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Mohammed Kalloub, Ahmed Musabeh and Koutibah Alrifai

HAVE PUBLIC DEBT LEVELS RESTRICTED ANTI-CORONAVIRUS FISCAL RESPONSES? EVIDENCE FROM EUROPE

^{1*}Mohammed Kalloub

PhD candidate- Public Finance Department, Ankara Yildirim Beyazit University, Ankara/Turkey.

mohmd.kalloub@gmail.com

²Ahmed Musabeh

Ph.D Banking & Finance, Kadir Has University, Istanbul/ Turkey.

ahmedmusabeh88@gmail.com

³Koutibah Alrifai

Ph.D. Candiadate - Business Administration, Istanbul Commerce University, Istanbul / Turkey.

koutibahalrifai93@gmail.com

Abstract

Purpose: This study was conducted to analyze the impact of public debt stock in 12 European countries on the size of primary¹ anti-coronavirus fiscal responses, and to explore the general characteristics of these packages in sample countries.

Methodology: The sample included only countries from the European Union due to homogeneity in economic standards and legal framework beside the availability of data. However, graphical representation along with regression analysis were performed, our key findings indicate a significant negative impact of public debt on the size of primary anti-coronavirus fiscal response and expect a second wave of government borrowing in the near term.

Findings: However, this study shed the light on public debt confirming the importance of maintaining reasonable levels, as a policy recommendation; governments in the European Union are advised to conduct more efforts to reduce public debt stocks and to adopt new effective public financial management rules to overcome the high debt dilemma, since countries with low debt stocks have initiated the largest packages among the sample.

Unique contribution to theory, practice and policy: The study recommends that employing data from different geographical areas and occasions to gather more evidence on this topic. Moreover, stimulus packages may be in effect for further periods. Therefore, a series of observations might be accumulated and utilized in panel data analysis to form a cogent evidence on this topic by future research efforts.

Keywords: Coronavirus, Public debt, Fiscal Stimulus

JEL classification: E62, H12, H63, H81

¹ Primary fiscal responses are the first fiscal packages announced between the period between March-May 2020.

1.0 INTRODUCTION

The breakout of the Covid-19 pandemic has affected all economic sectors around the world, and unfortunately scientists during the start of the pandemic couldn't reach either medical treatment for the virus or vaccine as well. Therefore, majority of countries around the world went for a partial or complete lockdown to slow down the spread of the virus and to give enough time for medical staffs to solve this catastrophe. However, the impact of such a pandemic is not limited only to the healthcare, but also threatens other sectors and may result in a tragic effect on the global economy; as a lockdown plan got executed in majority of countries around the world, a lot of small-size and middle-size businesses got negatively affected, unemployment rates raised dramatically and doubled in some countries OECD (2020). Thus, governments nowadays have no choice but to set up plans to bail out their economies as aggregate demand is shrinking and may turn into recession soon, especially after knowing that each month of lockdown offsets 2% of GDP growth according to OECD (2020).

The importance of such an action has been proved during the global financial crisis in 2008/2009, where many studies investigated the relationship between macroeconomic variables and the size of stimulus packages. For example, Prasad and Sorkin (2009) assessed the role of economic stimulus plans in G20 countries and found that adopting a fiscal stimulus package has a vital role to play in stabilizing the world economy. Kohler and Reiss (2009) investigated the efficiency of discretionary fiscal policy in crisis time, and results revealed that the fiscal stimulus package was efficient in Austria but significantly increased public debt, Coenen, Straub & Trabandt (2013) examined the effect of stimulus packages in the euro area, results indicated that the European Economic Recovery Plan had positively affected the Euro area.

These packages left a huge debt burden on countries after the crisis, leaving a small space for fiscal actions in the future. According to EUROSTAT (2020) debt burden has increased from 60% in 2008 to 80% in 2010 and kept in the same level for the past decade, despite the efforts to reduce it. However, it seems that public financial management in these countries didn't have a significant role in the past decade, were public debt figures had been slightly reduced in Eurozone from 87% in 2014 to 80% in 2018 (EUROSTAT, 2020) which is a far lower than the required reduction level. Figure.1 provides information about public debt levels in 2019 for 12 selected countries from the Eurozone.

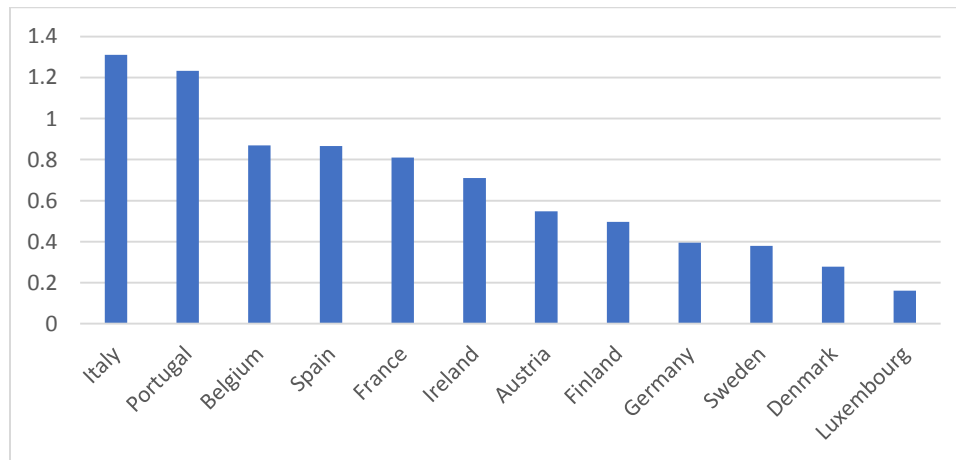


Figure 1: Public Debt in 2019 (% of GDP)
Source: (OECD, Dec 2019)

In the light of the previous literature and as lessons from the crisis, most countries around the world have taken actions similar to what have been adopted in 2009, including extra public expenditures, tax deferrals, and credit guarantees. For instance, Luxembourg has adopted one of the most extensive stimulus packages in Europe almost 16% of 2019 GDP, this package includes 3.6% of GDP only as spending measures on various items such as health care and employee benefits, along with liquidity support for firms and households (IMF, 2020). Nevertheless, Germany has announced their economic package by the 25th of March 2020, composed of 750 Billion Euro (5% of German GDP) to rescue the economy. However, in contrast to other stimulus packages in other countries, this package focuses more on cash transfers for small businesses and self-employed workers up to 15000 Euros, besides 400 billion Euros, to secure a corporate debt by the stabilization fund. Moreover, the package will not neglect low-income households and will be allocated 120 billion Euros for cash transfers besides tax cuts (Reuters, 2020). Other components of the package are non-cash items and include tax payment deferrals, and credit rearrangement (Bloomberg, 2020). However, Italy has announced a fiscal package amounted to 1.4% of 2019 GDP (IMF, 2020) on the 17th of March 2020; this package includes healthcare spending, employee benefits, and support for eligible businesses. For further information about stimulus packages in Europe, Figure.2 illustrates the size of fiscal responses in the GDP percentile in 12 European countries.

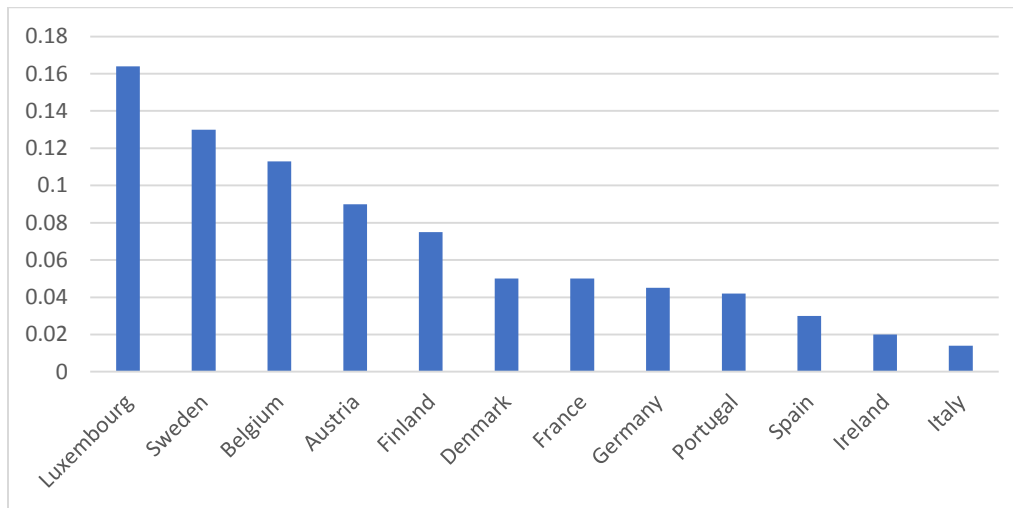


Figure.2 Size of fiscal stimulus (%GDP)
Source: (IMF, 2020)

In this regard, almost all European countries have taken steps to overcome the severe economic impact of the pandemic on their economies. However, for some reason, the size of these fiscal packages varies from country to another, but generally, these packages range between 1.5% to 16% of GDP. Based on public debt data published by World Bank (2020), it can be noticed that the smallest fiscal stimulus has been conducted in the highest indebted countries such as Italy, Portugal, and Spain with 1.4%, 4%, and 3% of GDP respectively. While low indebted countries have issued the largest fiscal response packages among their European counter peers such as Luxemburg and Sweden with 16% and 13% of GDP, respectively (IMF, 2020). The figures mentioned above have triggered many question marks regarding the impact of public debt on the fiscal reactions by countries against Covid-19 pandemic's economic impact and recalls the recent history of the global financial crisis regarding countries fiscal stimulus size and the adverse effects of public debt on their ability to rescue their economies.

Immediate actions should be adopted during the crisis, which varies from country to another based on their economic and fiscal health. In this regard, several limitations could impact the efficiency and the volume of the fiscal package. According to Romer (2012), the high volume of public debt is one of the main limitations that restrict the fiscal space and reduces the size of the stimulus package. Romer (2012) also argued that adopting new changes in fiscal policy during the crisis has a considerable effect not only in the short run but also in the long run as well. For instance, in the labor market, delayed incentives lead to an increase in the unemployment rate in the long term. From another perspective, a higher debt burden may result in low values of the government spending multiplier, as household's behavior changes due to high taxes expectations in the future. According to Nickel and Tudyka (2013), the multiplier effect declines as public debt stock increased in European Union countries during the global financial crisis in 2009 and turned to be negative in highly indebted ones. Therefore, countries with a high debt burden might not consider large packages as they previously know that these packages will have a negative effect.

In the light of the previous facts, this study aimed to examine the impact of public debt on the size of stimulus packages in European countries and to overview packages adopted in Europe, where packages varied a lot within the EU. Hence, this study was composed of five main sections; the first is a brief introduction to the topic including fiscal packages and debt figures in sample countries, the second explains the methodology and utilized variables, the third illustrates the statistical findings and the fourth section includes conclusion, followed by policy suggestion section.

2.0 METHODOLOGY

This study aimed to investigate the impact of public debt on the size of anti-coronavirus stimulus packages in 12 EU countries namely (Austria, Belgium, Denmark, Finland, France, Germany Ireland, Italy, Luxembourg, Portugal, Spain, and Sweden), employing a statistical cross-country regression analysis (ordinary least squares method) and considering several macroeconomic variables to assess the determinants of anti-coronavirus stimulus packages size, the statistical analysis was supported with graphical representation for debt levels and anti-coronavirus packages size. Countries were selected based on the availability of data, and based on their homogeneity in terms of macroeconomic figures, institutional standards, and the size of automatic stabilizers.

2.1 Study Limitations

This study is an effort to evaluate a unique irregular economic occasion. Thus, besides the lack of supporting literature, the existence of one and only observation for fiscal response has limited our capabilities to obtain Panel analysis using multi-observations. Nevertheless, we have faced issues in sampling. Thus, researchers have chosen 12 countries instead of considering all European Union countries due to some extreme cases in terms of public debt such as Greece and depending on their economic contribution to the EU, were small GDP countries have been eliminated from the sample as they may distort the analysis; Cyprus & Malta are examples of these countries. Moreover, figures of the fiscal stimulus were missed or vague in other countries such as Bulgaria, Estonia, Hungary, and Poland. Finally, the analysis are built on primary fiscal responses; these figures may change later depending on the current situation and economic needs of each country.

2.2 Data description

Data for this study was collected from a wide range of sources. Tab.1 presents a full description of data employed in the analysis besides their resources and justification. Our dependent variable in this study is represented by the total stimulus package as a percentage of 2019 GDP, collected manually from the IMF country fiscal response web page².

² Available at: <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19?fbclid=IwAR2vI-plKoH4uD2coRWtbGdmx12mrFJ9WnWSCJ9-EXfAebN90uf3F6H7xBM>

Table.1 Data description and sources

Variable	Description	Source	Expected sign	Justification
Public Debt (%GDP)	Central government international and domestic debt stock	EUROSTAT	-	High debt burden restricts country's ability to act fiscally
Government revenue (%GDP)	Revenues collected from tax and non-tax resources	OECD	+	Higher revenue share indicates excess resources and thus greater ability to adopt large measures
Unemployment rate	Rate of unemployed citizens as a percentage of the labor force	World Bank	+ -	Countries with a high unemployment rate may face difficulties in obtaining funds as they are already in crisis. Or countries in crisis are in need to enlarge their stimulus to rescue their economy
Industry value-added	Value-added to GDP by the industrial sector	World Bank	+ -	Countries with big industrial sector may need extra funds to bail out this sector. Or contrary they might have a healthier economy and do not need fiscal intervention.
Total Reserves	Total central bank reserves including gold	World Bank	+ -	Reflects country's financial space to support any fiscal response. It might positively affect package as financial space increases. Or it may represent a healthier financial condition.
2019 Budget Deficit	Last year's budget deficit	Eurostat	-	Expected to negatively affect the fiscal stimulus size, as high debt burden restricts government abilities to act.
GDP Per Capita	Individual share of total GDP	World Bank	+	Countries with higher GDP per capita are expected to have larger fiscal space, wider space for fiscal action and greater resources compared to other countries

3.0 EMPIRICAL RESULTS AND ANALYSIS

Table.2 shows that there is no multicollinearity among the independent variables, as mean VIF is 1.79. and for normality test, the Shapiro- Wilk test indicates that z: -0.542, which means that no normality issues in variables.

Table2: Partial correlation VIF test.

Variable	VIF	1/VIF
Government Rev.	2.29	0.436679
Budget deficit	2.28	0.439554
Public Debt	1.92	0.522014
Unemployment	1.73	0.579589
Industry	1.36	0.735067
Ln Reserves	1.18	0.845916
Mean VIF		1.79

Table 3. OLS Regression results

(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Package	Package	Package	Package	Package
Public Debt	-0.0676* (0.0326)	-0.0947* (0.0418)	-0.0874* (0.0402)	-0.0898* (0.0440)	-0.0773* (0.0421)
Government Rev.	0.00268 (0.00204)	0.00339 (0.00214)	0.00183 (0.00235)	0.00134 (0.00308)	0.00158 (0.00288)
Budget deficit		-0.807 (0.784)	-0.468 (0.789)	-0.418 (0.867)	-0.573 (0.817)
Industry.			-0.00277 (0.00207)	-0.00281 (0.00222)	-0.00264 (0.00208)
Unemployment				0.214 (0.780)	0.0760 (0.735)
Ln Reserves					0.0104 (0.00760)
Constant	0.0532 (0.0559)	0.0544 (0.0557)	0.147 (0.0870)	0.148 (0.0936)	0.391 (0.197)
Observations	12	12	12	12	12
R-squared	0.451	0.515	0.614	0.619	0.723
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1					

After running pre-estimation tests and checking data validity, researchers proceeded to regression test employing the ordinary least squares method to obtain the relationship between anti-coronavirus packages and determinant variables mentioned in table.3. As can be seen in table.3 public debt has a significant negative correlation with fiscal response in sample countries under all models, and for further evidence figure.3 represents a scatter chart for the relationship between public debt and first fiscal responses in the 12 countries, the negative relationship between them can be clearly noticed.

However, even though other variables had the same expected effect (sign), the relationship between them and the fiscal response size was not statistically significant. For instance, government revenues and foreign reserves found to have an insignificant positive relationship with fiscal packages, confirming our assumption for greater ability to adopt broader measures in resource-rich countries. The unemployment rate also had the expected positive sign indicating that countries suffering before the crisis has larger packages.

The budget deficit had an insignificant negative relationship with stimulus size, indicating that decision-makers focused more on accumulated rather than cyclical debt. Moreover, the industrial sector added value also had an insignificant negative impact, which means that a healthier economic condition minimizes needs to large stimulus packages.

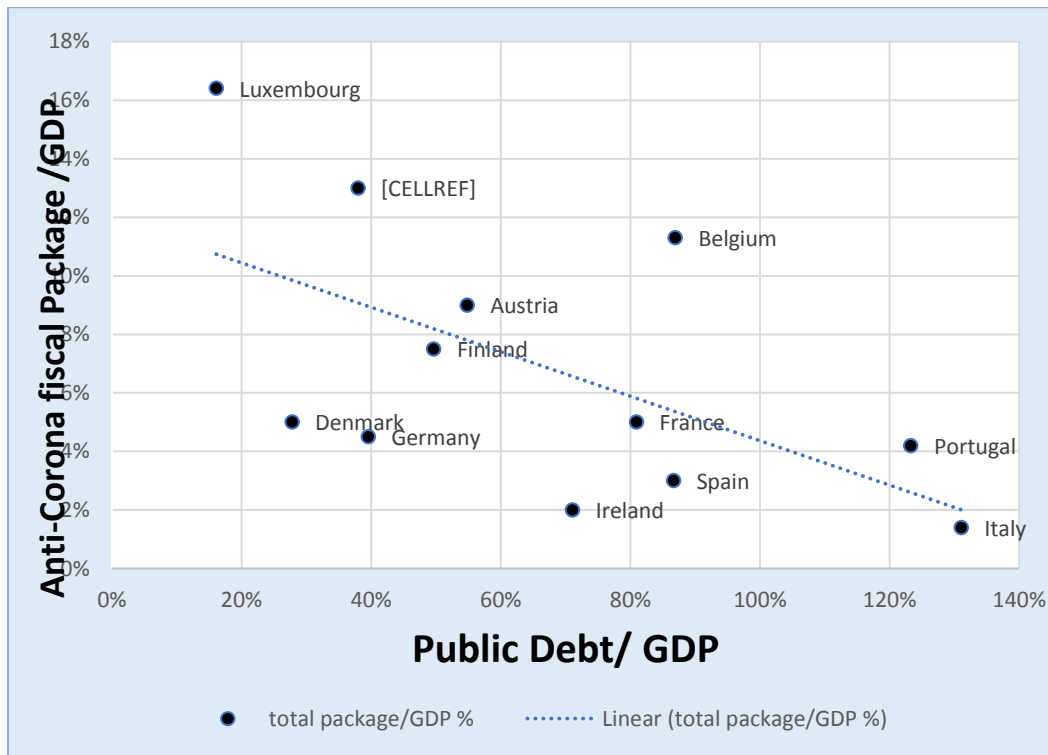


Figure.3 Public debt & anti corona fiscal packages size relationship

4.0 Conclusion & Discussion

After conducting cross-sectional analysis utilizing data from 12 European countries, it was found that public debt levels have negatively affected the size of fiscal response packages against Covid19 economic impacts. The findings come in line with (Romer, 2012) regarding the impact of public debt on countries ability to initialize fiscal response against the crisis, as high debt minimizes government space to conduct wide discretionary fiscal reactions. While other variables such as government revenues, the industrial sector added value, unemployment rate, and foreign reserves found to have an insignificant statistical impact on fiscal response in the sample countries.

In the light of high public debt stocks in Europe, and taking in consideration lessons learned from the global financial crisis in 2008/2009 regarding the impact of debt burden on governments capabilities to adopt large fiscal responses, it seems that decision-makers in European countries have underestimated the threats of the high public debt burden. Moreover, our results indicate how critical and decisive the debt burden is in European countries, but unfortunately, this fact has not been realized in good times but only in bad times.

Thus, as policy suggestion, we recommend more efforts by European countries to decrease their public debt burden for two reasons; the first reason is due to the threats of high debt stocks for countries and their negative impacts on fiscal space and fiscal reaction room according to (Romer, 2012). The second reason is the threat of adverse selection by households, as fiscal

policy becomes ineffective in periods of high debt burden (Nickel & Tudyka, 2013) due to change in saving and consumption behavior of households.

From a debt management view, the execution of fiscal stimulus plans puts high pressure on sovereign debt management in general, and more precisely in highly indebted countries, where governments' reactions to the pandemic were built on two main measures; Firstly, increasing public spending on health and other vital sectors in addition to cash transfers to employees who lost their jobs due to the pandemic. Secondly, postponing tax payments and considering tax exemptions in some cases. Both measures will have a long-lasting effect on budget deficit and public debt as well, in the current year budget deficit is expected to rise as governments will conduct extra payments along with tax deferrals, which will lead governments to borrowing to cover the deficit. However, according to IMF (2020), the pandemic will have a severe impact on world's economy and will cause a shrink by 3% in 2020 and slow economic growth in 2021. In light of this fact, indebted countries will face difficulties to finance recovery in 2021 and repay their debt as well, which indicates a second wave of public borrowing in 2021.

Such a pandemic puts a question mark on Public financial management in European countries due to failure in decreasing their public debt in the last decade following the global financial crisis in 2008/2009. According to OECD (2020), except for Ireland, most of the European countries kept the same volume of public debt after the last global financial crisis and didn't comprehend the lesson from the near history regarding the negative role of heavy debt burden on countries' abilities to implement discretionary fiscal responses to the crisis.

Suggestions

As a policy suggestion, high public debt level was found to be a determinant for fiscal stimulus in sample countries and limited government abilities to conduct fiscal actions. Thus, in the light of this paper's findings, new well-balanced public financial management rules to control debt levels including a time schedule for fiscal consolidation should be adopted immediately after the crisis to overcome the increasing public debt dilemma in European countries and to return it to acceptable levels without causing a contractionary effect to the economy in highly indebted countries.

However, further research efforts are highly recommended on this topic, employing data from different geographical areas and occasions to gather more evidence on this topic. Moreover, stimulus packages may be in effect for further periods. Therefore, a series of observations might be accumulated and utilized in panel data analysis to form a cogent evidence on this topic by future research efforts.

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