study have taken specific measures for the aviation sector, being a sector of strategic importance. All governments have provided significant financial support to major airlines in the forms of loans, loan guarantees, credit guarantees and state aid and others. Amongst others, Germany has supported Lufthansa and Condor; France and the Netherlands, Air France and KLM; Spain, Iberia, Vueling and Air Europe; Ireland, Ryanair; Italy, Alitalia; Belgium, Brussels Airlines and Greece, Aegan Airline**s** (IISD, 2020).

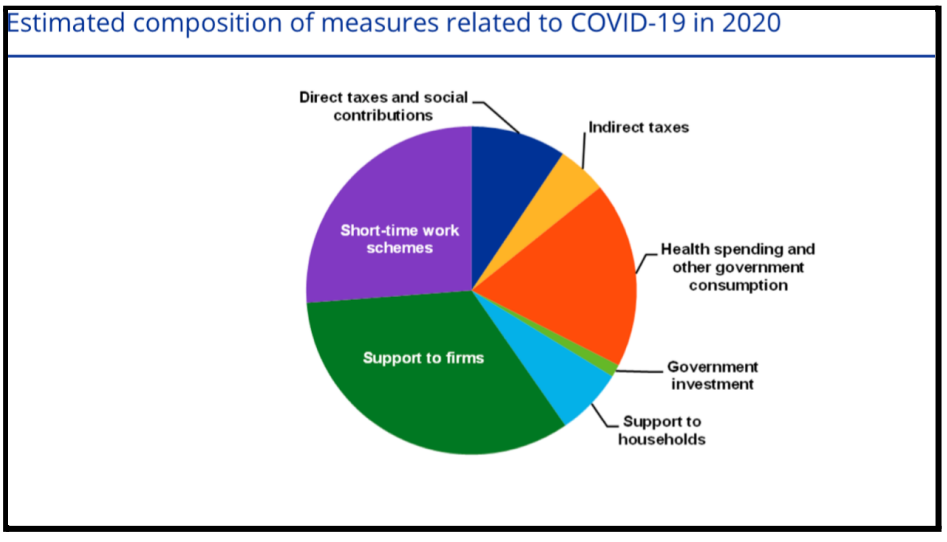
Secondly, Ireland's response is particular since it has focused largely on providing support to the most affected companies in the form of know-how and training. While other countries may have also implemented some similar measures, Ireland's approach seems to have centred around this idea. Some of its measures include:

- "Business Financial Planning Grants" that assists companies in developing a Business Sustainment Plan and engaging in the services of an approved Financial Consultant.
- "LEAN Business Improvement Grant" provides companies with quick access to expertise to review and optimise operations in the context of this pandemic and helps them identify the key measures they need to take to ensure their continued viability.

- "Act on Initiative" provides companies with 2 days of free consultancy services. Source: European Commission, 2020

To conclude the analysis on the economic measures taken by the countries, in general terms, all countries have shared to a lesser or greater extent the following priorities: first, the majority of measures taken **aimed at supporting the most affected firms and protecting employment**. The extensive use of short-term work schemes is proof of the latter. Based on the data provided by Figure 2, these schemes have been effective in avoiding a major rise in unemployment rates and in some countries have even led to a reduction at least in the short term (the year 2020), but might rise again in the mid to long-term as the schemes come to an end. A second priority has been to **support the most affected and vulnerable households** and individuals. And thirdly, all countries have **increased their health care capacities** to better cope with the epidemic impact in order not to have to take severer restrictions and longer lockdown periods. These three priorities are also reflected in the study carried out by the ECB, which finds that the composition of the measures taken by the Eurozone countries is as follows:

Chart 4:



Source: extracted from Haroutunian, Osterloh, and Slawinska 2021,p.g. 6

The Covid-19 pandemic was considered an exogenous shock that hit "healthy" economies. Therefore, according to Haroutunian et al. (2021), measures taken aim to minimise as much as possible insolvencies or the exit of healthy firms from the market and preserve the

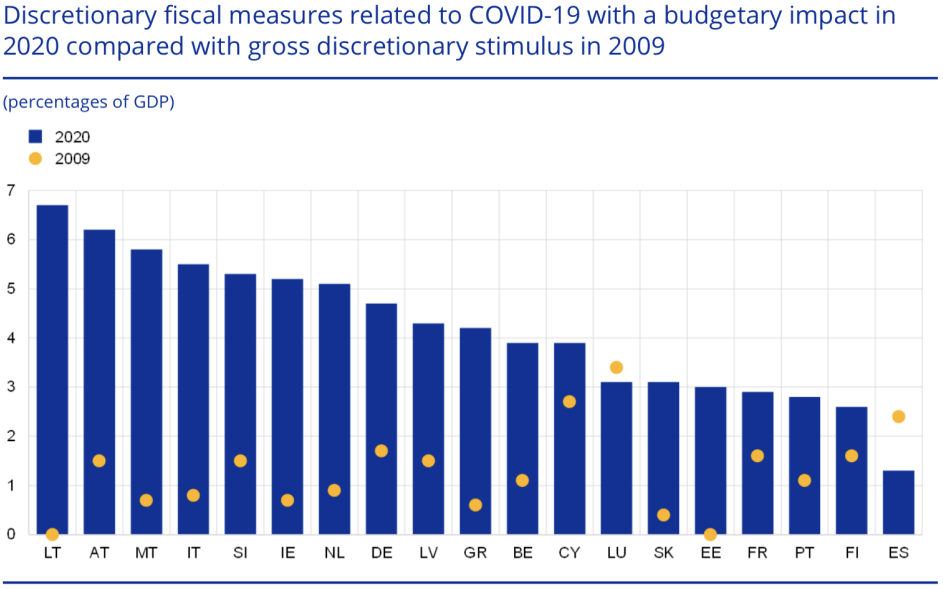
pre-crisis economic structure. This is why many of the measures taken to support companies were aimed at those companies which had not only been very impacted by the pandemic but were also solvent before the crisis to avoid slowing down recovery.

5. Discussing further factors influencing the effectiveness of policy measures:

As seen in the previous section of this paper, if we look only at the type of measures taken, the eight countries' responses are mainly similar. However, other factors are likely to influence the effectiveness of the countries' economic responses. They are, inter alia, (1) fiscal spending (i.e.the amount of money spent on the measures) and (2) the use of automatic stabilisers, (3) differences across welfare states and (4) quality of governance.

5.1.Fiscal spending:

Graph 6:



Source: European Central Bank, retrieved from Haroutunian et al 2021, pg.3.

As illustrated by Table 6, the amount spent on measures aimed at dealing with the economic impact of the pandemic has been of unprecedented size in all countries. It roughly, doubled the fiscal stimulus during the Global Financial Crisis (GFC) in 2009.[13]

The second observation we can make is that countries have reacted quickly to the crisis in general terms, mobilising fiscal stimulus measures since the beginning of the pandemic. As early on as mid-March, the four largest EU countries (Germany, France, Spain and Italy) announced their first emergency packages (Haroutunian et al. 2021).

There are at least two factors that were crucial to making these early and significant fiscal responses possible. The EU Commission activated the general escape clause of the Stability and Growth Pact (SGP) very early on (March 2020), thus temporarily removing the ceiling of fiscal spending. Therefore, countries could spend unprecedented amounts to deal with the health crisis and support those individuals and companies that had to close down or saw their revenues plunge as a consequence of the lockdowns. Thus, this is a very different scenario to the GFC in 2008/2009, where the EU imposed strict austerity measures. Another reason states were able to mobilise such large spending is that as of today the economic shock caused by the pandemic has not developed into a substantial increase in the cost at which EU Member States can finance their debt. Unlike the 2008 crisis where the sovereign debt interest rates increased considerably for those countries that had been severely hit (Spain, Ireland, Italy and Greece), as of the time of writing, sovereign debt interest rates have remained relatively stable for all countries, including those most severely affected (see appendix 6). The decisive response of the European Central Bank, as well as the EU Recovery Funds and the initiative of ensuring a common debt, have been major reasons why credit ratings have remained stable for all countries.

While the data in Graph 6 provides a general overview based on the Draft Budgetary Plans (DBPs) for 2021 that the Member States have submitted to the Commission, they might not, in all cases, fully reflect the reality. The definition of what counts as fiscal measures might

[13] Even though the 2008 crisis and the present crisis can not be fully compared to one another because the current crisis has resulted from a truly exogenous shock, which can not be claimed about the 2008 crisis, comparing the fiscal spending of both is still useful because fiscal spending during these two crises has been of unprecedented size regarding the last decades.

vary from country to country: Whereas the EU Commission considers short-term work schemes as a part of the automatic stabilisers (and thus are not counted in the graph), Spain has counted these measures as discretionary fiscal measures, meaning extraordinary measures that were implemented to deal with this pandemic. Consequently, Graph 6 shows very low spending levels for Spain, but in its national Recovery and Resilience Plan, Spain estimates its spending for support measures at 10% of its GDP (see appendix 7). Moreover, the DBPs were published in autumn 2020, and as a consequence, measures taken from that date onwards are not included. In Spain's case, a significant part of its fiscal spending occurred only late in 2020 because the lifting of national regulations on a national fiscal ceiling in place required parliamentary approval that could only be obtained in October 2020 (Carreño,2020). Thus the full spending might not have been counted in Graph 6. Moreover, measures will also not have had a strong impact in 2020. Therefore, even if Spain's spending was considerable, it would not have necessarily reduced the pandemic's economic impact in the year under study. The delayed occurrence of fiscal measures could also explain why Spain's GDP decline has been so steep in 2020 (over -10%) and its unemployment rates have increased the most (+2.5%).

Automatic stabilisers:

Automatic stabilisers are ongoing fiscal instruments whose goal is to offset the natural fluctuations of the economy's business cycle. These policies are created once and are applied without the need for parliaments to authorise them each time they are used. (Investopedia,2021). The most common automatic stabilisers are progressive corporate and personal income taxes. These are automatically decreased during a recession and increased when the market recovers. A further example is increased unemployment benefits (Ibid). The important point for his paper is that any of the fiscal measures governments have taken in 2020 to deal with the pandemic's impacts have been taken "on top" of the fiscal automatic stabilisers that were already in place. Since Member State use different automatic stabilisers (Mohl et al. 2019), the economic response of the countries will also differ depending on how extensive these are and what they cover. Automatic stabilisers have played a significant role in the overall economic response of the countries, as they account for almost one-third of the budget deficit in 2020 (Bouabdallah et al. 2020).

Differences across welfare states:

Similarly, the welfare measures that countries have taken as part of their effort to deal with the socio-economic impacts of the pandemic, have been taken additionally to those measures that were already in place. The latter differ across countries, as welfare states differ across the selected countries. As we can see in Table 7, the expenditure on social protection in 2018 greatly differs amongst countries. Spain and Greece spend significantly less than the Netherlands, Germany, France and Belgium. Ireland and Italy being in between. This differentiated spending can also lead to differences in how effective the discretionary measures are. Countries that spend generally more on their welfare systems might have more resilient welfare structures.

Table 7:

Countries	**Total expenditure on social protection in 2018** (€ per inhabitant)
Netherlands	12 964.54
Germany	12 003.61
France	11 886.08
Belgium	11 580.26
Ireland	9 507.76
Italy	8 454.85
Spain	6 051.73
Greece	4 234.30

Source: Eurostat database

Governance:

Governance is another important factor for the efficiency of support measures. The effectiveness of the countries' economic responses does not only depend on the type of measures announced and the actual spending levels, but also on how effectively they are implemented. Bureaucracy, corruption and fraud can impede or reduce the positive impact on the economy. As with the other factors previously discussed in this section, the quality of governance differs between countries. There are numerous indexes to measures these differences in governance, one of them being Transparency International's Corruption Perception Index (CPI). The CPI ranks 180 countries by the perceived level of public sector corruption. The eight countries selected in this country rank very differently: The Netherlands

on rank 8 is closely followed by Germany. Italy ranks the worst with the 59th position. Spain (32) and Greece (52) also rank relatively low, pointing at significant differences at least regarding the (perceived) level of corruption amongst the 8 countries and suggesting that the impact of economic measures might be better in countries with lower levels of corruption, such as the northern European countries.

Table 8:

Countries	Corruption Perception Index (CPI) by rank
The Netherlands	8th
Germany	9th
Belgium	15th
Ireland	20th
France	23rd
Spain	32nd
Greece	52nd
Italy	59th

Source: Transparency International database

Phase 2:

6. Have European countries' responses been "fair" under a Rawlsian perspective?

This section will discuss whether the economic responses to the pandemic could be considered "fair" under a Rawlsian perspective. Based on the arguments laid out in the literature review on how to apply Rawls's ideas to an economic context. I argue that to be justified, they must fulfil one of these two conditions:

- The measures target specifically those groups in society that are most vulnerable - either because of their socio-economic status (e.g. low-income groups) or because they have been affected by the pandemic in an increased manner. These groups could include companies, self-employed, employees, households etc.

- The measures do not target the most vulnerable / most affected groups but aim at supporting agents that are not amongst this category but will indirectly lead to an improvement of the situation of the most affected/ vulnerable.

The analysis conducted in this study provides enough evidence to believe that, overall, the first condition was indeed met by the economic measures the countries' governments took - at least this is true for the way these measures were designed. In other words, policies were aimed at improving the situation of the companies, individuals and households that had been particularly affected by the pandemic. Some of the examples - thoroughly addressed in the findings section - that illustrate this statement are the following:

To support those individuals that had been most severely affected by the pandemic, short-term work schemes were mobilised to an unprecedented extent, covering the wages of those workers who would have - otherwise - become unemployed. Moreover, one-off transfers and bonuses were given specifically to those most vulnerable groups of the population (e.g. seasonal workers). Whereas a lot can be said about the measures that were taken to support individuals, perhaps the measure that illustrates this argument most clearly are the measures that were aimed at supporting households in precarious situations such as banning home evictions, gas/ electricity support bills and increased social housing. These measures target in a deliberate and undeniable manner those individuals that are most vulnerable.

To support the most affected companies, a variety of measures were taken including short-term work schemes, liquidity schemes, direct financial assistance etc. These measures focused on the most vulnerable companies, the SMEs. However, for many of these measures, companies had to prove that they were viable prior to the pandemic, which has potentially significantly reduced the reach of those measures, excluding companies that were not viable prior to the crisis. In this sense, these measures leave out some companies that should have been supported under a Rawlsian perspective since they belong to the most affected and thus "vulnerable" sectors.

Using the second criteria to justify the measures taken by national governments is more difficult. There is in fact only one country using explicitly the reasoning behind the second

condition. This is the case of Germany, which designed a measure to target big corporations, which were not supported because they were especially vulnerable or affected by the crisis but because of their sheer importance to the overall economy. However, many other countries did take general measures to support the overall economy, which in a way could be considered as following the second criteria. The analysis shows that this objective was behind several measures. Here we should include the measures that were aimed at maintaining national economic activity and the medium-term viability of the production structure. A well-functioning economy is necessary to ensure the economic well-being of all social groups. For example, while the specific worker that has lost their job can - and should- be supported it is equally important to address macro-economic issues such as boosting economic activity- which in turn - should provide increased employment opportunities. The kind of measures governments have taken in this regard include, for instance, a reduction in the VAT rate.

A specific case is the aviation industry. As discussed in the findings section, all of the countries under study have supported their major aviation companies. These interventions were frequently justified with references to the strategic importance of the affected airlines for the economy. Still, many observers dispute this interpretation and in fact, it is doubtful that these measures could fall under any of the two Rawlsian conditions as defined in this study.

All in all, it seems that by and large, the proposed measures follow the two conditions mentioned which could be used to categorise them as "fair" under a Rawlsian perspective. However, it is still too soon to conclude that this is the case, as the final result will depend on the way they will be implemented. In this regard a number of factors should be considered:

First of all, economic and social policies implemented by states are bureaucratic and sometimes technically complex, which could make it difficult for individuals with fewer resources - for instance vulnerable groups and low-income households - to navigate this bureaucratic burden and apply for these measures. This could create unwanted discrimination by benefiting those individuals with more resources and knowledge - who can claim these benefits more easily - instead of the most vulnerable.

Secondly, bureaucratic processes are lengthy and time-consuming which leads to a trade-off between providing quick unbureaucratic support and avoiding fraud. This could also

discriminate against the most vulnerable unintentionally as these are the people that have lower savings and need assistance most quickly. Moreover, when policies are decided at the federal level but challenged through regional governments, as is the case for many policies in some of the countries in this study, this also makes the process lengthier.

Thirdly, when implemented in practice, it is not clear how many citizens and companies these policies truly reach. For instance, according to the Spanish newspaper "El País" only 1 in 12 business were able to apply to the €7 billion non-refundable payouts introduced by the Spanish government in 2021 (Maqueda,2021).

In conclusion, the countries' economic responses are in theory "fair" under a Rawlsian perspective since they comply with the two conditions discussed in this section, but it is still too early to claim whether or not these policies have truly benefited the most affected companies and individuals. The latter will to a large extent depend on how these policies are implemented in practice in the short and long- term.

7. Policy recommendations:

Based on the analysis provided in this paper, there are two preliminary and tentative policy recommendations that are worth considering:

First of all, as shown in the normative analysis, the implementation of the different measures will be crucial to determine whether the impact will be really are "fair" under a Rawlsian perspective. It is therefore important to properly monitor if they are effectively benefiting the vulnerable and most affected sectors of society. To do that, it could be useful to carry out surveys on the matter.

Second, as Musgrove argues, Rawls's ideas of a "fair" society could be used to justify a redistributionist taxation system (Musgrove,n.d.,5). The analysis provided in this study shows that the Covid-19 pandemic has been very unequal across society. A redistributionist taxation system could be useful to finance to some extent the large fiscal stimulus that has characterised countries' economic responses. This could be a way to redistribute resources -

inside society- in a manner that benefits the most vulnerable (as Rawsl's argues should be done).

8. Conclusion:

This paper started by introducing data to prove that the impact of the Covid-19 pandemic has differed considerably across countries. While in terms of GDP growth a clear heterogeneous impact can be spotted, it is not so much the case with unemployment rates. Unemployment has increased slightly for those countries that were less affected in terms of GDP and has even reduced for the countries that experienced the most severe GDP decline (except for Spain). This points towards the conclusion that economic measures taken by the eight Member States to reduce unemployment have been effective at least in the short term.

An analysis of the economic measures taken by the eight countries to cope with the Covid-19 pandemic has revealed that their responses have been in general terms similar regarding the kinds of measures that were taken. Countries' responses have shared three main objectives: (1) supporting the most affected companies and safeguarding employment, (2) supporting the most vulnerable individuals and households and (3) strengthening health capacities to better face the epidemic impact of this crisis and thus avoid to the maximum extend the "lives vs. economy" trade off. The analysis carried out in this paper has provided significant insights into the countries' economic responses but it should be complemented by factors that have not been taken into account but have been discussed in the section 5.3.

Lastly, this study has then taken a normative approach in which it has introduced one of the main theories in distributive justice, Rawls's *Theory of Justice*, providing an approach to how this theory can be applied to a macro-economic context and how it can be interpreted in a context of socio-economic crisis similar to the current one. This paper analysed whether European countries have acted "fairly" under a Rawlsian approach, concluding that for the most part they have, as they have supported those "most affected and vulnerable" in a targeted manner. However, this support has been imperfect and to claim that the countries have fully achieved their objectives and have acted "fairly" we need to broaden the scope beyond the year 2020 to discover how the measures have been implemented in practice and their long-term impacts.

All in all, this paper has provided a first insight into the very relevant topic of the socio-economic consequences of the Covid-19 pandemic on European economies and the

Member States' responses to it. The contributions of this paper to the broader field of research are various; first, it provides a numerical proof for the phenomenon that the pandemic has impacted European economies differently. Furthermore, by looking at the current economic responses of the countries in a context of how the pandemic has impacted these economies is very useful for academics and politicians. For policies at national and EU level to be effective it is key to understand that this pandemic has impacted countries to a different extent, and it is also important to get an overview of the current response and what can be improved. In an effort to provide preliminary and tentative policy recommendations on what can be improved this paper has turned to a theory of distributive justice.

However, this research has focused only on eight (Western European) countries; to complement the findings, future research could be conducted on Eastern Eurozone-member countries. There are many areas of this topic that have been left unaddressed by this research which could be studied in future research. Such areas include amongst many others, factors that could have played a role in determining the pandemic's impact on the European economies such as: quality of governance, pre-existing debt levels, epidemic impact and pre-existing capacities of health facilities. Lastly, one of the main limitations of this research is that it does not take into account how long different economic measures were implemented for and how much was spent on each individual measure. For an advanced researcher with sufficient research capacities this could be an interesting topic together with establishing which of the countries' responses has been the most efficient in softening the pandemic's socio-economic consequences.

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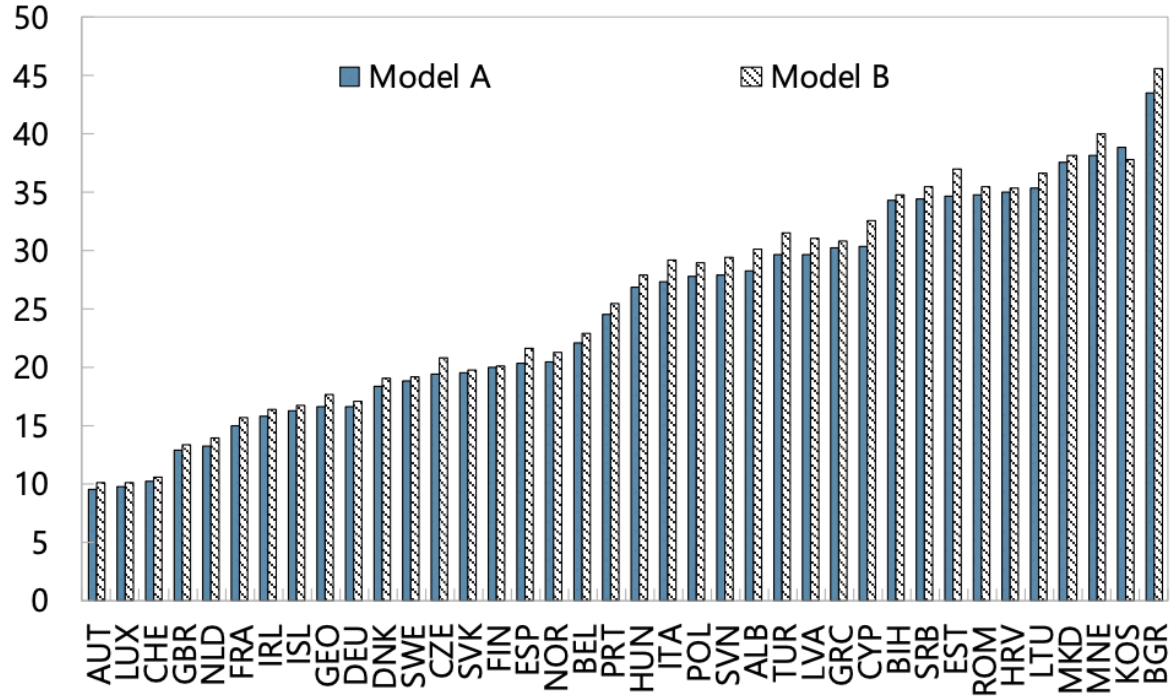
Appendices:

<u>Appendix 1</u>: Size of the informal economy (as% of GDP) of EU countries in 2016



Source: Kelmanson et al (2019)

<u>Appendix 2:</u> List of the main documents consulted on the unequal impact of the Covid-19 pandemic

As mentioned in the methodology section of the paper, this appendix will include a list of the main articles that have been consulted in the working process of this study. These articles all deal with the unequal impact of the Covid-19 pandemic across European economies and can be divided into three sub-topics: (1) the pandemic's unequal impact across different EU countries, (2) the pandemic's unequal impacts across economic sectors (at national level) and (3) the pandemic's unequal impacts across-socio demographic groups (also at national level).

1) <u>The pandemic's unequal impact across different EU countries:</u>

- Brodeur et al. (2020)
- Doerr and Gambacorta (2020)
- Fata et al. (2020)
- Odendahl and Springford (2020)
- Sapir (2020)

2) The pandemic's unequal impacts across economic sectors (at national level):

- Dingel and Neiman (2020)
- Fata et al. (2020)
- Juergensen et al (2020)
- Pouliakas et al (2020)
- Remond and Seamus (2020)

3) Unequal impact across socio-demographic groups:

- Farré et al. (2020)
- Palomnio et al. (2020)
- Prassl et al. (2020)

Appendix 3: Operationalisation of the data on economic measures extracted from the EU Commission (2020) document

This appendix will explain how the Table 3 (see findings section) has been created as it has been a major part of the research process. As explained in the methodology section of this paper - to create this table - the EU database on Fiscal and Monetary measures taken by EU Member States to mitigate the socio-economic impacts of the pandemic (laid out in the document EU Commission,2020) has been analysed.

The first step in this operationalisation process (the creation of Table 3) has been to define four broad categories according to the beneficiaries of these measures. These categories - each marked by a different colour - are the following: The colour blue refers to all those

measures that aim at supporting companies and self-employed individuals. The colour green includes those measures aimed at individuals (in most cases employees). The colour yellow refers to those measures that were aimed at supporting households and families (mostly those household and families belonging to vulnerable/ low socio-economic classes). Lastly, the colour red englobes two specific measures which are the increase in the public budget for the healthcare sector (measure 17) and the education sector (measure 18). Although the last two categories do not benefit a specific segment of the population (like the other three categories) it was still key to include these measures because, especially measure 17 is essential to combat the Covid- 19 pandemic and its socio-economic impacts. By increasing health care capacities, governments can avoid having to implement even stricter lockdowns and social-distancing measures which would make the pandemic's consequences even greater.

The second step has been to identify different sub-categories for each of the four broad categories. These sub-categories reflect two things: first, an even narrower definition of the beneficiaries of the measures and secondly, the specific nature of the measures. For example, in the first broad category (measures aimed at companies and self-employed) the more detailed level of beneficiaries are:

- self employed individuals
- SMEs
- Big corporations

By nature of measures of this same category (blue) the sub-categories are the following:

- financial support for lost incomes
- Short-term work schemes
- Public guarantees
- Tax deferrals

Please note that measures concerning the tourism sector are not defined as such, but allocated to the corresponding sub-category. This has been decided to avoid "double-counting".

Another measure that may need a particular comment is category 11 ("one-off measures as emergency payments to certain qualifying groups"). This category includes bonuses and one of financial assistance to certain, pre-defined, segments of the populations such as temporal workers, workers working in the tourism sector etc.).

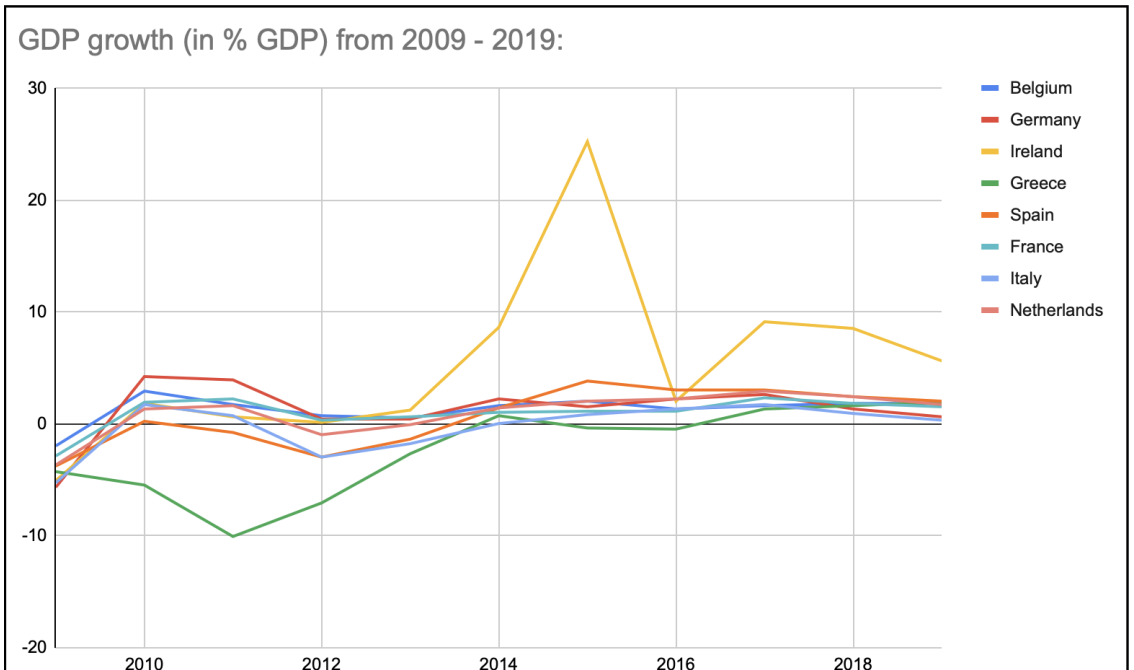
Appendix 4: Share of workers employed in those sectors that has to close down as a result of the lockdown measures imposed in early 2020 to halt the spread of the Covid-19 pandemic (in % of total population)

	Employment in Closed sectors (% of total workforce)
Belgium	7,78
France	9,54
Germany	8,34
Greece	13,03
Ireland	12,67
Italy	11,58
Netherlands	9,91
Spain	14,19

Source: Fana et al (2020)

Appendix 5: GDP growth of European countries from 2008 to 2019:

GDP growth (%GDP) from 2009 to 2019:											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Belgium	-2	2.9	1.7	0.7	0.5	1.6	2	1.3	1.6	1.8	1.8
Germany	-5.7	4.2	3.9	0.4	0.4	2.2	1.5	2.2	2.6	1.3	0.6
Ireland	-5.1	1.8	0.6	0.1	1.2	8.6	25.2	2	9.1	8.5	5.6
Greece	-4.3	-5.5	-10.1	-7.1	-2.7	0.7	-0.4	-0.5	1.3	1.6	1.9
Spain	-3.8	0.2	-0.8	-3	-1.4	1.4	3.8	3	3	2.4	2
France	-2.9	1.9	2.2	0.3	0.6	1	1.1	1.1	2.3	1.8	1.5
Italy	-5.3	1.7	0.7	-3	-1.8	0	0.8	1.3	1.7	0.9	0.3
Netherlands	-3.7	1.3	1.6	-1	-0.1	1.4	2	2.2	2.9	2.4	1.7



Source: Eurostat database

Appendix 6: Sovereign debt interest rates:

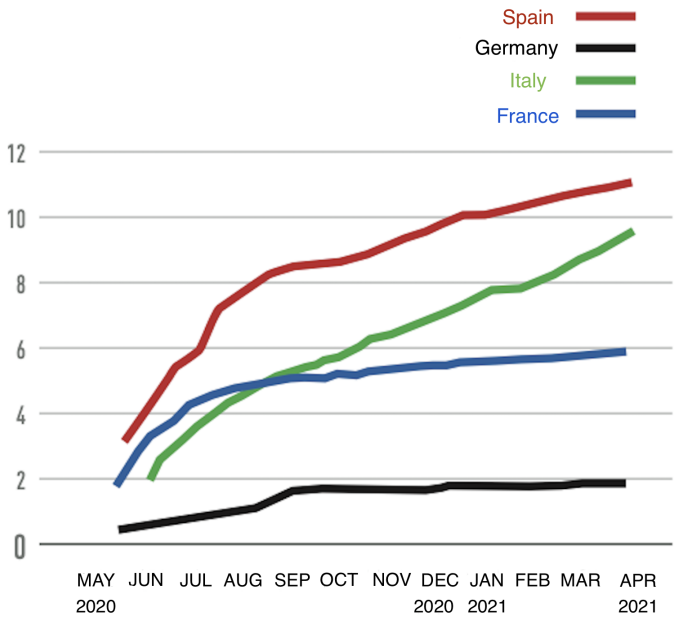
As explained in this paper, one of the reasons the eight countries covered could spend an unprecedented amount is because their sovereign debt interest rates have remained low and relatively stable during 2020-2021. This was not the case during the 2008 crisis, where interest rates increased in a significant manner for those countries that had been most affected by the crisis and decreased for the less affected countries. This appendix provides data on the long-term interest rates for the countries concerned by this study from 2007 to 2020.

Long-term interest rates (Total, % per annum, 2007- 2020):

Location	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Greece	4.5	4.8	5.2	9.1	15.7	22.5	10.1	6.9	9.7	8.4	6.0	4.2	2.6	1.3
Italy	4.5	4.7	4.3	4.0	5.4	5.5	4.3	2.9	1.7	1.5	2.1	2.6	1.9	1.2
Spain	4.3	4.4	4.0	4.3	5.4	5.8	4.6	2.7	1.7	1.4	1.6	1.4	0.7	0.4
Ireland	4.3	4.5	5.2	5.7	9.6	6.2	3.8	2.4	1.2	0.7	0.8	1.0	0.3	-0.1
Belgium	4.3	4.4	3.9	3.5	4.2	3.0	2.4	1.7	0.8	0.5	0.7	0.8	0.2	-0.1
France	4.3	4.2	3.6	3.1	3.3	2.5	2.2	1.7	0.8	0.5	0.8	0.8	0.1	-0.1
Netherlands	4.3	4.2	3.7	3.0	3.0	1.9	2.0	1.5	0.7	0.3	0.5	0.6	-0.1	-0.4
Germany	4.2	4.0	3.2	2.7	2.6	1.5	1.6	1.2	0.5	0.1	0.3	0.4	-0.3	-0.5

Source: OECD (2021)

Appendix 7: Spain's spending on liquidity support measures (as%of GDP of 2020) as stated in Spain's Recovery, Transformation and Resilience Plan 2021



Source: Spain's Recovery, Transformation and Resilience Plan 2021, p. 52 . The legend of the graph has been translated from Spanish into English.