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Article

# Stability and Growth Pact: Too Young to Die, Too Old to Rock 'n' Roll

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**Abstract:** This paper discusses the future of the Stability and Growth Pact (hereafter SGP). Although Neoclassical economic models argue that strict fiscal and monetary rules minimize moral hazard and crowding out, in practice many governments adopt fiscal expansion (in recent years in the form of non-standard monetary measures) to mitigate market failures, consequently rethinking monetary rules and targets. Government spending and countercyclical policies are essential tools for soothing business cycles and other market failures. To this end, we empirically test whether current and past forms of the SGP have led to greater convergence, while we critically assess and investigate a possible SGP reform. By adopting more flexible rules, in terms of government spending and fiscal expansion, the Economic and Monetary Union (hereafter EMU) could yield multiple positive spillover effects in long-term economic growth under specific terms and conditions, such as green conditionalities. We conclude that to mitigate the triple crisis threat (economic, environmental and health), what is mostly needed are reforms in the form of fiscal federalism, such as common debt issuance (Eurobonds) that enhance the ability of the EMU to tackle the consequences of the aforementioned crises.

**Keywords:** fiscal expansion; fiscal federalism; EMU fiscal policy; Eurobonds

**JEL Classification:** E61; E62; H77



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## 1. Introduction

In 1997, two regulations (1466/97 and 1467/97)<sup>1</sup> were established in the EMU in order to create common fiscal rules for countries that would adopt the euro as a common currency (Liargovas et al. 2022). These strict fiscal and monetary rules the EMU would adopt were based on the 1997 SGP; since then, the SGP has been reformed twice (in 2005 and 2011). Back in 2005, as France and Germany could not implement their strict fiscal rules, the SGP became more flexible. Six years later, in 2011, as many countries faced serious fiscal imbalances (e.g., Portugal and Greece), the SGP was reformed and became stricter (Aslett and Caporaso 2016). In 2020, the EMU activated the “Escape clause”, letting governments implement fiscal expansion. Since then, it has been clear that the SGP strict fiscal rules do not allow national governments to use public spending and fiscal multipliers in order to boost economic growth, thus leading to narrower paths for a European economic recovery.

Classical and Neoclassical schools of thought underline that government spending is inefficient, as fiscal expansion does not allow for the optimum allocation of scarce factors of production (Buchanan 1976). Not only the Classical “Ricardian Equivalence” (Barro 1974), but also the Neoclassical “Crowding Out Effect” (Buiter 1977) and “Moral Hazard Effect” (Persson and Tabellini 1996) argue that government spending is unnecessary in the economy, as it creates microeconomic and macroeconomic imbalances, such as price competitiveness reduction, higher per unit labor cost (Argy and Salop 1979), demand-side inflation, fiscal deficit and sovereign debt (Fischer 1988).

The Eurozone as a lender of last resort (Howarth and Quaglia 2016), mitigates moral hazard (Menguy 2010) while preserving the balance between fiscal stimulus and a balanced

budget (Karagounis et al. 2015) because “stringent rules” (Delors Report) for national fiscal governance are necessary for an efficient common monetary policy (Bofinger 2003). Implementing it in its current theoretical framework, the SGP regulates the legislation about the limits of fiscal deficit and sovereign debt (Eichengreen 1998), when with the Maastricht Treaty, a special procedure was established to ensure fiscal governance, imposing sanctions (Savage 2001). One of the Maastricht criteria was for each country’s general government net borrowing to equal an amount not exceeding 3% of its GDP, and for gross government debt to remain below 60% of GDP, as EMU without strict fiscal rules would be a risk (Buti et al. 2003). The literature on the SGP highlights that strict fiscal rules were placed to mitigate the moral hazard and were ineffective (Sigl-Glöckner et al. 2022). According to bibliographic findings, the SGP is based on Neoclassical Economic Orthodoxy, which is only effective in periods of economic normalcy (Wang and Hausken 2021). Current exogenous crises, such as health and energy crises, underline the need for a holistic reform of the SGP to achieve fiscal federalism and complete fiscal union (Lastauskas 2019). As current energy and health crises lead to abnormal and non-standard economic instability, bibliographic research has made clear how the SGP should be reformed.

This paper highlights a possible SGP transformation in order to further facilitate complete economic union (both fiscal and monetary). More fiscal elasticity with public debt issuing could lead to long-term economic growth. This paper innovates as the authors utilize a novel econometric technique to quantitatively analyze the convergence process of EMU member states, under the strict fiscal rules of the SGP, for a period previously not examined, as up until now, previous attempts do not include the COVID-19 period. Thus, we set out to investigate whether the strict fiscal rules set by the EMU boost growth during health and energy crises or if the current fiscal framework needs reform. In other words, could EMU countries achieve fiscal federalism and mitigate the effects of moral hazard in conjunction?

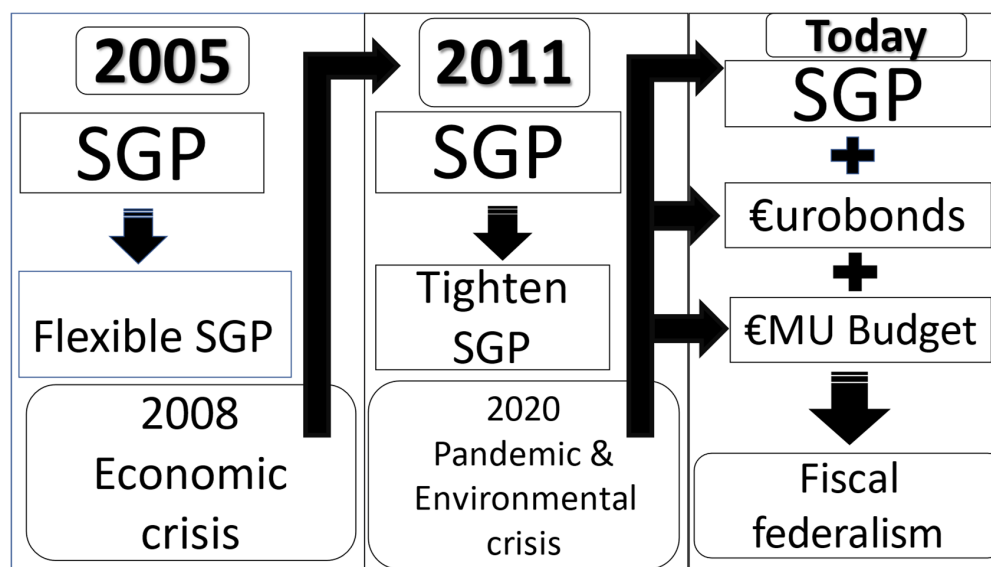
More specifically, our testable hypothesis is to investigate whether past SGP reforms have had a meaningful effect on macroeconomic fundamentals. If they have, then all EMU countries should converge to a single steady state. If this hypothesis does not hold for some reason, and there are different steady states for different groups of countries, then it would be of the utmost importance to reconsider the current form SGP. Our analysis indicates that the hypothesis of full convergence does not hold. Thus, we proceed by highlighting the importance of an SGP reform, as both past reforms were inadequate and without any long-term effectiveness. We then argue that a sustainable EMU needs a holistic reform that will lead to greater fiscal federalism, including common debt issuing (green and social bonds), such as Eurobonds, as well as a common budget. To conclude, our contribution to the literature can be summarized as an empirical assessment of the SGP’s mandates, in parallel with an innovative analysis that considers SGP and fiscal federalism reforms and looks at how their policy implications could forever alter the future of the EMU.

The rest of the paper is structured as follows: the section “Literature Review” presents, in detail, the literature on fiscal discipline and the SGP. The dataset and econometric methodology are described thoroughly in the section “Data and Methodology”, while the section “Results” presents and discusses the main findings of our analysis. Section “Discussion” highlights the importance of an SGP reform, and the section “Policy Implications” elaborates on policy implications that ascend from this article without disregarding the limitations as presented in Section “Limitations”. Finally, the section “Conclusions” concludes this paper.

## 2. Literature Review

Fiscal discipline is, over time, the most important macroeconomic problem faced by national governments (Alesina et al. 1998), with negative effects on public spending and corporate investment (Alesina et al. 2002). Previous researchers argue that fiscal sustainability is necessary for long-term economic growth in the EMU. This means that the 2005 reform of the SGP (Figure 1) through higher structural deficits, could decrease

the scope of anticyclical fiscal actions in the Eurozone (Mackiewicz 2007), reminding that the Greek government could not implement countercyclical fiscal expansion to mitigate the economic recession of 2008, not only due to the asymmetric economic cycle but also due to high and permanent fiscal deficits, which led to fiscal instabilities (Pagoulatos 2020). Regarding the effectiveness of fiscal stability, many economists argue that countries with higher government expenditure and sovereign debt have lower long-term economic growth (Furceri 2007) due to crowding out. Furthermore, the fiscal expansion for public investments, or in other words the “golden rule of public investments”, which allows a government to run public investment-oriented fiscal deficits, leads to lower balanced growth path in the long run (Minea and Villieu 2009) as a result of the lower effectiveness of public investment against private investment. Similarly, tight fiscal rules and enhanced fiscal supervision could mitigate not only fiscal expansion and crowding out, but also irrational behavior (e.g., moral hazard) (Tsiddon 1992). Many economists have an opposing view and argue that the advantages of the Eurozone’s fiscal federation would be modest (Fatás 1998), since budgetary consolidation in EMU countries is essential (von Hagen et al. 2001), as there is a widely accepted consensus that the EMU economic stability is based on sustainable public finances of national governments. Finally, markets seem to reward national governments for fiscal consolidation (Mosley 2004), as lending costs are related to fiscal discipline.



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Figure 1. Mapping SGP past reforms (and a possible future).

Could we so blindly trust Classical theoretical thought and Adam Smith’s invisible hand? Welfare economics underline market failures (Scitovsky 1951), such as externalities, public goods, and common resources (Hicks 1939), when arguing about government regulation. Not only do microeconomic failures drive government regulation, but also, according to J. M. Keynes (1939), sometimes the power of the market cannot allocate resources efficiently. Hence, the role of government in the economy is vital for achieving macroeconomic targets, such as full employment, using demand-side measures (Okun 1972). Furthermore, according to Kenen (1981), fiscal transfers through a common budget are necessary for an optimum currency area, since without fiscal coordination, independent stabilization of common business cycle shocks leads to too little fiscal federalism rather than too much (Allsopp and Vines 1996). Note that according to economists, the EMU should not associate monetary union and regulation on public borrowing by national governments (Eichengreen and von Hagen 1996), as it could affect public investments programs, as well as fiscal interventions by national governments in a monetary union could improve social

welfare (Cooper and Kempf 2004). Moreover, it is argued that the EMU needs credible fiscal institutions that preserve sovereign creditworthiness (Goldbach and Fahrholz 2011), such as the European Stability Mechanism, but only for EMU members (Herzog 2016). All of the above ensure that the design of fiscal rules in the EMU did not follow economic rules but imposed political constraints among core and periphery EMU countries.

Currently, the Neoclassical SGP has not succeeded in preventing the Euro crisis, as national governments undermined the pact's operation (Baerg and Hallerberg 2016), while the sovereign debt crisis in the euro area was a result of policy failures and lack of fiscal policy coordination (Hauptmeier et al. 2011). A set of strict SGP fiscal rules may result in underinvestment or distortions in the allocation of public expenditure, especially in capital, education, and health expenditure (Bacchiocchi et al. 2011). Meanwhile, during the 2010–2020 decade, the EU faced incomplete reforms, as a result of asymmetric national power (Maris et al. 2022). Recently, many economists have argued for the “muting” of the SGP, since its legislative rules are far from credible, and suggest an alternative model, such as the open method (coordination to implement reforms in the field of fiscal governance (Estella 2021)). Furthermore, fiscal deficits and sovereign debt during the health crisis led to the reform of SGP as the adoption of the SGP's preventive arm ceased to be the key point for such future fiscal adjustment (Hauptmeier and Leiner-Killinger 2020). The current literature argues that fiscal expansion is the right response to a recession (Enowbi Batuo and Kupukile 2010; Kammer and Arnold 2021), as well as fiscal activism, is the correct response to COVID-19 (Posen 2021). Moreover, the Eurozone's medium-term resilience during the last decade (2010–2019) achieved by the ECB's non-standard monetary measures, acts in contrast to tight fiscal policies (Matthijs and Blyth 2017).

### 3. Data and Methodology

The data utilized in the analysis are a balanced panel of twenty-six countries ( $N = 26$ ) for a period of twenty-seven years ( $t = 27$ ) with everything collected and readily available in Eurostat (2022). The countries in the sample are Austria, Belgium, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden, while the main variable considered is the government deficit ratio (interpreted as the level of annual public debt as a percentage of its gross domestic product), since its long run convergence was a mandatory step amongst nations that exhibited interest in joining the EMU.

Before beginning the analysis, we filtered our series with the Hodrick–Prescott procedure in order to acquire its trend component, since convergence is a long-run concept, and using the series without the filter could result in contamination of our results due to short run variation in economic conditions. All descriptive statistics of the measure of interest for the period considered are presented in Table 1, while country specific descriptive statistics are presented in Table 2. We avoided estimating a model with all the years of the sample, (1995–2021) and split the sample into two time periods (1995–2008 and 2009–2021), which we then applied the Phillips and Sul (2007, 2009) methodology to. This split is dictated by the start of financial crisis, since not considering it as a structural break in our data could lead to result contamination.

**Table 1.** Descriptive Statistics.

	Years	Obs.	Mean	Std. Dev.	Min	Max
Full Sample	1995–2021	702	−2.75	3.52	−32.1	6.9
Pre-Financial Crisis	1995–2008	364	−2.30	3.24	−12.6	6.9
Post-Financial Crisis	2009–2021	338	−3.22	3.76	−32.1	4.1

Notes: government deficit to GDP ratio descriptive statistics.

**Table 2.** Descriptive statistics.

	Obs.	Mean	Std. Dev.	Min	Max
Austria	27	−2.71	2.01	−8	0.6
Belgium	27	−2.41	2.22	−9	0.2
Croatia	27	−2.91	2.70	−7.9	2
Cyprus	27	−2.89	2.85	−8.8	3.2
Czechia	27	−3.23	2.94	−12.4	1.5
Denmark	27	0.48	2.57	−3.6	5
Estonia	27	−0.08	1.91	−5.6	2.9
Finland	27	0.04	3.40	−5.9	6.9
France	27	−3.90	1.82	−8.9	−1.3
Germany	27	−1.83	2.53	−9.4	1.9
Greece	27	−6.70	4.11	−15.1	1.1
Hungary	27	−4.96	2.37	−9.3	−1.8
Ireland	27	−2.90	7.47	−32.1	4.9
Italy	27	−3.63	1.94	−9.6	−1.3
Latvia	27	−2.29	2.65	−9.5	1.4
Lithuania	27	−2.83	3.25	−11.8	0.5
Luxembourg	27	1.67	1.97	−3.4	5.6
Malta	27	−3.78	3.42	−9.5	3.3
Netherlands	27	−1.77	2.43	−8.7	1.7
Poland	27	−3.88	1.83	−7.4	−0.2
Portugal	27	−4.70	2.53	−11.4	0.1
Romania	27	−3.66	2.34	−9.3	−0.6
Slovakia	27	−4.71	2.89	−12.6	−1
Slovenia	27	−3.50	3.27	−14.6	0.7
Spain	27	−4.21	4.04	−11.6	2.1
Sweden	27	−0.13	2.12	−7	3.3

Notes: Country-specific government deficit to GDP ratio descriptive statistics.

We proceed by outlining the [Phillips and Sul \(2007, 2009\)](#) econometric methodology, which we utilize in our analysis in order to test for full sample convergence.

More specifically, if  $X_{it}$  denotes the level of deficit of a given country  $i$  at time  $t$ , then

$$X_{it} = \delta_{it}\mu_t, \tag{1}$$

and  $\delta_{it}$  represents the idiosyncratic component that measures deviation of country  $i$  from the common trend  $\mu_t$  then

$$\delta_{it} = \delta_i + \sigma_i \zeta_{it} L(t)^{-1} t^{-a}, \tag{2}$$

where  $\zeta_{it}$  is depends weakly over  $t$  with  $\zeta_{it} \sim iid(0, 1)$ ,  $\sigma_i$  and  $\delta_i$  denote the idiosyncratic scale parameters and time-invariant fixed value respectively, while  $L(t)$  is a slowly varying function moving towards infinity when  $t$  moves towards infinity. To test the null hypothesis of convergence ( $H_0$ ), the algorithm utilizes a simple one-sided  $t$ -test that tests all  $i$  against the alternative hypothesis ( $H_A$ ) no country convergence for any given  $i$ ,

$$H_0 : \delta_i = \delta \text{ and } a \geq 0; H_A : \delta_i \neq \delta \text{ or } a < 0 \tag{3}$$

We proceed by testing the null hypothesis in (3), using the following regression:

$$\log\left(\frac{H_1}{H_t}\right) - 2 \log L(t) = \hat{c} + \hat{b} \log t + \hat{u}_t, \tag{4}$$

for  $t = [rT], [rT] + 1, \dots, T$  with  $r > 0$ ,<sup>2</sup>  $H_t = (1/N)\sum_{i=1}^N (h_{it} - 1)^2$ ,  $h_{it} = \frac{X_{it}}{N^{-1}\sum_{i=1}^N X_{it}} = \frac{\delta_{it}}{N^{-1}\sum_{i=1}^N \delta_{it}}$ ,  $L(t) = \log(t)$  and  $\hat{b} = 2\hat{a}$  where  $\hat{a}$  is the least-squares estimate of  $a$  under  $H_0$ . (3) is then tested through a simple one-sided  $t$ -test using  $\hat{b}$  with heteroskedastic and autocorrelation consistent (HAC) standard errors. Finally, the null hypothesis cannot be

rejected at the 5% level for  $t_b > -1.65$  (for a more thorough analysis, see [Phillips and Sul 2007](#), p. 1789).

Phillips and Sul indicate that rejecting full sample convergence, signals the existence of club<sup>3</sup> formation. We apply their proposed four-step clustering algorithm in order to identify country convergence clubs:

- (i) We begin by ordering the  $N$  countries, starting first with the country that had the highest-ranking last period as first, and proceed with the country that had the next-highest ranking, and so forth until no country remains.
- (ii) We proceed with forming core clubs from the first  $k$  highest-ordered (as described in step (i)) where  $2 \leq k \leq N$ , and compute  $t$ -statistics ( $t_k$ ) using (4). Club size  $k^*$  is predefined by the  $t$ -statistic of the  $\log t$  regressions for  $t_k > -1.65$ .
- (iii) Third, for a  $t$ -statistic greater than zero, we augment the core clubs of (ii) by one country at a time from the  $N - k^*$  countries.
- (iv) We repeat steps (i)–(iii) until no further country-merging is possible.

We finalized the procedure by applying the [Phillips and Sul \(2009\)](#) in order to determine further convergence clubs.

This particular framework has been used extensively in econometric research and possesses several advantages over other methods. First, variable stationarity is not necessary. Second, the methodology utilizes nonlinear time-varying factor models and finally it considers transitional dynamics (specifically country dynamics in this particular instance). Moreover, it refrains from the homogeneous technological progress hypothesis, a feature of imperative importance, since if technological heterogeneity exists, examining convergence of countries could lead to strong bias.

#### 4. Results

The first step is to test for full sample convergence (with a simple one-sided  $t$ -test). If we reject the null hypothesis (that there is a single steady state to which all member states converge i.e., a single club), we proceed with estimating the possible formation of clubs (Panel A). In this case, all countries converge to one of the five clubs formed, except for Greece and Hungary, which do not converge to any club. The next step is to further investigate whether newly formed clubs can be merged. Again, we reject full sample convergence (Panel B), but we observe the merger of Club 1 with Club 2 and Club 3 with Club 4 and 5. In all cases, Greece and Hungary fail to converge to any club. Table 3 presents the results of the clustering algorithm for the period 1995–2008.

We proceed by repeating the same process for the years 2009–2021. Again, we fail to reject the null hypothesis (full sample convergence) and proceed with estimating the formation of clubs. For this time period, we have four clubs and not five, while running the algorithm for further club convergence is rejected. Hence, these four newly formed clubs are also the final clubs observed for the time period (2009–2021). An alarming result of this process is that the previous two clubs are now four<sup>4</sup>, indicating that the financial crisis has led to further divergence amongst EMU countries in terms of the SGP mandate, regarding similar levels of deficit to GDP ratios. This finding further validates the need for a reform, as discussed in the following sections. Table 4 presents the results of the algorithm for the period 2009–2021.

In summary, our results indicate a deterioration of the convergence process amongst EMU member states. This is an important finding, since it highlights that the response to the financial and health crises regarding SGP reforms was not adequate and did not promote further convergence between member states, thus increasing the time required for future economic/political unification.

**Table 3.** Country convergence for the period 1995–2008 (deficit to GDP ratio).

Countries	Panel A: Phillips and Sul (2007)			Panel B: Phillips and Sul (2009)		
	Coefficient	t-Stat	New Club	Final Club	Coefficient	t-Stat
Full sample	−3.1477	−16.3322				
Club 1 (Austria, Belgium, Cyprus, Denmark, Finland, Netherlands, Slovenia, Spain, Sweden)	−3.091	−0.595	1 + 2	Club 1 (Austria, Belgium, Cyprus, Denmark, Finland, Netherlands, Slovenia, Spain, Sweden, Estonia, Lithuania, Luxembourg)	−1.08	−0.557
Club 2 (Estonia, Lithuania, Luxembourg)	7.636	13.171	3 + 4 + 5	Club 2 (Czechia, Germany, Ireland, Latvia, France, Italy, Romania, Slovakia, Croatia, Malta, Poland, Portugal)	0.029	0.341
Club 3 (Czechia, Germany, Ireland, Latvia)	1.419	4.605		Nonconverging (Greece, Hungary)	−2.683	−8.717
Club 4 (France, Italy, Romania, Slovakia]	2.872	4.747				
Club 5 (Croatia, Malta, Poland, Portugal)	3.047	4.698				
Nonconverging (Greece, Hungary)	−2.683	−8.717				

Notes: Coefficient denotes the estimated b-Coefficient, and t-Stat (critical value −1.65) the convergence test statistic.

**Table 4.** Country convergence for the period 2009–2021 (deficit to GDP ratio).

Countries	Phillips and Sul (2007)	
	Coefficient	t-Stat
Full sample	−1.8475	−7.168
Club 1 (Denmark, Ireland, Luxembourg)	1.037	0.523
Club 2 (Germany, Lithuania, Sweden)	0.103	0.179
Club 3 (Austria, Belgium, Croatia, Cyprus, Czechia, Estonia, Finland, Greece, Latvia, Malta, Poland, Portugal, Slovakia, Slovenia)	0.404	0.941
Club 4 (France, Hungary, Italy, Romania, Spain)	3.648	5.67
Nonconverging (Netherlands)	-	-

Notes: Coefficient denotes the estimated b-Coefficient, and t-Stat (critical value −1.65) the convergence test statistic. “-” on the t-stat implies nonconvergence.

### 5. Discussion

In 2005, the Stability and Growth Pact was reformed, becoming more flexible as many countries of the EMU, such as France, Germany, and others, faced difficulties in achieving the terms set by the original draft (Bofinger 2003). The reform aimed to allow more freedom to automatic stabilizers, and as a result, the SGP could not provide the right incentives to policymakers during economic upswings. Furthermore, as a more flexible SGP was needed (i.e., welfare-improving), and thus its new form would take into account budgetary deficits of structural reforms (Beetsma and Debrun 2004). Some economists argued that the excessive deficit procedure needs a stronger focus on policies rather than outcomes (Annett et al. 2005). The American experience ensures that fiscal targets may actually act as an incentive for politicians to engage in noncompliant behavior (Savage and Verdun 2007).

In 2011, the SGP became tighter, as there was a need for enhanced supervision, macroeconomic surveillance, and additional governance. Fiscal regulation measures had to become not only more effective in policy coordination (Schuknecht et al. 2011), but also improve the market discipline of national governments (Hallerberg 2011). Regardless of the Six Pack reform, the SGP was still unable to mitigate fiscal imbalances caused by the business



and financial cycle (Bénétrix and Lane 2013; de Haan and Kosterink 2017), a fact that explains, to an extent, the fiscal deficits of the time, as well as the consequent banking sector recapitalization (Enoch et al. 2001). It is generally accepted that the EU sovereign debt crisis was caused not only by fiscal imbalances but also due to absence of a banking union and other European-level buffer mechanisms (Lane 2012); hence, an enhanced fiscal policy reform was not enough to successfully achieve long-term economic growth (Mian et al. 2021).

To further elaborate on and support the above-mentioned arguments, the 2020 annual report of the European Fiscal Board argues that the EU fiscal framework did not achieve its fiscal targets, such as fiscal deficit and sovereign debt ratios, something that pinpoints the need for a reformed SGP (Thygesen et al. 2020). Furthermore, according to fairly recent Eurostat<sup>5</sup> announcements, despite the pre-COVID-19 high GDP growth rates, Eurozone countries did not succeed in creating fiscal buffers in order to mitigate exogenous crises. In contrast, the aggregate Eurozone government deficit has increased for the first time since 2011, despite high economic growth rates, reminding us that fiscal indiscipline is a feature of many developed countries (Wyplosz 2013). Furthermore, in 2020, the Economic and Financial Affairs Council (ECOFIN) activated the escape clause, as governments had to intervene effectively, increasing fiscal deficits and sovereign debt to mitigate the supply and demand shock (de Grauwe 2020), as well as to prevent a snowball effect that could lead to financial and economic crises.

## 6. Policy Implications

Important policy implications arise from this analysis since a fiscal reform in the EMU, and the implementation of fiscal federalism could lead to deeper economic union and faster fiscal coordination. A reform of the SGP mitigates the effects of exogenous crises (health, energy, etc.), as well as aiding in the stabilization of lending costs for countries of the periphery, such as Italy, Portugal, and Greece. The reform should make the SGP more elastic, by dividing sovereign debt into “acceptable debt” and “unacceptable debt”, recalibrating policymakers’ interest and focus on long-term growth.

Fiscal reforms, such as issuing common debt (Eurobonds) could mitigate the moral hazard by introducing a central stabilization capacity under strict terms and conditions (Beetsma and Debrun 2004). In other words, the common issuance of Eurobonds could mitigate the EU debt explosion, at the same time limiting incentives for moral hazard if national governments turn over part of their budget sovereignty to the European Commission (Prinz and Beck 2012). Eurobonds could lead to capital market integration (Mendelson 1972), while more specialized versions (green and/or blue Eurobonds) are an effective tool for achieving sustainable growth (Flammer 2019). Eurobonds are only one side of the coin, as the other side is a powerful EMU common budget, providing fiscal transfers among countries, which promote fiscal federalism policies in the EMU, as fiscal federalism could activate multiple positive spillover effects in long-term economic growth.

## 7. Limitations

It is important to mention that the convergence of a monetary union is a long-term process. As the current joint crises (health and energy) still unfold and shake the foundations of the European economy, speculating heavily on the success or failure of such a process from current data available can lead to assumptions that are disproven in the future.

As a final note, the quality and rigor of any research hypothesis is intertwined with how effectively the researcher can account for its limitations. A main limitation that arises from this article is that the convergence process is examined only for one of the SGP criteria (deficit to GDP). Future academicians can include more convergence criteria in their econometric analysis. Furthermore, future research projects can reach fruition by including both fiscal and monetary framework reforms in their analyses (Amato et al. 2016), as both are pillars of the EMU.

## 8. Conclusions

Actual, but non-nominal fiscal federalism implementation is the immediate necessary next step of the EMU in order to achieve the requirements of an Optimum Currency Area (Mundell 1961) and the Economic Integration (Balassa 1962) theoretical models. Fiscal stability remains a strategic pillar for long-term economic growth, but the tight fiscal rules of the SGP have to change, focusing on more simple and effective fiscal rules, such as other federal models (USA). Fiscal stability is not the first and last objective of a macroeconomic analysis, something that the COVID-19 shock has highlighted. Imbalances could come from other sectors of economy, since national governments cannot mitigate international market failures such as climate change and health crises. Currently, many economists argue about an SGP reform (with more long-lasting effects), but history has taught us that this alone is not enough. What recent exogenous crises (health and financial, etc.) have shown us is that a multilevel fiscal reform, which would include three fiscal innovations in Eurozone governance, is essential to its survival. The first one is common debt issuing (emphasizing green Eurobonds), which means that Eurozone fiscal transfers could finance national fiscal deficits, aiming at green public investments. The second one is SGP flexibility, taking into account not only the national business cycle, but also more factors and parameters such as international indices and midterm Eurozone targets (and fiscal fundamentals in general). The third is a permanent EMU common budget, such as the temporary Next Generation EU mechanism, which could implement fiscal transfers among EMU countries. According to Kenen (1981) and many other economists, a common budget is necessary for a monetary union, as it is one of the criteria of an optimum currency area (Williamson 2022). An EMU permanent budget could be financed not only from Eurobonds, but also from government transfers.

Financial stability, banking and financial union are factors that affect the long-term economic growth of a monetary area. As the ECB is mainly focused on Friedman' (1948) monetary rule (low and stable inflation), fiscal reforms alone are not enough. Deeper economic coordination, not only in fiscal policy, but in the banking and financial sector as well, is essential, and thus the ECB should emphasize on more complex targets, such as the productivity gap, environmental change, and income inequality.

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## Notes

<sup>1</sup> Resolution of the European Council on the Stability and Growth Pact, OJ 1997, C 236/1, Council Regulation No. 1466/97 of 7 July 1997 on the strengthening of the surveillance of budgetary positions and the surveillance and co-ordination of economic policies, OJ 1997, L 209/1, and Council Regulation No. 1467/97 on speeding up and clarifying the implementation of the excessive deficit procedure, OJ L 209/6.

<sup>2</sup> Similar to Phillips and Sul (2007, 2009),  $r$  is set to 0.3.

<sup>3</sup> A club is defined as a group of countries, converging to a single steady state, hence displaying similar characteristics regarding their level of deficits.

- <sup>4</sup> As the unification process of EMU members progresses, one would expect more similarity regarding SGP mandates and macroeconomic fundamentals. Diverging to a greater number of clubs, and not to a single club containing all members, indicates a need to reconsider the current form of the SGP.
- <sup>5</sup> For further information visit [https://ec.europa.eu/commission/presscorner/detail/en/qanda\\_22\\_6563](https://ec.europa.eu/commission/presscorner/detail/en/qanda_22_6563) (accessed on 9 December 2022).

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