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FISCAL CONSOLIDATION IN THE EU-28: MULTIYEAR *VERSUS* COLD-SHOWER EPISODES

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In the aftermath of the global recession, the need for fiscal consolidation in order to reduce budget deficits and the public debt has intensified, but with the aim to make the measures applied not affect the further slowdown of the economic activity in the European Union (EU) economies. In this paper, the episodes of the fiscal consolidation in the period from 1990 to 2015 in the 28 EU economies are analyzed, differentiating the multiyear episodes against the one-year (i.e. cold shower) episodes and their effects before and after the global recession. The episodes of the fiscal consolidation that result in successful (a reduction in the cyclically-adjusted primary budget deficit) and expansionary effects (the GDP growth) are identified, thus empirically confirming the existence of non-Keynesian effects. The stated affirms the idea that the achievement of fiscal sustainability by using austerity measures does not necessarily imply contractions in economies and that the development of a fiscal architecture in the EU by establishing complementarity between the national and supranational fiscal rules is of extraordinary importance in the post-crisis period.

Keywords: fiscal consolidation, EU economies, fiscal rules, non-Keynesian effects

JEL Classification: H30, H62, F15

INTRODUCTION

In the aftermath of the global economic and financial recession, the need for fiscal consolidation in order to reduce the budget deficit and the public debt has intensified, but with the aim to make the measures applied not affect the further slowdown of the economic activity in the European Union (EU) economies. Therefore, the analysis of the fiscal adjustment channels and the implemented episodes of the fiscal consolidation in the period before and after the recession can provide us with the knowledge of the effects of the undertaken measures, and, in a broader context, the effects of the success of the discretionary fiscal policy.

A fiscal consolidation episode is a period of fiscal adjustment, which can be directed towards a reduction in public spending and/or tax growth, with the aim of reducing the cyclically-adjusted primary deficit and public debt. The specifics of each episode of fiscal consolidation are determined by: the

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duration (multiyear episodes *versus* a cold shower), the composition of public spending/public revenues, the effects (expansionary *versus* contractionary effects, and successful *versus* unsuccessful effects), and the period of application (recession *versus* expansion). The heterogeneity of the fiscal adjustment measures in the EU stems from a lack of a single fiscal policy at the EU level. The pre-global recession contracts, the Maastricht Treaty (1992) and the Stability and Growth Pact (1997), left room for a potential fiscal irresponsibility in the EU economies. The two key rules of the Maastricht Treaty reading that a budget deficit must not exceed 3% of the GDP and that the public debt must not exceed a total of 60% of the GDP were insufficient to guarantee fiscal sustainability. After the spillover effects of the global recession on the fiscal sphere in the EU, a new fiscal framework (Two-Pack, Six-Pack, Fiscal Compact 2012, European Stability Mechanism 2012) were defined with clear preventive and corrective arms, as well as the intention of introducing the EU fiscal rules in the national legislations.

The aforementioned contracts and the circumstances that further intensified the importance of the study of fiscal consolidation in the EU also refer to a loss of the national monetary policies as the instruments for macroeconomic stabilization in the monetary union (for more information about the monetary phases and the monetary union, see the paper by (Beker Pucar & Glavaski, 2019). Despite the flexibility of the national fiscal policies, the implemented fiscal policy measures could not absorb the asymmetric shocks generated in the crisis conditions, although the episodes of fiscal consolidation clearly pointed to the fight for the achievement of fiscal sustainability by implementing austerity measures.

In this regard, this paper analyzes the episodes of the fiscal consolidation in the period from 1990 to 2015, in the context of the differentiation between the multiyear episodes the one-year (i.e. cold-shower) fiscal consolidation episodes and their effects in the 28 EU economies before and after the global recession.

This research study is aimed at identifying whether the cold showers or multiyear episodes of the fiscal consolidation were more successful in the reduction in the cyclically-adjusted primary budget deficit, and whether they had any expansionary or contractionary effects before and after the global recession. Although the fiscal consolidation in the pre-crisis period with the lessons of the post-crisis period is relatively often analyzed in the literature (Barrios, Langedijk & Pench, 2010), this paper fills the gap in the literature by making a comparison of the implemented episodes and their effects in the periods before and after the global recession, sublimating the overall measures in the fiscal sphere in the aftermath of the global recession.

The basic research hypothesis states:

H1: There are successful and expansionary effects of the cold-shower and multiyear episodes of the fiscal consolidation before and after the global recession.

Namely, this assumption refers to the existence of non-Keynesian effects in the EU economies, ensuring recommendations for policymakers that not all austerity measures result in contractionary effects. Additionally, the following hypothesis that is:

H2: There are differences in the duration, structure and effect of the fiscal consolidation before and after the global recession.

The hypotheses are tested by using scientific-research instrumentation, based on the methods of analysis and synthesis, descriptive statistical analysis and the method of comparison.

The paper structure is defined as follows. The first part shows a reference discourse in relation to the time, way and effects of the fiscal consolidation episodes. In the second part, the theoretical framework of the fiscal consolidation channels on the demand and supply sides is presented. The third and fourth parts are focused on the specifics of the EU fiscal framework - in the third part, the basic fiscal rules in the EU are sublimated, while in the fourth part, the empirically tested effects of the fiscal consolidation episodes before and after the recession are shown. The last part of the paper synthesizes the basic conclusions.

LITERATURE REVIEW

Fiscal consolidation implies a measure of the fiscal adjustment aimed at reducing budget deficits and the public debt through a reduction in public spending or tax growth, taking into account the cost of the slowing-down economic activity slowing down. It raises the question of whether a reduction in public spending or tax raising is a better strategy for stabilizing the budget deficit and avoiding a recession. In the period after the global recession, the economies were faced with the need for more drastic budget deficit and public debt cuts; however, there was a fear that fiscal consolidation might cause a new recession. The majority of the EU economies finally implemented fiscal consolidation; yet, according to the authors A. Alesina, O. Barbiero, C. Favero, F. Giavazzi and M. Paradisi (2015a), if they did the best thing is still not quite clear.

The basic fiscal consolidation issues in the theoretical and empirical literature can be summarized as follows:

- duration of fiscal consolidation,
- manner of fiscal consolidation, and
- effects of fiscal consolidation.

The answer to the first question is endogenous. Namely, when a crisis happens, it automatically requires measures to overcome the recession. So, fiscal consolidation is usually introduced during a recession and gains a procyclical character. Empirically speaking, a sharp rise in the public debt and the budget deficit is easier to treat than accumulated and prolongated problems in public finance. In this context, A. Alesina (2010) showed that certain fiscal consolidation episodes, especially those conducted on the side of public spending cuts, had not caused the recession. Namely, the author relativizes the necessity for the existence of a trade-off between the stabilization function and fiscal consolidation. G. Corsetti, K. Kuester, A. Meier and C. Muller (2010) explain that a reduction in public spending increases expansionary effects due to the anticipation of lower inflationary pressure and a stable long-term interest rate. By using the ex-post analysis of fiscal consolidation, A. Alesina and S. Ardagna (2010) discovered that a reduction in public spending aimed at reducing the budget deficit had not caused the recession, but quite the opposite, it had caused expansion. These results refer to the existence of non-Keynesian effects, i.e. a reduction in public spending aimed at reducing a budget deficit may have positive effects in the context of economic growth through specific transmission mechanisms. In the following papers, the authors claim that there are non-Keynesian effects: F. Giavazzi and M. Pagano (1990); A. Alesina and R. Perotti (1998); A. Alesina and S. Ardanga (1998; 2010); on the other hand, there are those who believe that non-Keynesian effects are very unusual: J. Guajardo, D. Leigh and A. Pescatori (2011); W. Yang, J. Fidrmuc and S. Ghosh (2015).

In connection with the second question, A. Alesina, G. Azzalini, O. Favero, C. Giavezzi and A. Miano (2017) demonstrate that, if fiscal consolidation is based on the permanent growth of tax rates, it is more expensive in terms of output losses in the short time compared to the fiscal consolidation based on a permanent reduction in public spending. It was also confirmed in the works of J. von Hagen, A. Hughes Hallett and R. Straush (2002); R. Maroto and C. Mulas-Granados (2007); European Commission (2007); M. Kumar, D. Leigh and A. Plekhanov (2007).

A possible explanation was given by the European Commission (2007): a reduction in public spending is most commonly related to an increase in efficiency in the public sector and may send signals to financial markets for long-term fiscal sustainability. Additionally, although there is a consensus in the literature in relation to higher costs in the case of fiscal consolidation based on the permanent growth of tax rates, the issue of the composition of public spending and public revenues still remains important. The available research studies dedicated to this topic (Alesina, Favero & Giavazzi, 2015a) are oriented towards the separation of public spending into the two components:

- consumption and investment - they include all public spending from which the government expects a positive yield, either financially or in terms of growing welfare (the consumption of public goods, salaries in the public sector, contributions to insurance, expenses for education, healthcare, road reconstruction, railways, hospitals, commercial and industrial buildings); and

- transfers - they include all public spending from which government does not expect direct economic benefits (social protection, social benefits in cash or in nature, scholarships, subsidies).

On the other hand, public revenues may be separated into the following components:

- direct taxes - they include all public revenues having distortions in terms of work preference (income, profits, capital gains, the property tax (Tanasić, 2019);
- indirect taxes - they include all public revenues not having distorting effects (value added tax, tax turnover, taxes, registration, natural monopoly profit tax).

Empirical studies (using the example of the OECD countries in a study by A. Alesina *et al* (2015b) indicate that there is no significant difference in the effects of direct and indirect taxes on economic growth and a reduction in deficits and the public debt, whereas transfers also have similar (contractionary) effects. Only consumption and investments usually have no contractionary effects, i.e. there are non-Keynesian effects in the short term - a reduction in public spending in the part of consumption and investment does not necessarily imply a reduction in economic growth in the short run. Finally, the question of how to implement fiscal consolidation relates to a decision on whether to implement fiscal consolidation as a one-year measure (i.e. a cold shower) or gradually, in terms of multiyear episodes. A. Alesina *et al* (2015b) showed that non-Keynesian effects had been identified in multiyear episodes, rather than in "stop-and-go" (i.e. cold-shower) changes in public spending and taxes.

The subject matter of the third question relates to the successful/unsuccessful and expansionary/contractionary effects of fiscal consolidation. Success is determined by the effects on a budget deficit and the public debt, whereas the term *expansionary* is determined by effects on the output. According to a paper by A. Alesina and S. Ardanga (2010), the fiscal adjustment period is the period in which the growth of the cyclically-adjusted primary budget is at least 1.5% of the GDP. Fiscal consolidation is considered as successful if the cumulative reduction of the public debt in the GDP exceeds 4.5% of the GDP three years after the fiscal consolidation has been imposed. In the opposite case, fiscal consolidation is unsuccessful. Fiscal consolidation is considered to be expanded if the average economic growth during the implementation period and in a period of two years after that exceeds 75% of economic growth in all fiscal consolidation episodes. In the opposite case, such fiscal consolidation is contractionary.

In this paper, the results of the cold-shower and multiyear episodes of fiscal consolidation in the context of their success (non-success) and expansionary (contractionary) effects in the period before and after the global recession are analyzed.

THEORETICAL FRAMEWORK: FISCAL CONSOLIDATION CHANNELS

With the aim of further analyzing the mechanisms through which fiscal consolidation episodes demonstrate expansionary/contractionary effects, and how successful they are in the process of reducing a cyclically-adjusted budget deficit, the channels of the influence on the demand side and on the supply side are presented. The expansionary effects of fiscal consolidation can be seen on both sides of the channel (Alesina & Ardagna, 2010). On the demand side, fiscal consolidation could be expansionary if agents believe that fiscal tightening is the result of the major changes in the fiscal policy, eliminating the need for undertaking new measures in the future. Tax growth or a reduction in public spending is perceived as a *less bad* scenario from the point of view of the risk of an even-deeper fiscal tension. Consumers believe that this scenario incurs lesser costs, and that, indirectly, their available income is higher (if the measures of stronger fiscal tightening must be applied, those costs would be a reality for consumers, which they are not in these circumstances). Higher income implies more private consumption, which is determined by the existence of "liquidity constrained" consumers or a lack of them.

Whether consumers will behave in accordance with the Keynesian recession expectations during fiscal consolidation or there will be non-Keynesian effects depends on the debt level (Sutherland, 1997). Fiscal consolidation leads to the expectations of lower future taxes; however, if the levels of the public debt are relatively low, consumers do not expect significantly lower taxes in the future, thus creating common Keynesian effects (reducing current consumption, inducing negative effects on the output). In the case of the high levels of the public debt and higher cuts in public spending, agents act in accordance with non-Keynesian effects: believing that they will pay less in taxes in the future, they increase their current spending, thus generating growth.

The second channel is in relation to the expectations cherished for the interest rate. If agents believe that fiscal consolidation is credible and affects a reduction in the public debt, it is possible that a reduction in the interest rate on state bonds will also take place. Private demand may grow if the real interest rate is reduced for the private sector, as a consequence of a reduction in the real interest rate on state bonds. Reducing the real interest rate on state bonds may affect the growth of bond values, which ultimately increases the financial welfare of agents, which on its part may cause a boom in consumption and investments. Therefore, in some cases, expectations for changing the regime of the fiscal policy may positively affect welfare through a reduction in long-term interest rates. The credibility of the economic policy designers is also the key moment, or the third channel.

On the supply side, the effects of fiscal consolidation pertain to the labor market and the effects of tax hikes and/or a reduction in public spending on individual work supply. If there is a decrease in public spending, it means a reduction in the number of those employed in the public sector who have a difficulty in finding a job in the private sector. Those who remain employed in the public sector are faced with reduced salaries. Both effects may positively affect the private sector, i.e. larger workforce supply allows for a reduction in the salaries of employees in the private sector, and the growth of investments, profits, and competitiveness. The second channel, through tax hikes, (in particular income tax) has consequences for a higher burden for employers and lesser net wages for employees. Those effects might suppress profits and investments, as well as competitiveness, and they may also have overall negative effects on welfare.

In relation to the composition of fiscal consolidation (public spending on consumption, investment and transfers, and taxes on direct and indirect taxes) some of them might have effects on a recession/expansion. A reduction in public spending and investment will have a different influence on economic growth, depending on productivity in the public sector. A reduction in public spending and investment has an influence on consumers' expectations related to lower taxes in the future, changing the relative price ratio of public goods to private goods, given the assumption that public and private goods are subsidies. The expectations that public goods will be relatively cheaper generate higher consumption and economic growth. A reduction in transfers reduces households' income, reducing spending as well. The growth of direct and indirect taxes according to the effects on economic growth only differs in distortive effects, i.e. indirect taxes do not have distortive effects, because they do not change the marginal rate of substitution.

The described channels are considered to be important enough to explain the expansionary or contractionary effects of fiscal consolidation. A. Alesina, S. Ardagna, R. Perotti and F. Schiantarelli (2002) empirically demonstrated that the size of the fiscal shock due to the fiscal consolidation was large enough to cause positive effects in terms of private consumption and negative effects due to the investment tax growth. Which effects are larger in a concrete economy depending on the composition of fiscal consolidation leads to expansionary or contractionary effects on economic growth. The race between the channels of expectation and the labor market channel is constantly occurrent in fiscal consolidation, in which the labor market channel more often wins (Ardanga, 2004).

FISCAL RULES IN THE EU

Fiscal rules at the supranational EU level were built gradually and became more rigid over time, especially so in the period after the global recession. With the aim of fulfilling the fiscal rules and securing fiscal sustainability, fiscal consolidation became an acute topic in many economies.

The pre-global recession contracts, the Maastricht Contract and the Stability and Growth Pact, left room for a potential fiscal irresponsibility in the EU economies. The two key rules of the Maastricht Treaty's fiscal sphere (that the budget deficit must not exceed 3% of the GDP, and the public debt must not exceed 60% of the GDP) were powerless to guarantee fiscal sustainability. Hence, the Stability and Growth Pact of 1997 (together with the reform of 2005) had a predominantly preventive character, respecting the principles of democracy and flexibility, retaining fiscal policies within the sovereign frames. Given the need for collective discipline, the Stability and Growth Pact retained its frames at the level of coordination by using the two types of arms. The preventive arm involved the strengthening of supervision over the budgetary positions and the coordination of the economic policies, whereas the corrective arm implied the defining of the proceedings in the case of an excessive deficit. The escalation of the global recession and the violation of the reformed Stability and Growth Pact conditioned the introduction of the new mechanisms of governance, with the focus on the financial stabilization mechanisms in the countries with fiscal problems. The mechanisms would only be initiated according to the strict rules and if the Eurozone were endangered, and they would represent a wider framework of action, substantially including the fiscal sphere. Firstly, the European Semester was established in 2010 as a part of the EU fiscal policy coordination mechanism. Secondly, the European financial stability mechanism (EFSM) and the European Financial Stability Fund (EFSF) were established. Moreover, in 2012, the European Stability Mechanism (ESM) was established, defined by the international agreement between the Eurozone members, with a total capacity of 700 billion euros. The ESM was aimed at providing the economies with preventive assistance, adding loans, buying Euro-member bonds on the primary and secondary markets, and providing loans to the governments. The rescue mechanisms (bail-out) was used to support the economies with difficulties in accession to international capital markets or those that had completely lost access to them (such as Greece, Portugal, Ireland, Cyprus, and Spain). The ESM finally replaced the previously defined EFSM and EFSF programs and the new Eurozone Recovery Program started being exclusively implemented through the ESM.

In the context of the fiscal rules, a tougher fiscal framework is defined through the six-pack and two-pack reforms and the Fiscal Compact (2012). According to the Fiscal Compact, the EU Member States are obligated to maintain a budget balance or a budget surplus. The limit is prescribed by a structural deficit, which must not exceed 0.5% of the GDP, or 1% of the GDP if the public debt is below 60% of the GDP. If a country does not sign the Fiscal Compact, it cannot receive assistance based on the ESM. Additionally, it defined the initiative that the limit for a structural deficit of 0.5% of the GDP had to be introduced in national legislation. (Bova, Kinda, Muthoora & Toscani, 2015) Most countries have done that (although some with a delay, like Belgium and Greece), while the others have imposed these provisions at the legislative level, not at the constitutional level, as was recommended.

The existing legislation has improved the monitoring of the EU Member States' budgetary policies, but the strengthening of the fiscal capacity and further steps in the convergence of the Eurozone's and EU countries' fiscal policies still remain important issues. There are new proposals for the development of the legislative framework (European Commission, 2018), led by the European Investment Stabilization Function (EISF). The EISF is defined as a part of the Financial Perspective 2021-2027, with the aim of establishing macroeconomic stabilization and a strong response to asymmetric shocks and preventing crisis spillover effects. Therefore, the new framework for the fiscal rules (Schaechter, 2012) is directed towards the stabilization function, as well as the greater convergence of the fiscal policies of the EU countries.

COLD-SHOWER *VERSUS* MULTIYEAR EPISODES IN THE EU BEFORE THE GLOBAL RECESSION

Taking into account the existing architecture of the fiscal rules in the EU and the theoretical framework for the channel which comes to the effects of fiscal consolidation, the empirical analyses of the fiscal consolidation episodes in the period before and after the global recession in the EU economies is presented.

Based on the length of fiscal consolidation, fiscal consolidation exists when the budget deficit is reduced from 1 to 2% of the GDP in a year (a cold shower). The explanation for this definition lies in the fact that changing the budget deficit on such a scale cannot be due to the common movement in the economy, but this extraordinary result is automatically connected with the fiscal policy measures. In particular, in the paper by A. Alesina and S. Ardanga (2009), the fiscal consolidation period of one year is considered to be that period in which the growth of the cyclically-adjusted primary budget balance is at least 1.5% of the GDP. Fiscal consolidation is considered to be *successful* if there has been a cumulative reduction in the public debt share in the GDP for an amount greater than 4.5% of the GDP three years after the introduction of fiscal consolidation. The effects of fiscal consolidation are considered as *expansionary* if average economic growth in the implementation period and two years after that period is greater than 75% of economic growth during all the episodes of the fiscal consolidation. The two criteria are interconnected, because the positive effects of fiscal consolidation on growth mean a greater likelihood that the effects of fiscal consolidation will be expanded and consequently successful. So, a cold shower implies relatively big changes in the fiscal area made in a short period of time, unlike multiyear changes, which are smaller, but made within a longer period of time. Therefore, fiscal consolidation episodes can be defined as long-term changes in the fiscal policy management measured by using the cyclically-adjusted budget balance. Specifically (Alesina & Ardanga, 2015), a multiyear episode of fiscal consolidation is defined as:

- a period of two years, in which the total improves the position of cyclically-adjusted primary deficits by 2% of the GDP (and there is an improvement in both years in particular);
- a period of 3 years, in which the total improves the position of the cyclically-adjusted primary deficit by 3% of the GDP (and there is an improvement in all three years in particular).

When multiyear episodes are concerned, fiscal consolidation is considered as *successful* if the share of the public debt in the GDP is smaller in the period of two years after the fiscal consolidation episode in relation to its value in the last year of that episode. Fiscal consolidation is *expansionary* if the GDP growth during the fiscal adjustment period exceeds that of the period preceding that episode.

A cold shower is recorded in the largest number of the EU economies in the analyzed period before the global recession (1990-2007). A comparative overview of the fiscal consolidations is shown in Table 1, using the alternative methods:

- ex-post, based on the changes in the cyclically-adjusted primary deficit, processed in M. Larch and A. Turrini (2008) and in the paper by A. Alesina and S. Ardanga (2015), and
- narrative, the method applied in P. Devries, J. Guajardo, D. Leigh and A. Pescaroti (2011).

Both methods recognize a cold shower in certain years, except in the case of Bulgaria (which, therefore, is not shown in the table), while the relevant data for the entire period are not available for Greece. The dynamics of the implementation of the fiscal consolidation episodes and their success differ in the analyzed time period. In the first decade, i.e. from 1990 to 2000, as many as a hundred cold-shower episodes were implemented in the EU. Their success was higher in the period from 1995 to 2000 in comparison with the period from 1990 to 1995 as a consequence of the defined fiscal framework at the EU level and the convergence process within the EMU framework. The period after the global recession (2000-2007) was characterized by the fiscal consolidation fatigue that reflected in a reduced number of cold showers in the EU countries (36 episodes), whose success was questionable in the largest number of cases. This

Table 1 Cold-shower vs. multiyear episodes in the EU economies before the global recession

	Cold showers																		Multiyear episodes
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	1990-2007
AT							+	+				+	+						96-97
BE	+			+	+	+	+	+	+	+	+	+					+		96-98
CY											+				+	+			
CZ															+				
DE		+	+	+	+	+	+	+	+	+	+			+	+	+	+	+	92-94 96-00 03-07
DK						+									+	+			03-05
EE											+			+					
ES	+		+	+	+	+	+	+											94-97
FR			+	+	+	+	+	+	+										94-01 04-06
FI	+	+			+	+	+	+	+	+	+								93-94 96-98
GB					+	+	+	+	+	+	+								
HU										+				+					
IT	+	+	+	+	+	+	+	+	+						+	+	+	+	95-97 06-07
IE							+	+	+						+				91-94 96-98
LV							+				+								03-05
LT									+	+									
LU				+				+											94-96
MT										+					+	+			00-02
NL		+	+	+			+	+	+	+	+				+	+			96-00 04-05
PL																+			
PT			+		+	+					+		+	+		+	+	+	94-95 02-03 06-07
RO								+	+	+									
SE				+	+	+	+	+	+						+	+			93-98 03-05
SI													+						
SK									+			+		+					
UK							+	+	+		+								94-00
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	

+ Indicates the annual and multiyear fiscal consolidations established in the papers by Larch and Turrini, 2008; Alesina and Ardanga, 2010; Devries, Guajardo, Leigh and Pescaroti, 2011

Source: Authors

could be explained by a slowdown in the economic activity and the effects of the fiscal consolidation were under the impact of repetitious negative growth rates.

According to the analysis of all the years in which the fiscal consolidation was being conducted in the EU economies until the global recession, cold showers turned out to be more frequently implemented than fiscal consolidation multiyear episodes. In 70% of the cold showers, the GDP growth was recorded by over 1.5% of the GDP, while in the emerging EU economies, a total of 30% of the cold-shower episodes resulted in a growth exceeding 3% of the GDP (Larch & Turrini, 2008). Namely, in the pre-accession and accession periods, the new EU economies had significant and favorable results of the implemented fiscal consolidation measures.

In addition to the identification of the fiscal consolidation multiyear episodes, it is also of interest to determine their success in the context of reducing the cyclically-adjusted budget deficit (namely, the expansionary against contractionary effects of fiscal consolidation). Although there is a hypothesis in economic theory in terms of the expectation of contractionary effects in the event of a reduction in public spending or an increase in taxes in the implementation of fiscal consolidation, A. Alessina and S. Ardanga (2015) demonstrated that fiscal consolidation was more frequently unsuccessful than with contractionary effects. So, the more frequent problem is the inability to minimize a cyclically-adjusted budget deficit than contractionary effects (Figure 1).

Figure 1 shows that only two multiyear episodes of the fiscal consolidation (in Germany (1996-2000) and in Portugal (2002-2003)) may be characterized as unsuccessful and contractionary. All the other identified episodes resulted in expansionary effects, thus empirically affirming the existence of non-Keynesian effects, confirming the research hypothesis. In addition, the results of the empirical analysis suggest that the fiscal consolidation measures based on a reduction in public spending are more often connected with expansionary effects, and with success in reducing the public debt and budget deficits, in comparison to a tax reduction. On the other hand, the most successful multiyear fiscal consolidation is that conducted in Sweden in the period from 1993 to 1998, when the fiscal consolidation was reduced by the cyclically-adjusted budget deficit by 14% than it was

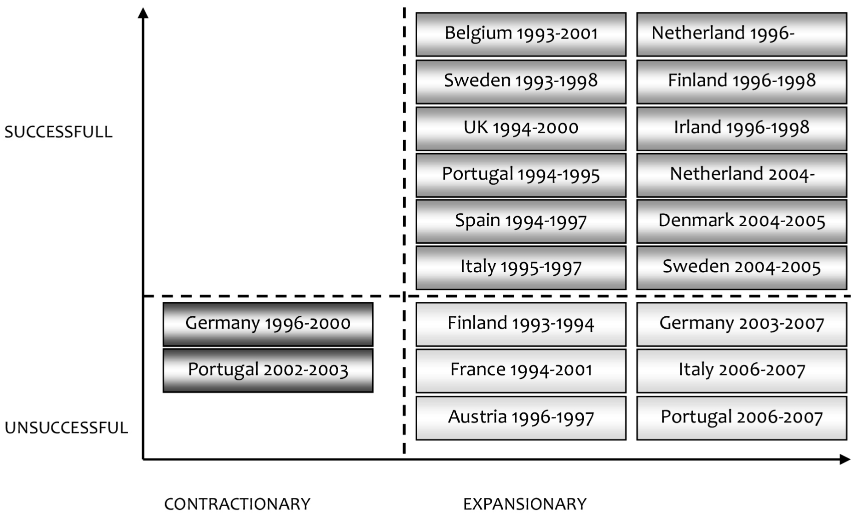

Figure 1 The (un)successful and expansionary/contractionary episodes of the fiscal consolidation

Source: Authors, according to Alesina and Ardagna, 2010 the case in the UK in the period from 1994 to 2000, with the reduction of 11%, and in the Netherlands for the period from 1996 to 2000, with a reduction in the cyclically- adjusted budget deficit by 8.8%.

FISCAL CONSOLIDATION AFTER THE GLOBAL RECESSION

After the global recession, the EU economies began to implement complex reforms in the fiscal policy field, including fiscal consolidations, the excessive deficit procedure (EDP) and the use of support programs. By entering the EDP procedure, the European Commission assumes the monitoring of public finance. Great Britain entered the EDP in 2008, whereas Spain, Greece, Ireland, France, Germany, Italy, Portugal, the Netherlands, Belgium and Austria entered it in 2009. However, the most endangered countries were the peripheral economics with already weak public finance, whose problems had intensified during the global recession (the share of the public debt in the GDP was 106% in Italy in 2008, whereas in Greece, that share reached 100%). The countries implemented support programs aimed at reducing budget deficits and the public debt, and also at strengthening the banking sector and ensuring economic growth. Finally, the idea was to regain investor confidence. Obtaining financial assistance is determined by the size of the fiscal crisis of the economy and potential dangers to the Eurozone, which implies that governments have to sign a Memorandum of Understanding (MoU) and the Fiscal Compact in order to ensure the consolidation of public finance. A total of five different recovery programs were defined to be implemented, depending on the Troika's decision.

The EFSM was financed by the European Commission's borrowing on international financial markets, where the EU's budget was a guarantee. Table 2 shows the implemented financial stabilization programs. In the period from 2011 to 2014, a total of 22.5 billion euros were provided to Ireland, and 24.3 billion euros to Portugal, while in 2015, a short-term loan of 7.16 billion euros was granted to Greece. From the EFSF program in the period from 2011 to 2013, a total of 17.7 billion euros was distributed, with the repayment period from 2029 to 2042, whereas in the period from 2011 to 2014, a total of 26 billion euros was distributed to Portugal, with the repayment period from 2025 to 2040, while Greece received 141.8 billion euros from the EFSF in the period from 2012 to 2015 (the source of the data is the ESM). An overview of the implemented programs under the umbrella of the EFSF, EFSM and ESM is shown in the following table. In addition to these countries, indirect aid was also received by Italy, whose bonds were purchased by the European Central Bank in the amount of 102.8 billion euros. In a similar fashion, the ECB bought 14.2 billion euros in the case of Ireland, while 33.9 billion euros in the case of Greece, 44.3 billion euros in the case of Spain, and 22.8 billion euros in the case of Portugal. It turns out that emergency support programs contributed to the recovery of the economy and the prevention of the deterioration of a deep recession into a depression.

Table 2 shows the depth of the budget deficit before and after the implementation of the financial stabilization programs. However, the improvement is not only a consequence of significant financial assistance, but also the completed fiscal consolidation in the EU economies. The permanent episodes of fiscal consolidation were implemented in the majority of the EU economies and they were especially necessary in the fragile countries with the high budget deficits and public debt prior to the recession period - mostly the EU peripheral countries (Janković, 2019). However, the necessity for fiscal consolidation was manifested in the old EU members as well, so the first multiyear episode of the fiscal consolidation after the global recession lasted from 2010 to 2013, and the second lasted in the period from 2014 until 2015 (in Austria, Denmark, Germany, Ireland, Italy, Portugal, Spain, Great Britain). On the other hand, Finland, the Netherlands and Sweden were implementing the multiyear fiscal consolidation from 2010 to 2015. Therefore, the hypothesis that there are differences in the duration, structure and effects of the fiscal consolidations before and after the global recession is confirmed.

Table 2 The implemented financial stabilization programs

	Source of fina-ncing	Duration	Amount	Budget before	Budget after
Greece	EFSF, EFSM, ESM, MMF	2011-2019	256 billion euros	-15.1% of the GDP in 2009	1.1% of the GDP in 2018
Portugal	EFSF, EFSM, MMF	2011-2014	78 billion euros	-11.2% of the GDP in 2010	0.5% of the GDP in 2018
Ireland	EFSF, EFSM	2010-2013	85 billion euros	-32.1% of the GDP in 2010	0% of the GDP in 2018
Spain	ESM	2012-2013	41.3 billion euros	-11% of the GDP in 2009	-2.5% of the GDP in 2018
Cyprus	ESM, MMF	2012-2016	10 billion euros	-9% of the GDP in 2014	-4.8% of the GDP in 2018

Source: Authors

The effects of the implemented fiscal consolidation after the global recession reflected through a reduction in the value of the flow variable (the cyclically-adjusted budget deficit); however, the fiscal consolidations were less successful in the reduction in the stock variable (the accumulated level of the public debt). Namely, according to B. Pierluigi and D. Sondermann (2018), the macroeconomic imbalances in the flow variables in the first decade of EMU were adjusted to a significant extent, whereas the macroeconomic imbalances in stock variables were detained. Therefore, newer governance mechanisms, strengthening the fiscal framework by establishing stronger and more innovative fiscal rules, and their implementation into national legislation have become exceptionally important (Debrun, Moulin, Turrini, Ayuso-i-Casals & Kumar, 2008).

CONCLUSION

The global recession highlighted all the imperfections of the unfinished construction of the European Union. With the unique monetary policy, the heterogeneous fiscal policy did not prove to be able to absorb the asymmetric shocks generated in crisis conditions despite the flexibility of the national fiscal policies. Therefore, the effects of the fiscal consolidations in the 28 EU economies in the period before and after the recession (1990-2007 and 2010-2015, respectively) were compared, taking into account the length of the fiscal consolidation (cold-shower vs. multiyear episodes), and the effects of the applied fiscal consolidations (success/a lack of success in a reduction/increase in the cyclically-adjusted budget deficit and expansionary/contractionary effects in the context of an increase/decrease in the GDP).

The dynamics of the implementation of the fiscal consolidation episodes and their success differ in the analyzed period of time. The research hypothesis was confirmed by pointing out the fact that there are successful and expansionary effects of the cold showers and gradual episodes of the fiscal consolidation before and after the global recession. In the pre-crisis period, the number of the implemented one-year episodes (the so-called cold showers) was higher than in the post-crisis period, when the multiyear fiscal consolidations were mainly implemented. Overall, the success of the cold showers was recorded in 70% of the implemented fiscal consolidations, particularly in the emerging EU economies. In connection with the effects of the fiscal consolidation, the data suggest that only two multiyear episodes (those in Germany (1996-2000) and Portugal (2002-2003) might be characterized as unsuccessful and with contractionary effects. All the other identified episodes resulted in expansionary effects, thus empirically confirming the existence of non-Keynesian effects. The implications of the empirical analysis that must be taken into consideration by policymakers are indicative of the fact that fiscal consolidations based on a reduction in public spending are more often connected with expansionary effects, and with success in reducing the public debt and budget deficits, in comparison with a reduction in taxes.

After the global recession, the EU economies began to implement complex reforms in the fiscal policy field, which did not only include fiscal consolidation in the economies with excessive budget deficits. Some countries entered the EDP procedure, and some were a part of the implemented support programs in the context of the European Stability mechanisms. The permanent episodes of the fiscal consolidation were conducted in the largest number of the EU economies starting in the year 2010 and the same proved to be necessary in the fragile countries with the high budget deficits and public debt before the recession. Thus, strengthening the fiscal framework and the complementarity between the supranational and national fiscal arrangements in the post-crisis period are of extraordinary importance.

The effects of the implemented fiscal consolidation after the global recession reflected through a reduction in the cyclically-adjusted primary budget deficit (the flow variable); however, the question still remains how much those measures were successful in reducing the accumulated public debt (the stock variable). Therefore, future research should be directed towards the panel data multi-cointegration analysis that would capture the connection between the flow and stock variables in the analysis of the fiscal consolidation effects in the EU economies.

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