The Fiscal Policy Deadlock in EU: Measuring Budgetary and Dept Performance in the Light of Stability and Growth Pact

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Abstract

Stability and Growth pact of 1997 incorporated annual budget deficit/GDP and Total Public Debt/GDP ratios as permanent measures not to be exceeded by the members of the euro system. However euro area debt crisis changed the mood in euro area and European Union circles so much so that some of the non-compliant countries had to be tolerated for exceeding the thresholds of Total Public Debt/GDP ratios. This resolve resulted in moving for bail-out plans which were introduced as a last resort solution. However as debt burden deepened, bail-out extensions had already been problematic and controversial in Europe. Greece, Spain, Portugal Ireland have been the cases of high debt ratios with their critical magnitude. This paper investigates the well-being of the EU Countries in their scores of annual public deficit/surplus and total public debt by weighing their performances and ranking their outcome on aggregate to determine EU scale in this respect. This work highlights this crucial aspect of European Economy from different perspective: TOPSIS method is employed to perform the highlighted investigation for the EU countries. The alternatives are composed of EU member countries and criteria are composed of deficit/GDP, Total Public Debt/GDP and long term interest rates for each individual country in EU.

Keywords: TOPSIS Methodology, European Economic Integration, Stability and Growth Pact, Debt Crisis, Fiscal Discipline.

Jel Codes: C02, E61, G01

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Introduction

The core of Keynes's writings in relation with employment and fiscal policy (J.M. Keynes;1936) and main stream Keynesian economics advocate the dichotomy that discretionary monetary and fiscal expansion can become key measures to stimulate a stagnant economy. However; it has been established that in the long-run there exist a negative correlation between size of government spending and economic growth. Barro (1991) presents empirical evidence in support of such a a negative correlation. Increase in the size of government spending will not effectively serve to the objective of growth since the contracting impact of crowding-out phenomenon sets in. Crowding-out impact dampens the intended stimulus effects of expansionary spending (McConnelland Brue, 1996).

Feldmann (2006) focuses on 19 advanced economies to measure the existence of correlation between the size of government and unemployment. He finds that a larger size of government spending deteriorates unemployment. There has been a series of papers arguing for the growth benefits from fiscal adjustments. The most prominent proponent of this position, Harvard University economist Alberto Alesina, has conducted numerous research over the time concluding that fiscal adjustment is not only expansionary in the long-run but can be so also in the short-run (Alesina and Perotti,1995) and (Alesina, Ardagna and Trebbi, 2006). On the other hand, Dean (2010) analyses fiscal discipline and accompanying austerity measures to illustrate the point that economic climate in the US back then was not suitable for fiscal adjustment (Dean, 2010:1). The ill effects of fiscal adjustment has been examined and related to the other work by work done on behalf of IMF (IMF, 2010). Mitchell (2005) asserts the point that there exists a negative correlation between the size of government and economic growth. Reinforcing that statement, Mitchell further claims that: "Government spending requires costly financing choices. The government cannot spend money without first taking this money from someone else " (Mitchell, 2005:1). Alesina and Perotti (1997) likewise underline the impact of government spending in crowding -out of private investment and generating unemployment. Jayadev and Konzcal (2010) draw attention to the expansionary impact of fiscal adjustment in line with the works underlined above.

Delors Report (1989) laid down the foundations for Economic and Monetary Union (EMU) in a framework principles including the phases through which gradual implementation were supposedly be achieved. Treaty on EU signed in Maastricht (1992), came into force in 1993 laid down the necessary conditions for the members to comply with in order to qualify for

participation in EMU Project. As far as fiscal domain is concerned; recourse to budget deficit for governments has strictly become limited; far beyond this, there has been a limitation on total public debt that can be accumulated which is expressed by debt/GDP ratio. The Stability and Growth Pact (SGP) (1997) which came into force by the mandate of Amsterdam Treaty (1996) declared that fiscal discipline precondition for EMU would become permanent fiscal rules for the EU members in the Euro area. Dyson et.al. (1999) articulates the true interpretation of EMU at the time it was set to start to work with the total of the eleven countries. They reservedly became cautious of the uncertainties and possible costs particularly for more vulnerable economies. Particular attention has been drawn to fiscal constraints where fiscal policy autonomy is to be restrained together with relinquishing monetary autonomy in favor of European Central Bank (ECB). De Grauwe (2009) examines the cases of Ireland, Greece and Spain and finds inherent inconsistencies in policy choices of the ECB. Further, De Grauwe (2011) once again draws attention to the fact that under the umbrella of single monetary policy making, governance of European economy becomes increasingly "fragile". Scharphs (2011) relates that once rising current account deficit had to be countered through capital inflows throughout the difficult periods of fiscal consolidation. The sovereign EU states have their own responsibility to comply with the fiscal restraints of EU. However, equally responsibility falls upon EU institutions to guide, to monitor and hold members accountable in this respect. Commission (2010,a), Commission (2010b), Commission (2010c) and Commission (2011)- either regulating an adjustment program for debt reduction or seeking enforcement measures to restore policy imbalances facing Euro Zone or proposing "effective enforcement of Budgetary Surveillance in the euro Area. Sander (2012) takes an in depth approach into economic crisis within which compliance with EU debt obligations have become extremely problematic with many countries at the times of fiscal crisis across the EU. Jones (2002a) and Jones (2002b) criticize the asymmetric design of EU economic and fiscal structure which inherently make EU economies much more exposed to and vulnerable to economic shocks and crisis.

This paper investigates the well-being of the EU countries in their scores of annual public deficit/surplus and total public debt by weighting their performances and ranking their outcome on aggregate to determine EU scale in this respect. Deficit (surplus)/GDP and Total Public Debt/GDP ratios for each individual country have been considered to measure their latest scores for a final assessment for ranking their relative performances by employing TOPSIS method. The main characteristic of the method is that TOPSIS score for each alternative is the measurement units for the performance of the countries for the given criteria.

Ever since the crisis occurred in 2008, public spending and public debt has perpetuated as a main theme in European Government circles tantamount to the crisis calls from EU governance. This work will highlight this crucial aspect of European Economy from different perspective by using a useful methodological tool for an insightful investigation as well as avoiding ambiguity for the attempted results. TOPSIS method is employed to perform the highlighted investigation for the EU countries. TOPSIS method starts with the preparation of decision matrix composed of alternatives and criteria. The alternatives in matrix are composed of EU member countries and criteria are composed of deficit (surplus)/GDP, Total Public Debt/GDP ratios and long term interest rate for each individual country in EU.

TOPSIS method allows us to use more than one indicator for numbers of selected countries for measuring and assessing their performance on the same ground by weighing each of them with the adopted criteria. The making of final assessment is helped by the ordering of the each country's performance cumulatively for the criteria concerned. By using variables of deficit (surplus)/GDP, Total Public Debt/GDP ratios and long term interest rate for each individual country in EU. TOPSIS will enable us to evaluate overall picture of EU countries' public finances and intricate issues in this domain. These issues are heated concerns not only government and EU circles but members of the public especially whose debt problems are reaching to an alarming level. The further acceleration of crisis is likely to cause big damages for European Integration process which is already going through difficult phases. Under this context, by drawing out attention for the ongoing crisis by analytical investigation as such, this work is expected to encourage more work with valuable insight in this regard. The structure of the rest of this article is as follows:

Chapter one focuses on fiscal discipline rules and their application by EU as regards the members' performances. Transition from early EMU years to this day is highlighted and particular cases in this context have been reviewed. Chapter two begins with presentation of methodology used for empirical application and underlines the relevant objectives. Chapter two accordingly reports the results of the application and interprets the results. Finally, chapter three concludes the overall results.

1. Transition from Economic and EMU Regulations to SGP

1.1. Convergence Criteria Highlighted: Transition

Having regarded the debt crisis of EU countries and Italy in particular, it is important to recall that Italy was not able to fulfill gross debt criteria launch as one of important item of

convergence criteria laid out at Maastricht. However, EU authorities had twisted and bent the debt criteria on the ground that all other criteria had been honored successfully and Italy were allowed to join the EMU. The later Greece's entry into EMU had not been granted on the ground that convergence criteria were fulfilled but on some efforts of Greek authorities to manipulate for precipitating Greece's accession into the EMU. There exist a wide spread reckoning that EU authorities knowingly allowed Greek participation in EMU while Greece were far from complying with Convergence Criteria. This point is elaborated further in detail in section 1.3.1.

The SGP (1997) was institutionalized in 1997 were to oversee the budgetary health of EMU countries-assuring that annual debt and Gross Debt to GDP ratios should not exceed the predetermined threshold attached to these two criteria. However, it is widely known that fulfillment of those criteria have become a fundamental issue for the member governments and EU authorities because increasingly many more countries have become stuck with budgetary and debt deadlock dominating the Euro area.

1.2. Reforming SGP in the Wake of Debt Crisis

The financial crisis was triggered in Europe in 2008 after the emergence of a sovereign debt and banking crisis. It is currently affecting the whole Europe with the detrimental social and political effects on the People of Europe as well as economic effects on Euro and Banking System (Papasavvas, 2015:3). Growing debt crisis in particular members were spreading to other members: Italy, Greece, Portugal, Spain and Ireland underscored the worst performances in fiscal policy domain but many other countries followed the suit with relatively less extent of debt burden in Euro area. Italy, Greece, Portugal, Spain and Ireland underscored the worst performances in this regard but many other countries' strain were overwhelming Euro area. Italy, Greece, Portugal, Spain and Ireland underscored the worst performances in this regard but many other countries have also exceeded the total debt threshold and increasingly becoming vulnerable in consolidating their current and future balances respectively. In the wake of fiscal weaknesses and inefficient performances, SGP had undergone a revision through which non-compliance with the criteria would be permitted pending on the endorsement of EU Council and Commission. It does not relinquish the SGP render more flexibility as to the interpretation of Fiscal Burden by the authorized bodies of EU. If the authorities endorsed and made policy recommendation to be carried out to ease off the debt burden; this move placed burden of responsibility on governments for providing prescribed improvement in debt consolidation. Therefore, technically speaking; SGP have evolved from

being a mere "statistical cumulative measure" to rather a broader interpretation of the former with greater flexibility-where mandate transforms into discretion of the greater EU authorities. Whether this radical choice undermines or increases the credibility of the governments and EU authorities and EMU-is not easy to formulate and widely debated point in academic circles. The credibility effect is rather likely being felt in the long-run than short-run in the face of the economic, financial and to some extent-political crisis in Europe. This work attempts to illuminate the extent of the fiscal position of the EMU members and try to compare their level of performances in search of ranking their position on the basis of achievement scores on annual deficit, gross debt and long-term interest yields. This will allow us to show the spread of sharing the Burden of fiscal policy consolidation by classifying countries in ranks. This comparison to a certain extent will enable specialist reader to interpret country-specific positions under the given ranges. However, this work is reinforced with a follow up descriptive coverage where interpretation and comments are linked to the above mentioned criteria and highlighted country performances. Given the special position and recent reforms undertaken; Greece in particular will draw more focus of attention in this regard.

Financial crisis of 2008 caused a sovereign debt crisis which affects the European countries grossly. The Euro area debt crisis changed the mood in the Euro area and in the EU circles so much so that some of the non-compliant countries had to be tolerated for exceeding the thresholds of Total Public Debt/GDP ratios. This resolve resulted in moving for bail-out plans which were introduced as a last resort solution.

As debt burden deepened, bail-out extensions had already been problematic and controversial in Europe. Greece, Spain, Portugal Ireland have been the cases of high debt ratios with their critical magnitude. These countries' gross dept ratios stresses that having been not able to foresee the coming debt crisis and been late to take preventive measures lead to the failure of the supports that were given to these highly debt countries.

1.3. Sovereign Debt Crisis: The Case of Greece and Beyond

1.3.1. The causes and extent of the debt crisis: An outline

Faced with the exceedingly large amount of debt and debt repayment obligations, Greek economy for long had superficially promoted personal income and therefore spending, almost with full-dependence on the massive credits borrowed from EU credit institutions and IMF. It is strikingly telling fact is that Greek policy making agenda was and possibly still is-devoid of

economic planning and financial monitoring-the situation which is counterfactual and unrealistic when economy had been losing strength over the time while the level of debt had been increasing. Government policy whether explicit or implicit, was of promoting reckless spending while ignoring fiscal discipline, promotion of domestic and international investment. Many critics have jumped to the conclusion that it was due to irresponsible popular line of policies followed by then incumbent social party in the past. This is an erroneous conclusion as to the nature of governance over the years. The Greek Liberal Party was as much responsible for the consumption boom and other populist line of policies as the socialist party that consequently brought the debt dependent country to the brink of collapse. Perhaps, it is not the line of political philosophy that generated debt-hoarding versus consumption cycle but socio-economic conditions deeply rooted in Community culture. Public expectations, one can suggest that were not based on rational expectations that included long- run considerations but short-run supposed prosperity, which was delivering temporary spending boom at the expense of depressed economic activity in the years to come. Further on, one can contend that aspirations for high living standards that calls for high purchasing power in Greek society has been largely penetrated into the broader political culture which had been formed over the course of many decades. Greeks established close ties with EEC much earlier than gaining full membership, thereby allowed Greece having access to substantial amount of non-redeemable funds extended for the goal of fostering economic infrastructure, dealing with regional disparities and so on. The question of how responsibly and legitimately these funds had been delivered raises a detailed analysis and is beyond the scope of this work, but can legitimately be incorporated into the conception of underlined political culture.

Greek governments were culprits of creating false data on macroeconomic indicators, hence generating positive outlook that helped hijack creditors' favor whose adopted strategy for extending extensive amounts of credits were not fault free. Not only financial Institutions but also leading EU authorities misinterpreted Greek economy and in return this is reflected in their strategies for extending new rounds of credits for Greece. Notwithstanding the fact that Greek governments had failed to comply with the policy recommendations issued by the competent EU bodies, such as implementation of tax reforms, EU had endorsed the deliverance of massive amount of credits over the time. Despite the binding propositions included in treaties, EU has acted rather unwisely in following the suit; then it was too late to lay the blame on successive Greek government. Nor was it fair to blame Greeks alone under the given circumstances.

1.3.2. Further on the extent of debt crisis: EU wide policy resolutions for the future

"Would Greece have been categorized as a failed state if the latest bail-out agreement had not been reached?" is a question that provoke another argument. There are textbook examples of the cases of debtor countries failed and/or rejected to honor their obligations with regard to their debt due to be paid, Argentina is one of the popular example in its kind, declared moratorium in 1990s. Moreover, it was not long before then the declaration of moratorium that the sovereign economy produced the signs for recovery. Under this perspective, the issue for Greece is not one of failure by definition but the matter of credibility on behalf of EU institutions. Should there have been a watertight disagreement over extending a new bail-out deal, this would possibly have required de facto Greek exit from Euro zone given the credibility of EU treaties. If Greece supposedly would refuse repayments or equally failed to come up with a feasible plan, it could have faced with the risk of getting EU membership suspended. Functionally, neither EU nor the Greek people would benefit from this kind of outcome. Furthermore, this could have appeared more costly for EU as a political entity than Greece as a sovereign state. Without doubt such a move would harm further integration goals in Europe and would be likely to undermine substantially the institutional credibility of EU in regard of global political representation. On the other hand, great majority of Greek people are in favor of remaining in Europe and maintaining EU identity albeit their resentment for maintaining their status in Euro zone. In fact, given the amount of accumulated debt, it is rather difficult to believe that staying out of Euro zone will be a quick remedy for the ailing financial and economic matters.

The issue is heated concern not only for government and EU circles but for members of the public especially whose debt problems are reaching to an alarming level. The further acceleration of crisis is likely to cause big damages for European Integration process which is already going through difficult phases. In this, by drawing out attention for the ongoing crisis by analytical investigation as such, this work is expected to encourage more work with valuable insight in this regard.

2. Comparative Fiscal Performance of EU Countries

2.1. Methodology

TOPSIS method was developed in 1981 by Hwang and Yoong and this method applies to multi-criteria decision making (MCDM) processes. Concerning the settlement of decision making process -in addition to determination of alternatives and criteria- it is being preferred

as a means of decision making in various areas since external information is not being much of the concern and because of the simplicity of the procedures. In addition to the principle that selected best alternative tends to provide the closeness to the ideal solution, this system also based on another principle claiming that underlined alternative should be farthest to the negative ideal solution (Assari,2012:2289; Özdağoğlu,2013:245). With respect to this feature, when an alternative is engaged in a bad position when evaluated in terms of a particular criterion or found in a better position when judged by another criterion. TOPSIS provides rational arrangement of the alternative to take part in the evaluation process and making sure ranking is dealt with likewise by adjusting to such adversities.

The sequences to be followed for the application of TOPSIS are defined below as follows: (Hwang and Yoon,1981; Özdağoğlu,2013).

Step 1. Formation of decision matrix

Step 2. Normalization of decision matrix.

One of the most important characteristics of MCDM techniques is that the alternatives can be compared with one another by considering criteria that have different units. Normalization process can be enabled by a rational or composite comparison in this respect.

Step 3. Formation of weighted normalized matrix.

TOPSIS method enables the use the degree of importance for the criteria determined by experts or decision makers in comparison for the alternatives. If the decision maker is of the opinion that there is no difference between the evaluations of different criteria, then equal weights are to be determined.

Step 4. Formation of both positive and negative ideal solutions for the criteria.

The construction of positive and negative ideal solutions begins with the procedure of determining the type of criteria. Positive ideal solution set A* describes the best value for each criterion, while negative ideal solution set delineates the worst value for the given criteria. Therefore in determining ideal solutions -the genre of criteria being maximum/minimum type- is of significant importance. While the best value for a maximum type of criterion becomes column maximum, the worst value is column minimum. In the same manner, the best value of a minimum type of criterion becomes column minimum and worst value is column maximum.

When absolute application of such information is complete, positive ideal solution set A* and negative ideal solution set take on their form as indicated by the illustration of equation 1 and 2. *J* takes part in both equations. *J* signifies utility (maximization) and *J'* indicates cost (minimization) value (Yurdakul ve İç, 2005: 4613).

$$A^{¿} = \left\{ \left(\max_{i} v_{ij} \middle| j \in J \right), \left(\min_{i} v_{ij} \middle| j \in J' \right) \right\} \quad (1)$$

$$A^{-} = \left\{ \left(\min_{i} v_{ij} \middle| j \in J \right), \left(\max_{i} v_{ij} \middle| j \in J' \right) \right\} \quad (2)$$

Positive ideal solution set, $A^{¿} = \{ v_1^{¿}, v_2^{¿}, \ldots. v_n^{¿} \}$ for the alternatives is determined by the equation 1. Negative ideal solution set, $\overset{-¿}{A^{¿}} = \{ \overset{-¿}{v_1^{¿}}, \ldots. \}$ is determined by equation 2. In fact, these solution sets are the coordinates of positive and negative ideal solutions (Markovic, 2010:122) and by taking into consideration of the distances between alternatives and these reference points, TOPSIS calculates TOPSIS scores for the alternatives (Ertuğrul ve Karakaşoğlu, 2008: 21).

Step 5. Calculating the distance between alternatives and positive and negative ideal solution.

The distance for positive and negative ideal solution for each alternative is worked out by utilizing Euclidean approach. The Euclidean distance for positive ideal solution $A^{¿}$ is formulated in equation 3, for negative ideal solution $v_1^{¿}$ is formulated in equation 4.

$$v_2^{¿} = v_n^{¿} \quad (3)$$

$$\overset{-¿}{A^{¿}} = \quad (4)$$

Step 6. Computation of relative proximity index.

The relative proximity index of each alternative to an ideal solution, , is computed in equation 5 by employing measurement units for the distance between positive and negative ideal solution.

[redacted] = [redacted] ve [redacted] [0, 1] (5)

If [redacted] =1, *i* indicates that alternative is placed on ideal positive solution. If $CI_i^{\square}$ =0, *i* shows that alternative is found on the ideal negative solution point (Özdağoğlu,2013:248).

Step 7. The ordering of alternatives according to relative proximity index.

The order of sequence is determined after each alternative's CI_i relative proximity index is calculated. The alternative that holds biggest index in ordering is the best index (Zhang ve Xu 2017:236).

The Euclidean distances of two alternatives, based on the criteria, to ideal solutions have been illustrated on Figure 1 as demonstration purposes of concepts (Markovic,2010:122).

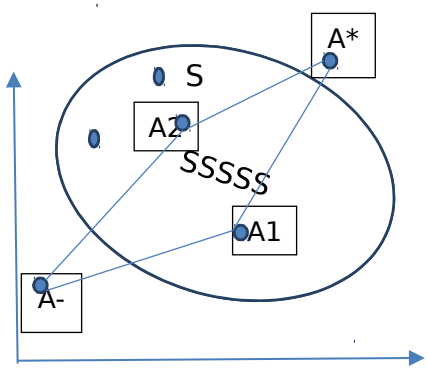

Figure 1. The distance to the ideal solutions

2.2. Application of the TOPSIS Approach

The data for the selected EU28 countries are obtained from the eurostat database excepting Estonia; only 27 EU countries are tested since we were able to get the full data for them. In this study, the indicators for the comparison of the country are selected as fiscal indicators (deficit/GDP, Total Public Debt/GDP) and long term interest rates. The fiscal indicators are selected since above underlined thresholds must not be violated. Since interest rates are closely related to the degree of accumulated debt of a particular country, it is particularly important to include in this investigation.

The annual data on countries are categorized in three parts: 2005-2007, 2008-2011 and 2012-2015. The first part highlights the overall picture of pre-crisis period while the second part highlights the years immediately after the crises. The last part illustrates the period relates

to this day. 2016 has not been included in this period because of the data availability constraint.

2.3. Results of Test

Initially, we illustrated graphical presentations for the given particular countries in the categorised period of the average values of deficit/GDP, Total Public Debt/GDP and long term interest rate for each individual country in EU. The figures; from Figure 2 through Figure 4 imply that Scandinavian countries in general fount to be scored higher in all categories with respect to some of other developed EU members like that of Germany. However; Netherlands, Germany, Lithuania emerge relatively healthy scores in those categories. The case of southern members Italy, Spain, Greece and Portugal remains to be alarming in general but there are some improvements in budget deficit situation. However with the given accumulated total debt, economic outlook for the near future of these countries remains to be gloomy in various aspects of the economic health.

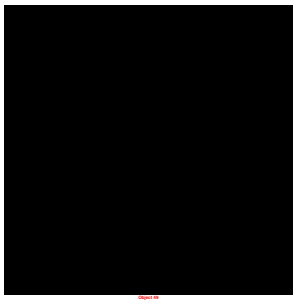

Figure 2. Average Fiscal values and Interest rate for the period 2012-2015

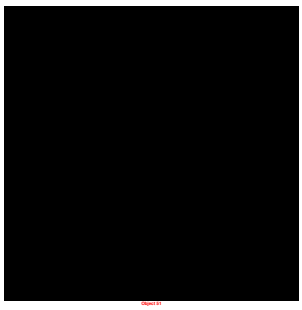

Figure 3. Average Fiscal values and Interest rate for the period 2008-2011

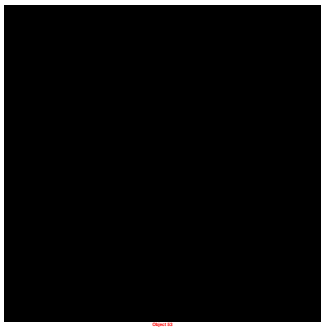

Figure 4. Average Fiscal values and Interest rate for the period 2005-2007

Figure 5 shows general improvement in total debt for the indicated countries although dept ratio still remains to be high in south of members regarding annual deficit ratio the general picture in this score is much more positive including south of members. Privileged position of Sweden, Finland, Denmark and Lithuania can clearly be observed for all indicators.

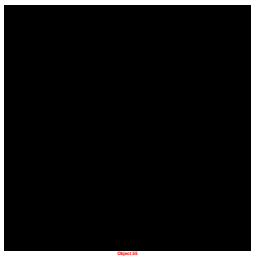

Figure 5. Average Fiscal values and Interest rate for the Year 2015

One of the striking indications of the TOPSIS ranking results is that the performances identified as rankings are subject to changes from one period to another. Within this framework, a country could easily move from relatively high performance rank to a lower performance rank over the time or vice versa. This situation reflects -at least partially- the heterogeneous composition of fiscal performances of the EU countries.

The case of the Bulgaria regarding the first period is promising it can be observed that Bulgaria out performs some strong economies Germany, Belgium and Netherland. In the second period Bulgaria's performance has been much higher to put the countries rank in top five countries. But the performance in recent period has substantially decreased. Regarding Malta, given the all periods a progressive improvement is visible for this country.

Considering the fiscal situation of United Kingdom, there performance with regard to their ranking through all periods has not been successful. For the subsequent periods, their rankings are 19, 22, 21. The spectacular performance of Germany over the periods can be observed through the ranking scores. Germany's rankings for subsequent period are 16, 9 and 3.

Tablo 1. The Results of the Period 2005-2007

Country	S^*	S^-	C_i-TOPSIS Scores	Rank
Denmark	0,014	0,121	0,9	1
Finland	0,020	0,112	0,846	2
Luxembourg	0,028	0,106	0,792	3
Sweden	0,030	0,099	0,768	4
Spain	0,033	0,095	0,741	5
Ireland	0,035	0,096	0,735	6
Bulgaria	0,035	0,094	0,73	7
Lithuania	0,049	0,082	0,624	8
Latvia	0,050	0,083	0,624	9

Netherlands	0,048	0,079	0,621	10
Slovenia	0,053	0,077	0,595	11
Cyprus	0,054	0,079	0,592	12
Czech Republic	0,063	0,069	0,526	13
Romania	0,067	0,071	0,514	14
Belgium	0,067	0,068	0,504	15
Germany	0,066	0,065	0,495	16
Slovakia	0,070	0,062	0,471	17
Austria	0,070	0,058	0,452	18
United Kingdom	0,073	0,057	0,44	19
Croatia	0,075	0,056	0,43	20
France	0,074	0,055	0,427	21
Malta	0,074	0,054	0,424	22
Poland	0,075	0,054	0,416	23
Italy	0,086	0,048	0,358	24
Portugal	0,089	0,043	0,326	25
Greece	0,112	0,027	0,193	26
Hungary	0,115	0,023	0,169	27

Tablo 2. The Results of the Period 2008-2011

Country	S^*	S^-	C_i-TOPSIS Scores	Rank
Luxembourg	0,005	0,122	0,957	1
Sweden	0,016	0,115	0,880	2
Finland	0,016	0,114	0,879	3
Denmark	0,017	0,112	0,869	4
Bulgaria	0,023	0,108	0,823	5
Czech Republic	0,033	0,098	0,748	6
Netherlands	0,033	0,097	0,744	7
Cyprus	0,034	0,094	0,734	8
Germany	0,036	0,099	0,732	9
Slovenia	0,037	0,094	0,720	10
Slovakia	0,039	0,091	0,699	11
Austria	0,043	0,092	0,682	12
Malta	0,046	0,090	0,662	13
Poland	0,047	0,082	0,634	14
Belgium	0,051	0,088	0,634	15
France	0,050	0,084	0,625	16
Croatia	0,049	0,081	0,623	17
Lithuania	0,056	0,085	0,605	18
Romania	0,057	0,083	0,593	19
Latvia	0,057	0,081	0,586	20
Italy	0,059	0,082	0,581	21
United Kingdom	0,058	0,079	0,577	22
Spain	0,058	0,078	0,574	23
Hungary	0,057	0,076	0,573	24
Portugal	0,065	0,066	0,501	25
Ireland	0,096	0,048	0,336	26

Greece	0,106	0,047	0,306	27

Tablo 3. The Results of the Period 2012-2015

Country	S^*	S^-	C_i-TOPSIS Scores	Rank
Luxembourg	0,002	0,140	0,983	1
Sweden	0,020	0,125	0,862	2
Germany	0,024	0,127	0,843	3
Denmark	0,026	0,124	0,828	4
Czech Republic	0,027	0,120	0,818	5
Latvia	0,027	0,118	0,814	6
Lithuania	0,028	0,115	0,805	7
Austria	0,036	0,114	0,760	8
Netherlands	0,036	0,113	0,757	9
Finland	0,038	0,113	0,748	10
Malta	0,037	0,107	0,744	11
Bulgaria	0,040	0,114	0,739	12
Slovakia	0,040	0,108	0,730	13
Romania	0,040	0,105	0,722	14
Poland	0,046	0,099	0,682	15
Belgium	0,050	0,103	0,675	16
France	0,053	0,102	0,659	17
Hungary	0,050	0,094	0,652	18
Italy	0,058	0,094	0,618	19
Ireland	0,060	0,092	0,607	20
United Kingdom	0,064	0,095	0,596	21
Croatia	0,062	0,083	0,575	22
Slovenia	0,072	0,088	0,550	23
Spain	0,075	0,082	0,522	24
Cyprus	0,075	0,078	0,512	25
Portugal	0,079	0,072	0,478	26
Greece	0,132	0,023	0,148	27

Tablo 4. The Results of the Year 2015

Country	S^*	S^-	C_i-TOPSIS Scores	Rank
Luxembourg	0,000	0,328	1,000	1
Sweden	0,037	0,297	0,888	2
Germany	0,044	0,301	0,873	3
Lithuania	0,050	0,280	0,847	4
Czech Republic	0,053	0,290	0,846	5
Latvia	0,069	0,275	0,800	6
Denmark	0,077	0,275	0,780	7
Austria	0,078	0,270	0,776	8
Malta	0,081	0,256	0,760	9
Netherlands	0,087	0,265	0,752	10
Bulgaria	0,091	0,247	0,731	11
Ireland	0,094	0,253	0,729	12

Romania	0,093	0,240	0,720	13
Slovakia	0,102	0,257	0,715	14
Finland	0,106	0,256	0,706	15
Belgium	0,115	0,247	0,682	16
Slovenia	0,114	0,232	0,670	17
Poland	0,114	0,224	0,663	18
Hungary	0,112	0,217	0,660	19
France	0,131	0,239	0,646	20
Italy	0,133	0,224	0,627	21
Cyprus	0,135	0,199	0,596	22
United Kingdom	0,149	0,214	0,589	23
Croatia	0,145	0,189	0,566	24
Spain	0,168	0,207	0,551	25
Portugal	0,168	0,191	0,532	26
Greece	0,328	0,000	0,000	27

3. Conclusion

For the national governments and EU circles, debt problems are reaching to an alarming level. Bail-out plans were introduced as a last resort solution. However, as that burden deepened over the time, bail-out extensions had already become frustrating attempts in dealing with debt burden. Greece, Spain, Portugal and Ireland were in the centre of controversy. The further acceleration of crisis is likely to cause big damages for European integration process which is already going through difficult phases.

According to the TOPSIS ranking results, through the all periods relatively few countries were able to produce higher ranks associated with fiscal health. Countries belong to this group are Sweden, Finland, Denmark and Lithuania. Many countries ratings fluctuate from one period to another and interestingly enough some strong economies underwent the processes of undesirable fiscal performance. Alternatively, a strong economy performing badly at the first phase of the sample periods transforms into good position in the ranking like the case of Germany.

On the other hand, some relatively weak economies display successful fiscal resolve over the given periods. The case of the Bulgaria regarding the first period is rather promising and it can be observed that Bulgaria out performs some strong economies like that of Germany, Belgium and Netherland. In the second period Bulgaria's performance has been much higher to put the countries rank in top five countries. But the performance in recent period has substantially decreased. Regarding Malta, given the all periods a progressive improvement is visible for this country.

One of the striking indications of the TOPSIS ranking results is that the performances identified as rankings are subject to changes from one period to another. Within this framework, one country could easily move from a relatively high performance rank to a lower performance rank or vice-versa. This situation reflects -at least partially- the heterogeneous composition of fiscal performances of the EU countries.

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