Fiscal Consolidation and Economic Crisis – Ten Years After

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Abstract

In general, public finances are constantly exposed to many risks, shocks, stressors or pressure factors, demographic evolution, political turbulences, including economic and financial crises, depending on the stages of an economic cycle. On this background, we analyze the efforts of fiscal consolidation enacted in the EU Member States and their effects, using for judgments the concept of "smart fiscal consolidation", aiming to identify the sources of success and failure in matter of governmental interventions. Our analysis relies on data from Eurostat database for the 28 Member States of the European Union, covering a decade timescale, from 2008 to 2017. The main findings suggest that the composition of fiscal adjustment measures, timing, burden or sacrifice distribution over society and the harmonization of structural reforms represent the most important determinants of the success of fiscal consolidation episodes. Based on our findings, we identify and formulate some successful recipes, which could be useful for policy makers in the context of other economic turbulences.

Key words: smart fiscal consolidation, fiscal policy, public budget deficit, global economic crisis, budget reform
J.E.L. classification: H30, H50, H62

1. Introduction

The subject of fiscal consolidation presents great interest for the political leaders all over the world, in the context of the inevitable phases of a business cycle. A major issue relates to the fact that during and after every recession, it seems that the public debt becomes deeper for most of the countries. Another related issue is represented by the fact that every time the economy runs on an ascending path, in general governments conduct irrational fiscal policies, which creates a narrowed fiscal space in front of future economic turbulences, thus affecting the resilience of public finance (budgets) against new economic shocks. Having limited fiscal choices in a new recession context, it may be installed kind of a vicious business cycle, which, the more it runs, the more the distance between its phases grows. Further, these may reflect into a higher and unsustainable public debt and social inequity between citizens, communities, regions and between countries, which confirm the economic cliché that the rich get richer and the poor get poorer (Rose and Spiegel, 2012). Avoiding this vicious business cycle, public authorities should conduct strong and permanent fiscal consolidation strategies.

The main aim purpose of this paper is to analyze the efforts of (smart) fiscal consolidation enacted in the European Union member states and their effects, in order to identify the potential "patterns" of interventions from the government side and the main factors determining these patterns and affecting the viability of fiscal packages. In this respect, we exposed successful and failure approaches of the fiscal governmental interventions during and after the crisis. In the end, the paper includes some potential lessons or best practices in fiscal consolidation.

The paper is organized as follows: Section 1 shows discussions and empirical research about fiscal consolidation in the extant literature, Section 2 presents theoretical consideration in matter of choices of fiscal consolidation, Section 3 presents some stylized facts of the recent episode of economic crisis, Section 4 confer a discussion about the practices of fiscal consolidation of European member states and their budgetary evolution after a decade from the global crisis, and in the last section we provide the conclusions and recommendations.

2. Literature review

Fiscal consolidation represents a topic with various approaches in the extant literature. Firstly, one should distinguish that fiscal consolidation could be understood both as a process and as a result of the respective process (Oprea, 2013). As a process, this should reflect a permanent concern to optimize the volume and structure of public spending and revenues in order to achieve budgetary equilibrium and to reduce public debt, policy options not being limited to fiscal decisions. As a result, it refers to the budgetary equilibrium accomplished by these efforts of the public authorities.

Before discussing about the governmental intervention in matter of fiscal consolidation, we should remark that the functionality of budgetary system has also an inherent side of the fiscal consolidation process, identified with the action of the automatic stabilisers. The utility of automatic fiscal stabilisers in targeting public budget resilience represents a subject of great interest in the extant literature (Fatás and Mihov, 2001; Darby and Mélitz, 2008; Fischer and Justo (2010), where it is confirmed their primary role of fiscal reaction against small deviation of the economy.

Regarding the effectiveness of the fiscal consolidation on the expenditure side compared to the one on revenue side, Alesina and Perroti (1997) argued that fiscal consolidation based on spending is more effective than fiscal consolidation based on public revenues. Alesina and Ardagna (2013) showed that fiscal consolidation based on spending could lead to a bigger reduction of public debt. The extant literature provides evidence that fiscal consolidation on the spending side determines positive effects on the competitiveness and investments in the private economy also: Alesina and Perotti (1995), Alesina and Ardagna (2013) and Kumar et al. (2007). At any rate, revenue-based strategies couldn't be neglected; they still remain part of the composition of the fiscal consolidation, this being also an important determinant of its success (Alesina et al., 1998).

The design of the budget consolidation policies is shaped by a multitude of factors. A comprehension and large approach of the main determinants of fiscal consolidation is found at Oprea (2013). The study explains how the process of fiscal consolidation is influenced mainly by: economic situation, legal framework, elections, political ideology, institutions soundness, the administrative fragmentation and multiplied expenditures centres, the correlation of public financial policies with other macroeconomic policies, the scientific foundation of decisions.

Important contributions regarding the determinants of fiscal consolidation were encountered also at Alesina and Perotti (1995), Alesina et al. (2006), Kumar et al. (2007) and Mulas-Granados (2003). These relate to macroeconomic and political background, the composition, size and duration of the adjustments, the involvement of local governments, institutional changes and the adoption of structural reforms in order to support the adjustment measures.

An important point of view is offered by Mulas-Granados (2003), which argues that when engaging to fiscal consolidation, the policy makers should be aware of the accumulated levels of debt and structural deficits in order to avoid creating a "snow-ball effect" for the both. This is because increased interests of public debt are regularly paid through public budget and increased structural deficits hinder the possibility to run structural surpluses.

Another important determinant of fiscal consolidation process is represented by the composition of the government. Tavares (2004) and Mierau et al. (2007) revealed that in multi-party governments it is likely to appear difficulties in meeting and agreeing opinions and governing plans. Similar discussion/ results are brought by: Roubini and Sachs (1989), Grilli et al. (1991), Volkerink and De Haan (2000) and Armingeon (2012).

According to other researches in the field, fiscal decentralization represents also an important determinant of fiscal consolidation. Some authors claim that this determinant is likely to weaken the local fiscal discipline (DeMello, 2000 and Rodden, 2002), while others discuss and argue the

contrary: Baskaran (2010), Asatryan et al. (2015) and Argimón and Cos (2012).

Finally, fiscal consolidation process represents great interest from the perspective of its design, meaning its composition, timing, duration and the size of the adjustments conducted through public interventions and their effects on the social-economic life. The subject is more important as, although on short term fiscal consolidation measures could improve the situation of public budgets and economies, on long term it could deliver more deterioration of them. In this respect, empirical research of Ball et al. (2013), Woo et al. (2013) and Buyse (2016), argued that during fiscal consolidation periods, there is determined an increase in income inequality, though social inequity. On this background, the focus in our paper is on the experiences of the EU member states in the last economic crisis, aiming to point the successful and failure approaches of them.

3. Fiscal consolidation - a matter of choices

The fiscal consolidation process of public budgets comprehends actions of public financial policy related to the optimization of the volume and structure of public expenditures and revenues. It refers both to the increase the efficiency of allocation and distribution of public spending, as well as to the increase of own financial sources of income and the attracted or borrowed resources. The purpose of fiscal consolidation process claims to maintain (regain) the equilibrium of public balances and to reduce (eliminate) public debt, without endangering the economic growth, and having as purpose the sustainability of public finances and thus resilience (strength) of public budgets against new economic turbulences.

At any rate, fiscal systems have their own (non-discretionary) capacity to absorb some of the negative effects of the small deviations of the economy through its automatic stabilisers. It is appreciated that automatic stabilisers can react and produce effects more rapidly than discretionary government intervention, having an important role in economic system reconfiguration. In the same time, it is accepted their limited capacity to fully resolve (eliminate) the difficulties caused by an economic shock. Thus, claiming and legitimating the discretionary government intervention in order to complete consolidation process with appropriate fiscal measures against the negative effects felt during the recession.

Consolidation of public budgets should represent a permanent concern of policy makers in charge, ideally, aiming to achieve a permanent resilience of public budgets (or fiscal sustainability of public finances). In this sense, the policy makers should anticipate the turning points of the economy and enacting fiscal packages against the inevitable phases of a business cycle (specifics for capitalist economies). In this respect, fiscal consolidation must be subject for public financial policies also in periods of economic prosperity in order to temperate the "overheat" of the economy. Regarding the relation with the term (mandate) of a government in charge, consolidation policies should be starting since the "honeymoon" period. The point is that they will have the chance to lead effective consolidation measures and the positive results may also assure another mandate. The most convenient measures which should be enacted in this respect are represented by raising tax level and decreasing public spending, called to temperate economic growth when necessary. Therefore, appropriates public financial policies will attenuate the negative effects both for public and for private sector, which are deeply interconnected, when economy turns to a descending path, creating the effect of a "soft blanket". Beside the fact that the negative effects of the recession would be felt less deep, governments would benefit of a large fiscal space and favorable instruments for a smoothly cross over, thus, restoring earlier the public balances equilibrium and reanimating the economy. On the contrary, at every downturn of the economy, public finances would be strongly hit and pushed closer to the edge of the collapse. The chasm between the phases of business cycle would be higher and harder to cross over.

Reported to the above, the efficient allocation and redistribution of public expenditures and revenues to destinations is closely linked to their management in the stages of the business cycle. Theoretical considerations in the matter were formulated for the first time by John Maynard Keynes, and nowadays are retrieved under the concept of "smart fiscal consolidation", (see for example Kolev and Matthes, 2013), both identified in practice with successful consolidation programs. The concept of smart fiscal consolidation was fixed in the context of the sharp declining of public budgets and increasing public debts after the global crises since 2008. According to Kolev

and Matthes (2013), the objectives of public finances through smart fiscal consolidation are long term targeted, minimizing the potentially negative effects on short term, thus regaining its credibility.

From the point of view of the Keynesian theory, in a context of an economy in recession, the successful recipe in order to face the economic turbulences is grounded on counter-cyclical fiscal measures, which can be tinted as follows: cutting taxation and maintaining public spending level, maintaining tax level and raising public spending or an optimum combination adjustment of the two sides of the public balance. On the contrary, in a period of economic boom the fiscal measures would be inversed. Thus, the involvement of the state in the recovery of the economy should imply rather an increase of the expenses considered productive, of investments in key areas and branches of the economy. However, successful recipe fostering stabilisation of public budgets and economies doesn't relate only to discretionary measures of simply increasing or decreasing budgetary indicators. Thus, timing and the design of fiscal packages appear as very important elements of smart fiscal consolidation.

Related to the timing, in our view, the most appropriate moment of adopting discretionary measures in respect of fiscal consolidation is placed before the manifestation of the economic turbulences. Policy makers should anticipate such turbulences and they should be prepared with fiscal alternatives. In addition, it is very important that when governors conceive these alternatives, they should take into account the (recent) economic and fiscal-budgetary situations. On a recession context, the countries with more fiscal space (and low burden of public debt) can prepare gradually steps of the fiscal consolidation strategy, which can be executed, after letting automatic stabilisers performing their fiscal stimulus. On the contrary, for the countries where the public deficit and debt have already reached critical levels, fiscal consolidation measures immediately adopted should be packed into an austerity fiscal package, avoiding public debt becoming unsustainable and in the end a possible collapse.

Decisions related to the design of the fiscal packages include decision concerning the mix measures (expenditures versus revenues), size and duration of the fiscal adjustment. From all these, the mix between various categories of public expenditures and revenues represents the main interest of this paper. According to theoretical considerations and the practice in the field, the composition of fiscal packages should consist more on public expenditure than public revenues, the former being more reliable to achieve effectiveness of the consolidation process, as it proved in some recent studies (see for instance, Alesina and Ardagna, 2013). This is somehow natural as the budgeting processes are designed starting from the public needs of a nations, thus firstly dimensioning the volume of public expenditure categories, which can be re-evaluated in harsh economic conditions, reprioritized and adjusted accordingly. Besides, decision makers could better estimate and control the dimension of public expenditures than the dimension of public revenues, because the latter is impacted in addition by other exogenously factors: the economic juncture, tax evasion and the collection degree of taxes and duties.

Regarding the shares of public resources allocated on the destinations of the functional classification of public expenditures, the rational requirements in terms of fiscal consolidation look for optimum between the different public expenditure categories. Accordingly to this, important public resources should be redirected on those destinations considered productive and associated with a creative capacity in the economy (e.g. health, education, research, capital expenses, etc.), different from the ones that do not bring a direct surplus to the economy (e.g. general public services and social protection). Restructuration of general public services should be accompanied by staff reduction if there is the case, as these expenditures couldn't bring (in a direct and visible way) added value in the economy. Also, social protection expenditures should be conditioned under strict criteria of spending related to the eligible beneficiaries.

In relation to the public revenue side, in normal economic situations, these must be designed in accordance with the basic taxation principles of covering appropriates taxation bases with optimum tax rates. Following the economy's phases, public decision makers must have preserved fiscal space in order to reduce or increase taxation level depending on the needs of the economy. The main options for fiscal consolidation on the public revenue side oscillate between: direct and indirect taxation, movable or immovable basis taxation, consumption or income taxation. For public decision-makers, the choice of one or another form of taxation must be based on the benefits

it brings to the public budgets, but necessarily in balance with its effects generated on the socio-economic life.

In order to better face the economic downturns, the structure of tax system should be mostly based on a less mobile fiscal base and on consumption taxes too, so that the overall fiscal architecture could be less volatile to the economy's fluctuations. In this sense, property tax appears more fitted for use, compared to income tax or consumption taxes, which are definitely more sensitive to economic fluctuations, and taking into account that raising them represents disincentives to work or demand. From another perspective, shifting taxes from mobile to immovable fiscal bases (consumption tax relies in general in mobile bases) does not represent solely the optimum solution from for system efficiency. Policy makers should absolutely consider that pointing up on the indirect taxes (consumption taxes) will increase fiscal inequity among social categories. People with low incomes will support a relative higher fiscal burden compared to the persons with high incomes. From an overview perspective, indirect taxes, acts in the sense of expanding the distance between the social categories, this profoundly contradicting the principle of social fairness. In order to restrain this tendency, in the extant literature (Kolev and Matthes, 2013) it is recommended to increase income tax allowances for groups having low incomes, if there is fiscal space available, recommendation that we agree with. In the Discussion section of the paper is reflected and debated the report between direct and indirect taxation among the Member States during the first decade after the economic and financial crisis from 2008.

The effectiveness of fiscal measures should be further supported by enacting structural reforms in the fields of education, health, pension systems and labour market. In this sense, the reforms and the public policies should be focused on enhancing social fairness, social inclusion and/ or equality. Also, in general, governments should be more focused on decreasing bureaucracy and improving regulation for the private sector.

4. Budgetary reflections of the recent economic crisis - some stylized facts

On the context produced by the last global economic crisis, the situation of public finances of European Union member states was differently affected and materialized in consequence. In the Appendices section we exposed some budgetary indicators (public deficit/ surplus of general government, public debt, relevant categories of public expenditures and revenues) aiming to draw attention of their configuration when crisis hit and during a period of ten years after.

Appendix A shows the (public deficit/ surplus of general government. In 2008, when global economic crisis hit, on the EU context there were 12 countries that had the general government deficit higher than the threshold of 3% (established at Maastricht Treaty). The most affected were Greece, Ireland, Romania and the United Kingdom deficits of 10.2%, 7%, 5.4% and 5.2% of GDP. On the other side, other 7 countries had budgetary surplus, still showing little resilience against the economic shock – Netherlands, Cyprus, Bulgaria, Sweden, Denmark, Luxembourg and Finland – with values varying from 0.2% to 4.2% of GDP. However, after 10 years from the crisis hit, only a country recorded the deficit higher than 3% (Spain with 3.1% of GDP). Instead, some countries (Estonia, Luxembourg, Malta and Sweden) had little fluctuation of the budget balance of general government and close to the equilibrium, proving a sort of resilience of its public budgets.

Concerning the public debt (Appendix B), in 2008 there were 9 countries with the level above the threshold of 60% of GDP (established at Master Treaty). The countries with the highest level of public debt were Greece and Italy (109.4 and 102.4% of GDP), closely followed by Belgium. With the years passing, the number of countries with the debt level higher than 60% of GDP increased, so that in 2014 their number was of 17, from which 7 countries had public debt over 100% of GDP (Greece, Italy, Portugal, Ireland, Belgium, Cyprus and Spain). On the other side, the lowest indebtedness of the governments in 2008 was encountered in Estonia, Bulgaria, Luxembourg, Romania, Lithuania and Latvia (under 20% of GDP. Overall, after a decade from the global crises, the relative indebtedness of the member countries of European Union reached values higher than they recorded when the crisis hit. Exception, are Germany and Malta, for which in 2017 the percentage of public debt was lower than the countries had in 2008.

With respect to the expenditure for general public services (Appendix C), the highest levels of GDP percentages for all the analyzed period were supported in Greece, Hungary and then Italy, Belgium and Cyprus, although on a normally trend, this type of public expenditure (most including salaries), should have decreased or maintain its level, at least. However, it is important to notice that in 2017 compared to 2008, the relative level of public general services expenditures decreased in 18 of the selected countries. The smallest relative values for these expenditures recorded in countries as Estonia, Ireland, Latvia, Lithuania, also United Kingdom.

Regarding the social protection expenditure (Appendix D), more than a half of the selected countries recorded values above the average, which was about 16% in GDP for our sample. In the ranking top we had France, Denmark, Sweden, Austria, Finland, Germany, Italy and Belgium, for which in 2017 the relative level of social protection is higher than its correspondent from 2008, despite the fact that most of these, struggled to decrease or maintain its level during the next years of the global crisis. The smallest relative values of social protection spending of general government compared to the rest of the countries were recorded in Latvia, Cyprus and Bulgaria.

According to the collected figures (Appendix E), economic spending has few percentages in GDP. In order to implement fiscal consolidation during recession caused by the global crises from 2008, countries should have increased economic spending or at least, maintained it at the same level. However, countries as Denmark, Germany, Sweden, Finland, Italy and Lithuania reached a low level of economic spending in general government, despite the standing of developed countries for some of them. Even Germany and Italy had a small relative level of public spending of general government. Instead, the higher relative levels of economic expenditure, especially in 2008 and few years after were reached by countries as Croatia, Romania, Malta, Latvia, Czech Republic and Bulgaria. Overall, in 2017 we encountered 21 countries with relative levels of economic spending lower than they had in 2008, from these 14 countries recorded and a nominal lower level.

In Appendix F, we reflected the level of taxation from income and health (these representing the main categories of direct taxation). In 2008, Denmark and Sweden had the higher level of taxation from income and health (these representing the main categories of direct taxation), while the lower level were recorded in Eastern countries, as Bulgaria, Romania, Baltics, Greece and others. During the next 10 years the relative values of direct taxation varied about 1 to 4 percentages plus / minus at national levels. In 2017 Denmark and Sweden remained the countries with the higher level of direct taxation and on the other side we encountered Lithuania, Bulgaria, Romania, Croatia and others. In Lithuania's case it was recorded the greatest variation between the level from 2017 (5.4% of GDP) and the level from 2008 (9.2% of GDP), of 3.8% of GPD. Overall, in 2017 17 EU member states had a lower direct taxation than they had in 2008.

With respect to the taxes on production and import, formed in general by indirect taxes (Appendix G), we note that during the selected period, the small relative values were recorded in countries as Spain, Slovakia, Czech Republic Germany and Latvia and the higher relative values were recorded in countries as Sweden, Croatia, Bulgaria and Denmark. After a decade from the global crisis, in 2017, the relative level of the taxes on production and import indicator was higher for 19 countries. For Lithuania, the relative level maintained in 2017 and only for 8 countries the relative level of indirect taxation decreased. The few relative decreases cases of this indicator reflect little fiscal effort from the part of the respective countries too, as e.g. Cyprus, Bulgaria, Poland, Germany and Denmark. The best reduction of the indirect taxation level in 2017 was reached by Ireland, by 2.4% less than it had in 2008.

5. Discussions

The EU member states were differently affected by the global economic crisis from 2008. The public balances in Ireland, Greece, Portugal, Romania and Spain were seriously damaged, while less affected encountered in France, Germany, Luxembourg, Netherlands and Sweden. Since December 2008, European Council has launched The European Economic Recovery Plan aiming to provide support for the Member States to the inception of the fiscal measures that should have responded to the global economic crisis. The primary coordinates of the fiscal measures recommended – well designed fiscal stimulus/ incentives for the recovery of the economies and low taxes and contribution - to the states related to the need of being well targeted, timely and

temporary. Depending on the negative effects' intensity on states, the national governments couldn't all have taken similar commitments in designing the fiscal policies as per the recommended directions of the European Council.

According to the European Commission Report on Public Finances in EMU (2009), some countries opted for expansionary fiscal measures immediately after the crises hit: Spain, Austria, Finland, Malta, Germany, Sweden and United Kingdom. For Austria and Germany the explanation resides in the fact that in 2008 they had relative low deficit or even recorded surpluses of the public balances, which at that moment permitted those expansionary measures. Finland and Sweden recorded balance surpluses in 2008 (and the primary balance deficit respected in general the criteria of 3% of GDP during the next period), fiscal expansionary policies being more recommended in their cases. On the contrary, these weren't recommended for Malta, Spain and United Kingdom, giving their deficit from 2008, above the threshold of 3% of GDP.

From the three countries, more attention is drawn by Spain case. On the context of the housing bubble before 2008, improper speculations have been taken, which made government constructing budget strategies for permanent expenditures based on temporary revenues. Despite all these, after the crisis hit, the government still implemented expansionary measures, "without following any rational, well-designed plan" (Monastiriotis et al., 2013, 23). Thus, the fiscal imbalances worsened in 2009 to the level of 11% in GDP. In Malta's case it was not recommended to adopt fiscal expansionary measures (giving its fiscal space when the crisis came over), though the government stabilized the public finances in 2013 and succeeded important reduction of public sector, especial on the expenditure side. Implementing expansionary measures without having enough fiscal spaces, it cost the countries a longer way to stabilize the primary balance. So, Austria and Germany reached the public deficit under 3% of GDP in 2011, Malta in 2013, United Kingdom in 2016 and Spain only in 2017.

Other Member States opted for austerity measures. Some of them had some fiscal space - France, Poland, Portugal, Ireland, Estonia – but some of them had zero fiscal space in the first years of the crisis - Greece, Italy, Latvia, Lithuania and Romania. Although, their options in matter of fiscal consolidation may appear in contradiction with the notion of smart fiscal consolidation, these may be considered positive as long as is proved their contribution to have rehabilitated on short term the situation of public finances. In another words, these countries, due to their low fiscal space, couldn't afford to have taken fiscal stimulus measures during the first years of recession. Except Estonia, all of them had the primary balance deficit higher than 3% of GPD since 2008. Estonia managed to maintain the general government deficit under 3% during all the selected period in the study. Its fiscal policies were led under the desire to join euro-zone in 2011, as indeed it happened. The rest of the countries managed to reduce the decline of public finances later than the countries which implemented expansionary policies (and these were appropriate): Italy, Latvia and Lithuania reached the deficit of general government under the threshold of 3% in 2012, Romania in 2013, Ireland and Poland in 2015 and France in 2017. These facts confirmed theoretical considerations that during a recession expansionary policies appear to be better than austerity policies.

Further, we exposed some efforts of fiscal consolidation enacted in the Member States after the crisis and their results reflected over the public budgets after a decade from the crisis hit. The main concerns refer to the composition of fiscal measures, the timing of the enacted measures, the distribution of social burden, the lack of structural reforms supporting the fiscal consolidation packages and the lack of national long term fiscal framework, harmonised with the European fiscal-budgetary framework.

Related to the composition of fiscal measures, some of the countries adopted strategies based on revenue side rather than strategies based on the expenditure side: France, Italy. On the other side, some more of the EU countries focused on the expenditure based fiscal measures: Greece, Ireland, Portugal, Baltic countries. Most of the fiscal packages were not efficient due to the fact that these were not well targeted (especially for France and Italy), or inappropriate, considering the fiscal space where the "consolidation" measures were placed. In France, since 2007-2008, the fiscal package was focused on cutting taxes with the purpose to decrease public spending too, but without managing to cut them substantially (due to automatic fiscal stabilizers), which led to a sharp decline of general government deficit in 2009. In Italy, the government opted to increase taxes

(VAT, taxes on companies and financial operators, excise duties for gaming), introduced new ones ("tax-shield", in 2010) and decreased taxes on capital investment and labor were reduced, but with no significant effect on the public balance. In many European countries, it was found that the VAT rate has been increased besides other consumption taxes (France, Greece, Ireland, Italy, Spain, the United Kingdom, Baltic countries etc.), Raising indirect taxation stimulated the increase of social burden inequity between the social categories. The shift from direct to indirect taxation after a decade from the global crisis was more visible for France, Greece, Latvia, Portugal, Spain, but it could be noticed for the rest of the most European countries too (Appendix I).

Greece, Portugal and Ireland conducted very hard fiscal austerity packages, based on expenditures cuts. All the three opted for reducing public services (public wages and other financial benefits at the same time with reductions of the number of public servants) and particularly in Portugal the government cut pensioners' wages and education expenditures. In Ireland, the fact that two thirds of the fiscal package were expenditure bases, may the main reason for which the government restored earlier the public finance situation and during the decade after the crisis it reduced very much the public sector (Appendices H and I). To keep up with the current needs of the economy and to avoid a possible collapse, some governments cut even investment spending (e.g. Greece, Baltic countries, Portugal, Ireland and Italy), but such measures definitely helped on short term to improve the situation of public finances and decreased the deficit of public balance.

The inappropriate timing of the adopted fiscal measures represents another determinant of the ineffective consolidation strategies of the countries, although the global market gave signals that the crisis wave was due to come since the bankruptcy of Lehman Brothers from 2008. Unfortunately, on the European context, policy makers in the overwhelming of the states showed too much optimism towards those signals and also proved great lack of public budgets resilience, being unable to conduct preventive fiscal measures. Therefore, some proceeded to totally inappropriate fiscal measures, as raising public wages and pensions in Romania in 2008. A good practice we found in Estonia, where fiscal consolidation on the expenditure side started in 2008, which led to a smooth cross over the negative effects of the crisis and maintained a lower public deficit. Another issue related to the timing of the fiscal measures is that in the case of countries that had been applied austerity measures, after the situation of public finances have improved a little, they should have applied further expansionary measures, instead of continuing to increase the current spending (e.g. Romania increased public wages).

Additional to the above, fiscal consolidation strategies led by the governments on the European Union context were not supported by structural reforms. From our selected countries, some as Spain, Greece and Romania represent noticeable examples in this respect. Spain needed a radical tax reform when the housing bubble exploded and the wave of global crisis came over, which should have ensured stable and broad base of public revenues. Concerning Greece and Romania, there was a lack of credible structural reforms even before the global crisis and also during the recession, although for Greece, European Commission imposed the condition to lead reforms in order to sustain fiscal consolidation strategies, when the national government was the beneficiary of a bailout package in 2010. Some progress regarding the issue of structural reforms could be assumed by the foundation of the independent fiscal councils in Romania, Greece and the United Kingdom in 2010, which are responsible for monitoring the state budget implementation and its evaluation, analysis and forecast and its sustainability on long term. At any rate, there is still a great lack of the fiscal responsibility laws enforcements.

However, the recommendations from the report of EMU Public Finances of the European Commission (2016) showed that the countries still lacked credible structural reforms, so the Commission recommended to the Member States that they focus on expanding their investments and besides, reforming their pension, health and welfare systems.

The ineffective fiscal consolidation strategies during the decade after the global crisis were caused also by the lack of a national fiscal framework harmonised with the long term fiscal-budgetary framework at the European Union. At least, it is known the Romania's case, where the fiscal strategies are currently for a two years' timeframe. In this respect, considering the next 2021-2027 fiscal-budgetary period of European Union, it is recommended that all countries have already prepared consolidation strategies and coherent, sustainable and achievable future investment projects and reforms, aligned to the next fiscal-budgetary framework of seven years.

After a few years of the crisis hit, little improvement of the public finance situation could be noticed on the EU member states scenery and hence, countries as Portugal, Italy, Ireland and Greece applied for Troika (partnership of European Commission, International Monetary Fund and European Central Bank) program for financial assistance. Because of the consolidation policy, the government debt increased after the Troika bailout program, which further worsened the level of government debt.

6. Conclusions

Smart fiscal consolidation should represent a permanent concern for the policy makers, especially during expansion period. Consolidation measures should be run against the phases of the business cycle. On the contrary, at every downturn of the economy the chasm between the phases of business cycle would be higher and harder to cross over and public finances would be closer to the edge of the collapse. After a decade from the recent episode, the overwhelming Member States had a worse situation of the main budgetary indicators higher social protection expenditures, lower economic spending, and an increased indirect taxation compared to direct taxation, which automatically means an increase in inequality of the social burden distribution (Appendices H and I). Moreover, public debt also recorded higher values after the past decade from the global crisis.

Also, in the context of the recent crisis episode, we noticed that expansionary policies are more effective than austerity policies in order to face the crisis' negative effects. By following this type of fiscal measures, governments managed to have brought the deficits of public budgets under the 3% of GDP established at Maastricht Treaty earlier. Concerning austerity measures, these are useful on short term and it would be more effective if these were implemented by anticipating the moment the crisis wave came. After the temporary austerity helped the governments to improve the stability and credibility of public finance situation, further it should have reduced more the public transfers and it should have increased the investments. Therefore, austerity measures could be useful in order to cross over a recession period, but strictly respecting criteria of timing, duration and size of the adjustments. Besides, after the austerity period, governments should have attracted new financial resources and committed to public-private partnerships, enhancing development and economic growth. Following these phases, governments would have started shifting the situation of public finances towards reducing the deficit and public debt and starting to achieve long term fiscal sustainability and resilience against future economic turbulences.

Regarding the fiscal package composition, the practice confirms the theory and previous empirical research that fiscal measures on the expenditure side are more effective than the fiscal measures on the revenue side. Thus, in a recession episode, the best measures on the expenditure appear to be cuts of public transfers. When conducting fiscal consolidation on the revenue side, the policy makers should conceive the respective adjustments by considering the decrease of the inequity of fiscal burden and by maintain/ creating incentives for working.

Overall, the consolidation strategies (of any type or composition) should be organized and integrated into multiannual budgetary framework harmonized with the budgetary framework from the European level, thus ensuring more effectiveness and consistency of public investment projects. Moreover, these should be supported by credible structural reforms oriented on pension, health and welfare systems, but also in the fields of labor market, pension and market liberalization. Following structural reforms, policy makers should ensure delivering social fairness and social inclusion.

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Appendices

Appendix A: Budget deficit/ surplus of general government in the Member States (2008-2017) – percentage of GDP

Country / Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Austria	-1.5	-5.3	-4.4	-2.6	-2.2	-2.0	-2.7	-1.0	-1.6	-0.8
Belgium	-1.1	-5.4	-4.0	-4.2	-4.2	-3.1	-3.1	-2.4	-2.4	-0.8
Bulgaria	1.6	-4.1	-3.1	-2.0	-0.3	-0.4	-5.5	-1.7	0.1	1.2
Croatia	-2.8	-6.0	-6.3	-7.9	-5.3	-5.3	-5.1	-3.2	-1.0	0.8
Cyprus	0.9	-5.4	-4.7	-5.7	-5.6	-5.1	-9.0	-1.3	0.3	1.8
Czech Republic	-2.0	-5.5	-4.2	-2.7	-3.9	-1.2	-2.1	-0.6	0.7	1.6
Denmark	3.2	-2.8	-2.7	-2.1	-3.5	-1.2	1.1	-1.3	-0.1	1.4
Estonia	-2.7	-2.2	0.2	1.2	-0.3	-0.2	0.7	0.1	-0.3	-0.4
Finland	4.2	-2.5	-2.6	-1.0	-2.2	-2.6	-3.2	-2.8	-1.7	-0.8
France	-3.3	-7.2	-6.9	-5.2	-5.0	-4.1	-3.9	-3.6	-3.5	-2.8
Germany	-0.2	-3.2	-4.2	-1.0	0.0	-0.1	0.6	0.8	0.9	1.0
Greece	-10.2	-15.1	-11.2	-10.3	-8.9	-13.2	-3.6	-5.6	0.5	0.7
Hungary	-3.7	-4.5	-4.5	-5.4	-2.4	-2.6	-2.6	-1.9	-1.6	-2.2
Ireland	-7.0	-13.8	-32.1	-12.8	-8.1	-6.2	-3.6	-1.9	-0.7	-0.3
Italy	-2.6	-5.2	-4.2	-3.7	-2.9	-2.9	-3.0	-2.6	-2.5	-2.4
Latvia	-4.2	-9.5	-8.6	-4.3	-1.2	-1.2	-1.4	-1.4	0.1	-0.6
Lithuania	-3.1	-9.1	-6.9	-8.9	-3.1	-2.6	-0.6	-0.3	0.2	0.5
Luxembourg	3.3	-0.7	-0.7	0.5	0.3	1.0	1.3	1.4	1.9	1.4
Malta	-4.2	-3.2	-2.4	-2.4	-3.5	-2.4	-1.7	-1.0	0.9	3.4
Netherlands	0.2	-5.1	-5.2	-4.4	-3.9	-2.9	-2.2	-2.0	0.0	1.2
Poland	-3.6	-7.3	-7.3	-4.8	-3.7	-4.1	-3.7	-2.7	-2.2	-1.5
Portugal	-3.8	-9.8	-11.2	-7.4	-5.7	-4.8	-7.2	-4.4	-2.0	-3.0
Romania	-5.4	-9.1	-6.9	-5.4	-3.7	-2.2	-1.3	-0.7	-2.7	-2.7
Slovakia	-2.4	-7.8	-7.5	-4.3	-4.3	-2.7	-2.7	-2.6	-2.2	-0.8
Slovenia	-1.4	-5.8	-5.6	-6.7	-4.0	-14.7	-5.5	-2.8	-1.9	0.0
Spain	-4.4	-11.0	-9.4	-9.6	-10.5	-7.0	-6.0	-5.3	-4.5	-3.1
Sweden	1.9	-0.7	0.0	-0.2	-1.0	-1.4	-1.6	0.0	1.0	1.4
United Kingdom	-5.2	-10.1	-9.3	-7.5	-8.1	-5.3	-5.3	-4.2	-2.9	-1.9

Source: Eurostat

Appendix B: Public debt in the Member States (2008-2017) – percentage of GDP

Country/ Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Austria	68.7	79.9	82.7	82.4	81.9	81.3	84	84.7	83	78.2
Belgium	92.5	99.5	99.7	102.6	104.3	105.5	107.5	106.4	106.1	103.4
Bulgaria	13	13.7	15.3	15.2	16.7	17.1	27.1	26.2	29.6	25.6
Croatia	39	48.3	57.3	63.9	69.5	80.4	84	83.7	80.5	77.8
Cyprus	45.6	54.3	56.8	66.2	80.1	103.1	108	108	105.5	95.8
Czech Republic	28.3	33.6	37.4	39.8	44.5	44.9	42.2	40	36.8	34.7
Denmark	33.3	40.2	42.6	46.1	44.9	44	44.3	39.8	37.2	35.5
Estonia	4.5	7	6.6	6.1	9.7	10.2	10.5	9.9	9.2	9.2
Finland	32.7	41.7	47.1	48.5	53.9	56.5	60.2	63.4	63	61.3
France	68.8	83	85.3	87.8	90.6	93.4	94.9	95.6	98	98.4
Germany	65.2	72.6	81.8	79.4	80.7	78.2	75.3	71.6	68.5	64.5
Greece	109.4	126.7	146.2	172.1	159.6	177.4	178.9	175.9	178.5	176.2

Hungary	71.6	77.8	80.2	80.5	78.4	77.2	76.7	76.7	76	73.4
Ireland	42.4	61.5	86	110.9	119.9	119.7	104.1	76.8	73.5	68.5
Italy	102.4	112.5	115.4	116.5	123.4	129	131.8	131.6	131.4	131.4
Latvia	18.2	36.3	47.3	43.1	41.6	39.4	40.9	36.8	40.3	40
Lithuania	14.6	28	36.2	37.2	39.8	38.8	40.5	42.6	40	39.4
Luxembourg	14.9	15.7	19.8	18.7	22	23.7	22.7	22.2	20.7	23
Malta	62.6	67.6	67.5	70.2	67.7	68.4	63.4	57.9	55.5	50.2
Netherlands	54.7	56.8	59.3	61.7	66.2	67.7	67.9	64.6	61.9	57
Poland	46.3	49.4	53.1	54.1	53.7	55.7	50.4	51.3	54.2	50.6
Portugal	71.7	83.6	96.2	111.4	126.2	129	130.6	128.8	129.2	124.8
Romania	12.4	21.9	29.8	34.2	37	37.6	39.2	37.8	37.3	35.2
Slovakia	28.5	36.3	41.2	43.7	52.2	54.7	53.5	52.2	51.8	50.9
Slovenia	21.8	34.6	38.4	46.6	53.8	70.4	80.4	82.6	78.7	74.1
Spain	39.5	52.8	60.1	69.5	85.7	95.5	100.4	99.3	99	98.1
Sweden	37.7	41.3	38.6	37.8	38.1	40.7	45.5	44.2	42.4	40.8
United Kingdom	49.7	63.7	75.2	80.8	84.1	85.2	87	87.9	87.9	87.1

Source: Eurostat

Appendix C: General services expenditure in the Member States (2008-2017) – percentage of GDP

Country/ Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Austria	7.2	7.8	7.7	7.4	7.3	7.2	6.8	6.8	6.6	6.1
Belgium	8.7	9.1	8.6	8.7	8.7	8.7	8.5	8.1	8.0	7.2
Bulgaria	5.0	7.1	3.8	3.7	3.4	3.6	3.9	3.0	2.8	3.2
Croatia	6.8	7.7	8.4	9.6	7.3	7.9	8.8	8.5	8.1	7.6
Cyprus	8.4	9.2	8.0	8.5	9.5	7.7	8.6	8.8	7.7	7.3
Czech Republic	4.3	4.6	4.5	4.4	6.3	4.7	4.7	4.3	4.2	3.9
Denmark	7.1	7.9	8.0	8.2	9.2	7.5	7.3	7.4	6.6	6.2
Estonia	3.2	3.8	3.4	3.5	4.1	4.1	4.0	4.1	4.0	3.9
Finland	7.0	7.8	7.7	8.0	8.2	8.3	8.3	8.5	8.1	7.9
France	7.3	7.3	6.9	6.9	7.0	6.9	6.6	6.3	6.2	6.0
Germany	6.4	6.6	6.6	6.7	6.5	6.5	6.2	5.8	5.6	5.6
Greece	11.4	12.1	12.3	12.9	11.0	9.9	10.0	10.0	8.9	8.3
Hungary	9.3	9.9	9.4	9.0	9.6	10.1	9.8	8.9	8.2	8.0
Ireland	3.8	4.6	5.2	5.7	6.4	6.4	5.8	4.1	3.7	3.4
Italy	8.9	8.6	8.3	8.6	9.4	9.1	9.0	8.5	7.9	8.2
Latvia	3.8	4.6	4.8	4.7	4.8	4.8	4.9	5.1	4.4	4.1
Lithuania	4.0	4.4	4.6	4.7	4.5	5.3	4.7	4.3	4.0	3.5
Luxembourg	4.9	5.1	5.1	5.1	5.4	5.1	4.9	4.8	5.0	4.9
Malta	7.3	7.9	6.8	7.2	7.4	7.0	6.8	6.4	6.0	5.7
Netherlands	5.7	5.6	5.7	5.4	5.3	5.2	5.2	5.0	4.6	4.3
Poland	5.3	5.5	5.6	5.6	5.7	5.7	5.0	4.9	4.7	4.4
Portugal	6.4	7.3	7.5	8.8	9.1	9.3	9.0	8.8	8.3	7.6
Romania	4.6	4.2	4.5	4.9	4.9	4.9	4.7	4.8	4.4	4.2
Slovakia	4.4	5.9	4.9	4.9	4.9	5.4	5.5	6.4	5.6	5.6
Slovenia	5.2	5.7	5.6	5.8	5.8	6.3	7.2	6.7	6.6	5.9
Spain	5.1	5.6	5.6	6.2	6.6	7.2	7.0	6.4	6.1	5.6
Sweden	7.8	7.4	7.4	7.6	7.7	7.8	7.5	7.1	6.7	6.8
United Kingdom	4.3	4.1	5.3	5.5	5.2	5.3	5.0	4.5	4.5	4.7

Source: Eurostat

Appendix D: Social protection expenditure in the Member States (2008-2017) – percentage of GDP

Country/ Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Austria	19.6	21.2	21.4	20.7	20.9	21.3	21.5	21.2	21.1	20.5
Belgium	17.4	19.1	18.8	19.0	19.5	20.0	19.9	19.7	19.6	19.6
Bulgaria	10.7	12.9	12.9	12.2	12.4	13.5	13.4	13.3	12.7	12.5
Croatia	13.4	15.0	14.9	15.3	15.1	15.2	15.6	15.7	14.6	14.3
Cyprus	10.2	11.5	12.2	12.6	12.9	13.4	13.7	13.6	13.5	13.1

Czech Republic	11.9	13.1	13.2	13.2	13.3	13.5	13.1	12.5	12.3	12.0
Denmark	21.6	24.3	24.8	24.7	24.6	24.5	24.0	23.5	23.0	22.4
Estonia	11.5	15.4	14.2	12.6	12.3	11.9	11.8	12.8	13.2	13.0
Finland	19.4	22.7	22.8	22.7	23.8	24.8	25.4	25.5	25.6	24.9
France	21.8	23.7	23.7	23.7	24.2	24.5	24.5	24.3	24.5	24.3
Germany	18.6	20.6	19.9	18.8	18.8	18.9	18.7	19.0	19.3	19.4
Greece	17.0	18.6	18.8	20.2	21.0	19.6	20.2	20.3	20.4	19.4
Hungary	17.4	18.1	17.4	16.9	16.7	16.5	15.4	14.8	14.5	14.0
Ireland	15.5	18.0	17.7	16.2	16.0	15.1	13.8	10.4	10.0	9.5
Italy	18.1	19.8	19.9	19.8	20.5	21.0	21.2	21.3	21.0	20.9
Latvia	9.1	14.0	14.2	12.2	11.4	11.5	11.4	11.9	12.0	11.7
Lithuania	12.1	16.4	14.1	12.4	12.0	11.4	11.4	11.1	11.2	11.2
Luxembourg	16.8	19.2	18.5	17.9	18.7	18.6	18.1	18.3	18.0	18.4
Malta	13.3	14.2	13.7	13.8	14.0	13.8	13.1	12.0	11.6	11.3
Netherlands	14.7	16.4	16.7	16.7	16.9	17.1	17.0	16.5	16.4	15.9
Poland	15.5	16.1	16.3	15.5	15.6	16.0	15.9	15.7	16.6	16.4
Portugal	15.1	17.0	17.1	17.7	18.3	19.2	18.8	18.4	18.0	17.4
Romania	11.0	13.1	13.9	13.0	12.4	11.5	11.4	11.4	11.5	11.7
Slovakia	12.6	15.1	15.3	14.7	15.0	15.3	15.1	15.0	15.1	14.5
Slovenia	15.5	17.5	18.1	18.7	18.5	18.6	17.8	17.3	16.8	16.2
Spain	13.8	16.0	16.6	16.8	17.6	18.0	17.7	17.1	16.9	16.6
Sweden	20.1	21.8	20.7	20.0	20.7	21.3	20.8	20.4	20.7	20.2
United Kingdom	14.9	16.8	16.9	16.7	17.0	16.6	16.2	16.1	15.8	15.2

Source: Eurostat

Appendix E: Economic expenditure in the Member States (2008-2017) – percentage of GDP

Country/ Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Austria	7.2	8.6	7.5	7	7.2	7	8.2	6.9	6.4	6.4
Belgium	7.3	8	8.1	9	9.3	8.6	8.4	7.8	7.6	7.5
Bulgaria	8.5	6.6	6.7	6.1	6.9	7.7	10.7	8.9	6.6	6.3
Croatia	9.8	9.7	8.4	7.6	8.5	8.3	7.7	7.5	7.6	6.9
Cyprus	6.2	6.7	6.5	6.3	5.4	6.2	13.8	5.7	4.3	4.3
Czech Republic	8.5	9	8.5	8.6	8.1	7.7	8.2	8.3	7.2	7.1
Denmark	3.70	4.20	4.1	4.1	4.3	4.3	4.3	4.2	4	3.9
Estonia	6.5	7.3	4.9	4.7	6.1	5.8	5.7	5.8	5.1	5.4
Finland	5.3	5.7	5.6	5.5	5.4	5.5	5.6	5.3	5	4.8
France	6.6	7.5	7.5	7.3	7.5	7.4	7.6	7.8	7.5	7.8
Germany	4.8	5.4	6	4.8	4.4	4.2	4.1	4.1	4.2	4.1
Greece	6.9	6.7	5.5	5.3	8.5	18.4	5.6	9.1	5.7	5.1
Hungary	7.1	7.5	7.3	8.8	7.9	8.7	9.9	11.3	8	8.3
Ireland	7.9	8.8	27.2	9	4.6	4.2	4.2	4.1	3.3	3.2
Italy	5.5	6.4	5.9	5.8	5.8	5.8	5.6	5.7	5.4	5.1
Latvia	8.7	9.3	11.5	9	7.9	7.6	7.4	6.9	6.1	7.2
Lithuania	5.8	5.6	6.1	8.7	4.4	4.2	4.1	4.3	3.9	3.6
Luxembourg	6.3	7.6	7.1	6.6	6.8	6.7	6.8	6.9	6.9	7.3
Malta	8.9	6.3	6.6	6	6.9	6.8	6.9	7.2	5.7	5.6
Netherlands	6.3	7.7	7.4	6.7	6.6	6.4	6	5.6	5.5	5.5
Poland	7.4	7.8	7.9	7.5	6.6	5.9	6.6	6.2	5.4	5.7
Portugal	6.1	6.2	7.6	5.7	4.8	4.8	8.3	6.1	4.3	6.3
Romania	9.6	9.8	9.2	9.2	9.1	8.2	8.4	8.4	6.6	5.8
Slovakia	6.2	7.5	6.6	6.2	6	6	6.1	8.1	5.5	5.3
Slovenia	6.3	6.6	6.5	7.2	6.1	16.7	8.3	7.5	5.6	5.3
Spain	7.5	8.1	7.6	7.3	9.4	5.9	5.9	5.8	5.1	5.1
Sweden	5.2	5.7	5.4	5.4	5.5	5.3	5.4	5.2	5.2	5.2
United Kingdom	7	6.5	5.5	4.9	5.1	4.4	4.4	4.5	4.3	4.5

Source: Eurostat

Appendix F: Current taxes on income and wealth in the Member States (2008-2017) – percentage of GDP

Country/ Year	2008	2009	2010	2011	2012	2013	2014	2015	2016
Austria	13.8	12.6	12.7	12.8	13.1	13.4	13.7	14.2	12.9
Belgium	16.1	14.9	15.3	15.8	16.1	16.7	16.8	16.6	16.2
Bulgaria	5.8	5.3	4.8	4.6	4.7	5.1	5.4	5.4	5.4
Croatia	7.1	7.1	6.6	6.4	6.3	6.5	6.3	6.1	6.5
Cyprus	11.1	9.6	9.4	10.1	9.9	10.3	10.3	9.9	9.5
Czech Republic	7.8	7.1	6.8	7.0	6.9	7.2	7.3	7.2	7.6
Denmark	27.9	28.3	28.5	28.4	29.2	30.2	33.2	30.6	29.8
Estonia	7.7	7.4	6.6	6.3	6.6	7.2	7.4	7.8	7.5
Finland	16.8	15.5	15.4	15.9	15.6	16.2	16.4	16.6	16.5
France	11.9	10.7	11.2	11.7	12.4	12.9	12.7	12.7	12.6
Germany	12.0	11.2	10.6	11.1	11.6	12.0	12.0	12.2	12.6
Greece	8.1	8.5	8.3	9.2	10.8	10.5	9.7	9.6	10.3
Hungary	10.3	9.6	7.8	6.3	6.8	6.6	6.8	6.9	7.4
Ireland	12.2	11.8	11.7	12.2	12.7	12.7	12.7	10.6	10.6
Italy	14.7	14.1	14.1	13.9	14.9	15.0	14.6	14.7	14.6
Latvia	9.1	7.0	7.4	7.3	7.7	7.7	7.8	7.9	8.4
Lithuania	9.2	5.9	4.6	4.3	4.8	5.0	5.0	5.4	5.6
Luxembourg	13.8	14.2	14.3	13.9	14.2	14.2	13.6	14.5	15.0
Malta	12.1	13.0	12.2	12.4	13.0	13.7	13.6	13.0	13.6
Netherlands	10.7	10.8	11.0	10.5	10.0	9.9	10.5	11.3	11.5
Poland	8.4	7.2	6.7	6.7	7.0	6.7	6.8	6.9	7.1
Portugal	9.3	8.6	8.5	9.5	9.0	11.4	11.0	10.9	10.2
Romania	6.4	6.0	5.8	6.1	5.8	5.9	6.2	6.6	6.4
Slovakia	6.7	5.8	5.6	5.7	5.8	6.4	6.8	7.3	7.3
Slovenia	8.7	8.1	8.0	7.8	7.5	7.0	7.2	7.2	7.5
Spain	10.5	9.4	9.3	9.5	10.2	10.3	10.2	10.1	9.9
Sweden	18.7	18.5	18.1	17.6	17.4	17.8	17.8	18.4	18.8
United Kingdom	15.2	14.7	14.8	14.7	14.0	13.9	13.5	13.7	14.0

Source: Eurostat

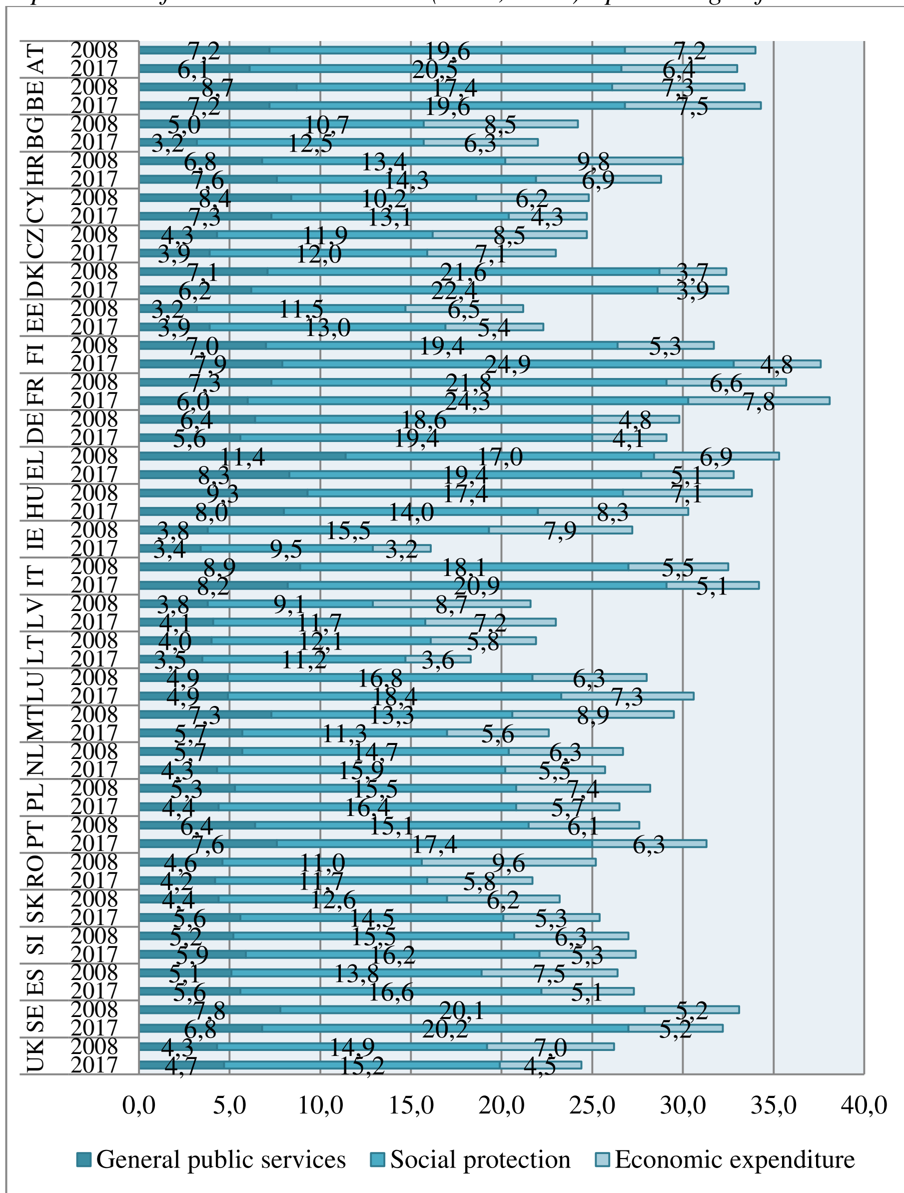
Appendix G: Taxes on production and imports in the Member States (2008-2017) – percentage of GDP

Country/ Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Austria	13.9	14.3	14.3	14.3	14.6	14.5	14.3	14.3	14.3	14.1
Belgium	12.5	12.5	12.8	12.7	13.1	13.1	13.0	12.9	13.0	13.0
Bulgaria	16.7	14.3	14.1	13.7	14.8	15.4	14.7	15.4	15.4	15.0
Croatia	18.0	17.2	17.6	17.2	18.1	18.6	18.5	19.1	19.3	19.5
Cyprus	16.4	14.1	14.3	13.6	13.9	13.6	14.8	14.7	14.8	15.6
Czech Republic	10.4	10.8	11.1	11.9	12.4	12.7	11.8	12.2	12.3	12.5
Denmark	16.5	16.3	16.2	16.3	16.3	16.4	16.2	16.3	16.2	16.0
Estonia	12.1	14.5	13.7	13.4	13.8	13.3	13.7	14.2	14.6	14.2
Finland	12.4	12.9	12.9	13.8	14.1	14.4	14.4	14.2	14.4	14.1
France	14.7	14.9	14.7	15.1	15.3	15.5	15.7	15.8	16.0	16.2
Germany	10.7	11.2	10.8	10.9	10.9	10.8	10.7	10.7	10.6	10.5
Greece	12.6	11.7	12.6	13.5	13.9	14.4	15.7	16.2	17.2	17.1
Hungary	15.4	16.3	17.4	17.2	18.5	18.4	18.3	18.7	18.1	18.0
Ireland	12.0	10.8	10.8	10.4	10.5	10.7	10.9	8.6	8.6	8.4
Italy	13.6	13.4	14.0	14.1	15.3	14.9	15.3	15.1	14.3	14.5
Latvia	10.8	11.2	12.3	12.2	12.6	13.0	13.3	13.6	14.2	13.9
Lithuania	11.6	11.6	11.8	11.6	11.2	11.0	11.2	11.6	11.7	11.6
Luxembourg	12.4	12.5	12.3	12.3	12.9	12.9	13.1	12.0	11.9	11.9
Malta	13.8	13.3	13.7	13.5	13.1	12.9	13.1	12.4	12.4	12.6
Netherlands	11.3	11.1	11.0	10.8	10.6	10.9	11.3	11.1	11.5	11.5
Poland	14.4	12.8	13.8	13.9	13.0	12.9	12.8	12.8	13.5	13.8
Portugal	14.0	12.6	13.2	13.9	13.9	13.7	14.2	14.5	14.7	14.9
Romania	11.3	10.3	11.8	13.0	13.1	12.7	12.7	13.2	11.3	10.3

Slovakia	10.3	10.4	10.0	10.4	9.9	10.3	10.6	10.7	10.6	10.9
Slovenia	13.9	13.6	14.1	14.0	14.5	15.0	14.8	14.7	14.6	14.3
Spain	9.7	8.5	10.2	10.0	10.4	11.2	11.5	11.8	11.6	11.6
Sweden	22.3	22.6	22.2	21.9	22.2	22.1	21.8	21.8	22.5	22.5
United Kingdom	11.2	10.8	12.0	12.6	12.5	12.6	12.7	12.7	12.8	12.9

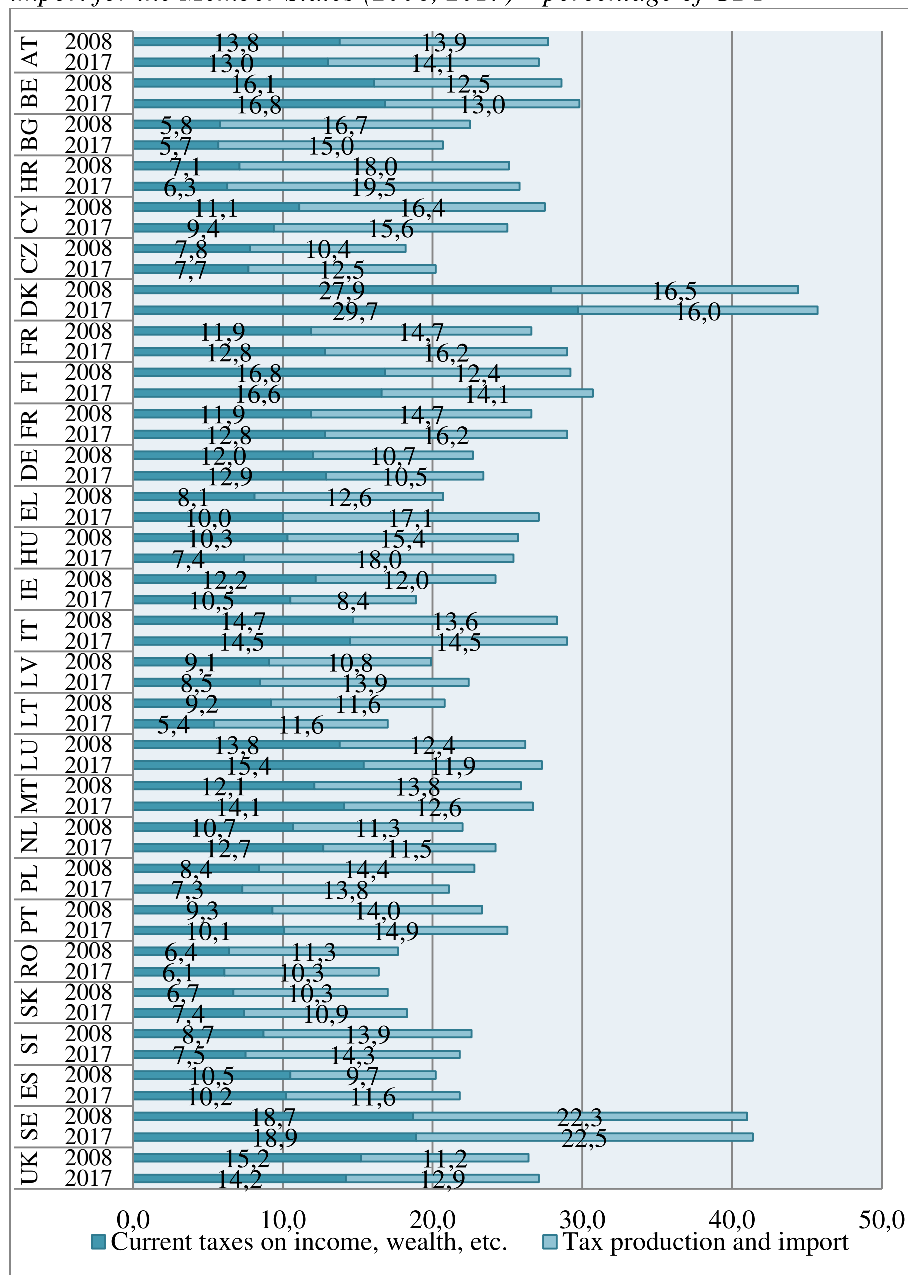
Source: Eurostat

Appendix H: The evolution of the general public service, social protection and economic expenditures for the Member States (2008, 2017) - percentage of GDP



Source: Eurostat

Appendix I: The evolution of current taxes on income and health and taxes on production and import for the Member States (2008, 2017) – percentage of GDP



Source: Eurostat