FISCAL COUNCILS IN EU MEMBER STATES: IMPACT ON FISCAL DISCIPLINE*

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Abstract
This paper presents the impact of fiscal councils in the European Union on public finance. Using a fiscal reaction function, the impact of fiscal councils on the discretionary component of fiscal policy is examined. The impact of fiscal councils is a topical issue due to the fact that most EU countries have established fiscal councils in response to the EU legislation adopted after the last financial crisis. The empirical results imply that fiscal councils are complementary to numerical fiscal rules and instrumental for limiting deficit bias in the EU countries, most importantly through monitoring of compliance with fiscal rules and endorsement of macroeconomic and budgetary forecasts. Despite certain research limits, the empirical results point to similar conclusions as from recent papers. Out of the empirical findings, several recommendations can be made for fiscal policy-making.

Keywords: Fiscal councils, fiscal rules, fiscal policy
JEL Classification: E62, H11, H62

1. Introduction

As the last financial and debt crisis showed, the stabilizing role of fiscal policy in many EU countries turned out insufficient. On the other hand, the countries that had responsibly complied with numerical fiscal rules were able to deal more effectively with the economic downturn. However, sole compliance with fiscal rules may not sufficiently fulfil the stabilization function of fiscal policy in bad economic times. In the light of the last revision of the Stability and Growth Pact (SGP) in 2011, the institutional environment of the fiscal surveillance was complemented with independent fiscal institutions (IFIs) with control and evaluation elements (also known as fiscal councils).

* This paper was supported by Prague University of Economics and Business (as part of the IGA project "Disintegration Risks for the European Union", No. F2/55/2020).

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The aim of this paper is to assess the influence of fiscal councils on the discretionary fiscal policy in the EU Member States, especially in light of the fact that these fiscal institutions have been established relatively recently in many EU countries, inter alia in response to EU legislation. Since IFIs are topical, it is worth examining their influence. The panel regressions are largely inspired by Hallerberg *et al*. (2004), IMF (2013) and Debrun and Kinda (2014). Hallerberg *et al*. (2004) focused their research on national fiscal governance aspects, and the could be enriched with the effects of fiscal councils. Supposing that government coalitions with higher ideological fragmentation need stricter set of fiscal rules or other institutional aspects of fiscal surveillance, one may anticipate greater effects of fiscal councils. Unlike the typical papers oriented on the IFI impact on public finance (IMF, 2013; Debrun and Kinda, 2014), this paper focuses solely on the EU countries, using relatively new data given the fact that IFIs have been set up relatively recently in 15 EU countries (as of 2013). While examining the effect of selected IFI attributes[1], the method used in this paper is panel regression.

2. Literature Review on Fiscal Councils

Based on the literature review, several reasons for establishing IFIs may be introduced[2]. The deficit bias is usually determined by the "myopic" setting of fiscal policy, specifically before an upcoming election date. These are politically motivated discretionary measures (in the form of spending increases and tax cuts) by the governing party before the upcoming elections. (Hagemann, 2011; Poterba and Hagen, 1999; Calmfors and Wren-Lewis, 2011; Calmfors, 2010, 2015; IMF, 2013; Feld, 2018; Foremny *et al*., 2018).

Another problem is the possibility of an overly optimistic forecast, which may result in an overestimation of budget revenues or an underestimation of planned public expenditures (IMF, 2013; MFCR, 2017). Jonung and Larch (2004) also point to the need for forecasting by an IFI.

Moreover, undesirable setting of fiscal policy causes inequalities between each generation, especially via the indebtedness of public finance. This may not take into account time budget constraints (MFCR, 2017; Jackson and Yariv, 2015). MFCR (2017), Alesina and Tabellini (1990) also point to the significant influence of the programmes of individual political parties. The more diverse these programmes are, the less likely the ruling party will be re-elected, which decreases the probability of future repayment of the current debt.

1 These attributes include the role of the IFIs in monitoring compliance with national fiscal rules, preparing (or endorsing) macroeconomic and budgetary forecasts or, inter alia, the legal mandate of the fiscal councils. See the appendix for their description.

2 The structure of these reasons is to a large extent inspired by MFCR (2017).

The pro-cyclicality of fiscal policies is also a common problem, meaning that increasing public spending during a boom instead of strengthening a country's fiscal capacity and, conversely, reducing public spending in times of recession instead of delivering fiscal expansion (Alesina and Tabellini, 2005). Halac and Yared (2014) also point to the fact that a suboptimal fiscal rule can undermine future fiscal discipline and force the government to accumulate debt. Although fiscal rules limit the tendency to pro-cyclicality, they do not necessarily lead to its significant reduction (MFCR, 2017; Nerlich and Reuter, 2015).

Another problem that fiscal councils may solve is fiscal illusion and information asymmetry. Since voters do not perceive the effects of the business cycle on public finance and government budget limits, there is an increasing pressure to inadequately reduce the tax burden or increase public spending (MFCR, 2017; Miranda and Picur, 2003; Calmfors and Wren-Lewis, 2011; Calmfors, 2010, 2015). The most beneficial for society may be fiscal councils which reduce the information asymmetry between voters and the government (MFCR, 2017; Beetsma and Debrun, 2016).

Coletta *et al*. (2015) and the IMF (2013) also attach due importance to the communication skills of fiscal councils, frequent mutual communication between fiscal councils and free access to information. In addition, governments should generally follow relevant recommendations of fiscal councils. In the case of non-compliance, they should duly explain any deviation from such recommendations. Fiscal councils may also be established to improve coordination among sub-sectors of general government, which is especially needed in federal or highly decentralized states (Kopits, 2018; Escrivá *et al*., 2018).

The concept of fiscal councils is very diverse in practice, due to the different origin of fiscal councils, different political, legal and institutional arrangements, and also with regard to the development of economic theory. MFCR (2017) provides an overview of all the fiscal council in the EU. It should be noted that only ten fiscal councils in EU countries (namely Austria, Belgium, Denmark, the Netherlands, Romania, Sweden, Slovenia and the United Kingdom) had been set up before 2011, *i.e.*, before the adoption of European legislative acts laying down the mandate of fiscal councils (*i.e.*, Directive No. 2011/85/EU and Regulation No. 473/2013).

3. Evolution of Fiscal Rules and Fiscal Councils in EU Countries

Figures 1 and 2 show the main institutional variables (fiscal rule index and scope of independent fiscal institutions) for the 27 countries used in the regression analysis. Both fiscal rules (FRI) and fiscal councils (SIFI) show significant development in the periods 1995–2019 and 2015–2019, respectively. Both variables (see the Appendix for their description) have been drawn from the Commission Fiscal Governance Database (EC, 2017).

While the database covers the whole period concerned for fiscal rules, the period for IFIs covers only 2015–2019. As can be inferred from the database (EC, 2017), the FRI only reflects the setting of national fiscal rules, not the degree of compliance. In addition to these qualitative aspects, the index also incorporates the quantity of rules by summing the strength indices of all effective fiscal rules (FRSI) in a relevant country, and also by adjusting them for the coverage of the general government sector (EC, 2019). Regarding the SIFI index, it also reflects setting of the fiscal councils in the EU countries, not their actual influence on fiscal policy-making. However, it does not merely capture existence of fiscal councils (as do dummy variables representing existence of IFIs), but also specific IFI characteristics.

For the regression purposes, the SIFI indices were prolonged to the year of the establishment of the relevant fiscal council (or to the year of its last reform[3]), similarly to the approach taken by IMF (2013), Debrun and Kinda (2014) or Nerlich and Reuter (2013), who assume that the IFI attributes stay the same in the lifetime of a fiscal council. Although such prolonged data should be taken with prudence, it has to be added that there have been almost no reforms reported for the IFIs in the EU. Furthermore, 15 out of 27 Member States have established IFIs relatively recently (as of 2013). According to the formula for SIFI calculation, the SIFI value in years when the relevant fiscal council did not exist is assumed to be zero. The reason is that if a fiscal council does not exist, then its tasks (as described in EC, 2017) are all equal to zero, and therefore their multiplication by weighs associated to such tasks gives a zero SIFI value[4]. When it comes to the tasks performed by IFIs[5], the values for years before the last reform of the IFI are not included. For years with absence of IFIs, the assumed values are zero as they are equal to "not performing the task". Overall, unbalanced panel data are used; however, it is safe to assume a zero value of SIFI and IFI attributes in years without a fiscal council.[6]

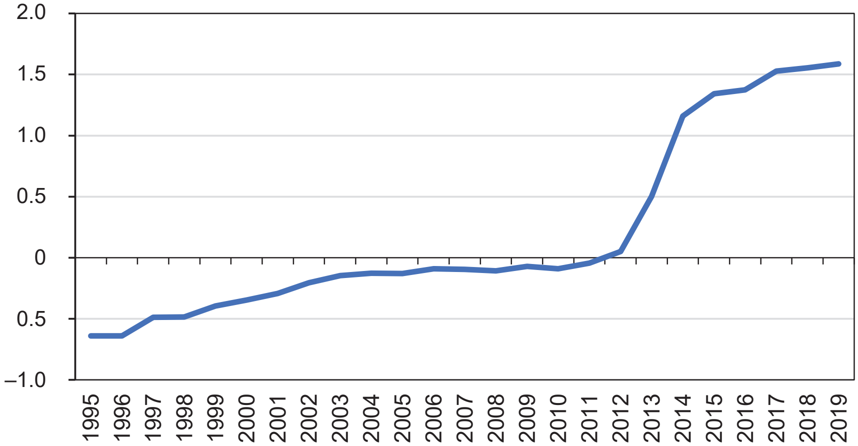
3 For example, the last reform of the Austrian Fiscal Council took place in 2013, and therefore the time horizon from 1995 to 2012 remains blank.

4 Furthermore, EC (2019) supports the above-mentioned explanation: the SIFI index equalling to 0 means a "non-existing IFI".

5 See the Appendix for the IFI attributes in 2019.

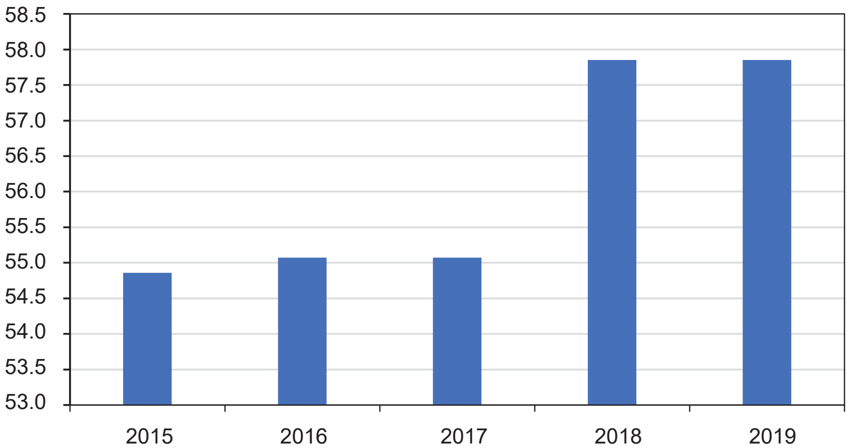
6 Moreover, the IFI variables in IMF (2013) or Nerlich and Reuter (2013) were mostly dummies, constant over several years, and still used in panel regressions.

Figure 1: Development of national fiscal rules in 1995–2019, FRI average for 27 EU states



Source: EC (2017)

Figure 2: Development of independent fiscal councils in 2015–2019, SIFI average for 27 EU states



Source: EC (2017)

4. Budgetary Impacts of Fiscal Councils in EU Countries

This section focuses on the impact of fiscal councils on the discretionary behaviour of fiscal policies in the EU. Given the fact that a number of EU countries have established their IFIs relatively recently, following the previously mentioned legal standards from 2011 to 2013, it is worth examining the influence of these institutions.

Using a fiscal reaction function (inspired by Hallerberg *et al*., 2004; IMF, 2013; Debrun and Kinda, 2014) on a sample of 27 countries[7] in the period 1995–2019, the effect of IFIs is examined on the cyclically adjusted primary balance (CAPB) as a variable reflecting the discretionary fiscal policy. As national fiscal rules or fiscal councils do not relate solely to budget balances, the debt-to-GDP ratio is also used as a dependent variable (for a consistency check). The scope of fiscal institutions index (SIFI) is used as an explanatory variable (see EC, 2017; EC, 2014 for further details). The following model has been used:

Equation 1: Fiscal reaction function

$$CAPB_{it} = \alpha_i + \beta CAPB_{i,t-1} + \beta_1 \boldsymbol{X}_{i,t} + \beta_2 \boldsymbol{P}_{i,t} + \beta_3 \boldsymbol{I}_{i,t} + \varepsilon_i \,. \tag{1}$$

Macroeconomic variables are included in the matrix $\boldsymbol{X}$: output gap, given the presumption of procyclicality of fiscal policy, and lagged interest, as debt service costs influence policymakers in further indebtedness. The matrix $\boldsymbol{P}$ includes **political variables**: (election year as a dummy variable examining electoral cycle in fiscal policy, and ideological range, representing the degree of ideological like-mindedness among government members, calculated as follows: each government party is assigned a value from 0 (the far left) to 10 (the far right). The difference between the highest and the lowest value is used.[8] Finally, the matrix $\boldsymbol{I}$ includes **institutional factors:** index of fiscal rules (FRI, as calculated in EC, 2017)[9] representing the setting of national numerical fiscal rules. Another variable included is five years before adopting the euro as governments are expected to have increased their fiscal effort before adopting the common currency. The last variable is the SIFI, representing the setting and competences of national IFIs (as calculated in the Commission's Fiscal Governance Database). For further regression

7 Croatia is excluded from the sample due to limited availability of fiscal data.

8 Data for election years and ideological range are available in the ParlGov database (Döring and Manow, 2020).

9 The standardised fiscal rule index is used as it represents the design of numerical fiscal rules for a country as a whole. The fiscal rule strength index is not used in regression as it solely represents the design of a numerical fiscal rule per se.

purposes, specific attributes of the IFIs have been used (see EC, 2017; EC, 2014). Before applying all the regressions below, stationarity of the time series was tested (using an augmented Dickey-Fuller test). All of the variables proved to be stationary. In the case of the fiscal rule index, where the stationarity of data may be questionable, the Dickey-Fuller test proved stationarity after having included both intercept and trend (see the Appendix). For a summary statistics of the included variables, see the Appendix.

Next, the **panel diagnosis** was used in order to determine the regression method, using an *F*-test, a Breusch-Pagan test and a Hausman test (see the Appendix). In all the regressions, the Arellano estimator consistent to heteroscedasticity and autocorrelation was included. In addition, VIF tests did not confirm any problems with multicollinearity in any regression.

As shown in Table 1, a sample of all 27 EU countries demonstrates a positive impact of fiscal councils on budgetary discipline, with the statistical significance of the SIFI index coefficient at the 1% level of significance. It should be noted that if the fiscal rule index (FRI) and the SIFI are both included in the model simultaneously, the statistical significance of neither of those is confirmed. Although an explanatory variable is used in the regression to represent selected properties of fiscal councils (and therefore not just their mere existence), it will obviously be appropriate to apply regression using selected IFI characteristics (given the low slope of the SIFI). This finding is analogous to IMF (2013), according to which mere existence of fiscal councils is not sufficient to increase fiscal discipline. On the other hand, the complementarity of fiscal rules and IFIs (FR*SIFI) has been proved, both for the discretionary fiscal policy and for the public debt. Wyplosz (2018) argues that fiscal rules and IFIs should be mutually compatible surveillance aspects, and that their appropriate combination can lead to positive results over time. It should still be borne in mind that fiscal councils have been set up relatively recently in 15 EU countries (as of 2013); thus, a rather low effect of such complementarity may be expected (see the low slope for complementarity). It should be noted that endogeneity between fiscal rules (or IFIs) and the fiscal indicator was not proved using the 2-step least squares method[10]. Moreover, such endogeneity is not likely (Nerlich and Reuter, 2013): changing a national fiscal framework is a very cumbersome process and one should assume a significant time lag between the introduction of a new rule and its entry into force.

10 Lagged FRI and lagged SIFI were used as instrumental variables. Endogeneity was not proved even in the case of these variables lagged by 5 years.

Table 1: Results of panel regressions on 27 EU countries (1995–2019)

Dependent variable:	CAPB			Debt to GDP
Constant	−1.011*** (0.206)	−1.022*** (0.168)	−0.852*** (0.219)	7.806*** (1.623)
Lagged dependent variable	0.576*** (0.042)	0.595*** (0.043)	0.588*** (0.044)	0.916*** (0.033)
Output gap	−0.122** (0.045)	−0.124** (0.048)	−0.127** (0.046)	−0.842*** (0.118)
Lagged interest payable	0.437*** (0.077)	0.359*** (0.076)	0.380*** (0.084)	−0.952*** (0.310)
Election year	−0.357* (0.182)	−0.321 (0.198)	−0.349* (0.181)	0.102 (0.305)
Ideological range	−0.079 (0.136)	−0.118 (0.146)	−0.088 (0.140)	0.147 (0.273)
5 years before euro	**0.483***** (0.152)	**0.527**** (0.199)	**0.416***** (0.139)	**−1.203**** (0.522)
FRI	0.379*** (0.073)	–	–	–
SIFI	–	**0.014***** (0.004)	–	–
FRI*SIFI	–	–	**0.005***** (0.002)	**−0.016*** (0.008)
Overall R^2	0.626	0.612	0.621	0.986
Within R^2	0.487	0.480	0.480	0.939
Akaike criterion	2689.31	2443.61	2698.68	3664.77
***F*-test**	211.45***	101.87***	241.64***	332.35***
Wald test	852.5***	2598.36***	1000.77***	723.99***
Durbin-Watson	1.978	1.998	1.969	1.121
N	643	574	643	643

Note: Values in parentheses indicate standard errors.

* 10% significance level, ** 5% significance level, *** 1% significance level.

The fixed effects method is applied.

Source: Own analysis

The following paragraphs discuss the effects of fiscal councils' characteristics on the discretionary fiscal policy in EU countries (as shown in Table 2). The examined attributes of IFIs were selected on the basis of EC (2017); see the Appendix. The only difference among the columns is the use of a specific IFI attribute as described in the Appendix. According to the IFI attribute description, the most important variables may be those related to fiscal surveillance and preparation of macroeconomic and budgetary forecasts as these may achieve a rather broad range of values (unlike dummy variables).

Table 2: Results of panel regressions on 27 EU countries (1995–2019), including selected IFI attributes

Dependent variable	CAPB								
	TK1a	**TK1b**	**TK1c**	**TK2a**	**TK3a**	**TK3b**	**TK4**	**TK5**	**Legal force**
Constant	**−1.031***** (0.142)	**−1.049***** (0.138)	**−1.018***** (0.141)	**−0.914***** (0.183)	**−0.945***** (0.180)	**−0.749***** (0.181)	**−0.888***** (0.155)	**−0.875***** (0.149)	**−0.995***** (0.145)
Lagged CAPB/debt	**0.607***** (0.038)	**0.602***** (0.038)	**0.610***** (0.037)	**0.614***** (0.037)	**0.598***** (0.037)	**0.613***** (0.040)	**0.616***** (0.041)	**0.618***** (0.041)	**0.612***** (0.040)
Output gap	**−0.130**** (0.047)	**−0.130**** (0.047)	**−0.130**** (0.047)	**−0.131**** (0.047)	**−0.127**** (0.047)	**−0.132**** (0.048)	**−0.133**** (0.048)	**−0.131**** (0.049)	**−0.130**** (0.049)
Lagged interest payable	**0.363***** (0.073)	**0.363***** (0.069)	**0.358***** (0.074)	**0.351***** (0.079)	**0.371***** (0.070)	**0.330***** (0.087)	**0.327***** (0.085)	**0.337***** (0.088)	**0.355***** (0.082)
Election year	−0.352 (0.213)	−0.342 (0.214)	−0.344 (0.214)	**−0.361*** (0.211)	**−0.359*** (0.210)	−0.336 (0.212)	−0.341 (0.214)	−0.339 (0.215)	−0.346 (0.213)
Ideological range	−0.120 (0.159)	−0.110 (0.155)	−0.113 (0.158)	−0.130 (0.164)	−0.136 (0.160)	−0.089 (0.164)	−0.094 (0.160)	−0.097 (0.163)	−0.117 (0.162)
5 years before euro	**0.519**** (0.196)	**0.556***** (0.198)	**0.483**** (0.192)	**0.445**** (0.190)	**0.498**** (0.183)	**0.370**** (0.171)	**0.469**** (0.188)	**0.429**** (0.183)	**0.485**** (0.194)
IFI variable	**0.430***** (0.149)	**1.950***** (0.598)	**1.649**** (0.631)	**0.670*** (0.330)	**0.447***** (0.155)	**1.258*** (0.692)	**0.825**** (0.353)	**0.614*** (0.319)	**1.067**** (0.393)
Overall R^2	0.632	0.633	0.630	0.629	0.633	0.623	0.628	0.626	0.630
Within R^2	0.490	0.492	0.488	0.486	0.491	0.478	0.485	0.482	0.488
Akaike criterion	2,243.63	2,241.26	2,245.51	2,247.74	2,242.34	2,255.75	2,249.02	2,251.62	2,245.55
***F*-test**	103.813***	113.256***	95.887***	95.876***	103.93***	128.976***	99.010***	108.164***	95.415***
Wald test	2,978.82***	3,017.19***	2,746.33***	2,913.16***	2,988.99***	2,984.88***	2,736.46***	2,812.35***	2,820.25***
Durbin-Watson	1.919	1.919	1.917	1.915	1.920	1.907	1.908	1.909	1.913
N	528	528	528	528	528	528	528	528	528

Note: Values in parentheses indicate standard errors. * 10% significance level, ** 5% significance level, *** 1% significance level. The fixed effects method is applied.

The regression included a selected IFI variable (from TK1a to Legal force; see definition of all the IFI attributes in the Appendix).

Source: Own analysis

The regressions show that specific aspects of fiscal councils are more important for achieving better budgetary results than the IFIs' mere existence, as shown with the slope of selected IFI variables in all columns of Table 2. The observed IFI characteristics (from monitoring compliance with fiscal rules to the IFI legal mandate) show a more prominent slope compared to the SIFI (see Table 2). Using the significance level, the greatest influence on fiscal discipline can be demonstrated for variables related to fiscal rules monitoring (from TK1a to TK1b) and preparation of budgetary forecast (TK3a). Such results imply that fiscal councils have a fundamental influence on the management of public finance by monitoring compliance with fiscal rules. This finding supports the assumption that fiscal rules and fiscal councils are two complements of fiscal surveillance in the EU. Furthermore, the IFIs apparently contribute to fiscal discipline by endorsing (or preparing) macroeconomic and budgetary forecasts. The fact that a fiscal council endorses the forecast may be more motivating for the government to prepare a realistic and prudent forecast. The preparation (or endorsement) of macroeconomic or budget forecasts by the IFI is also related to the quantification of budget items. These estimates have a major impact on the quality of the budget forecast, which is a part of the draft state budget and the medium-term fiscal plan. In addition, according to EC (2014), the IFI opinion (including real-time judgment of the government's compliance with fiscal rules) may support a sense of shared responsibility between the fiscal council and the government[11]. Indeed, the IFI opinion on quantitative policy costing proved to be relevant. Neither the favourable effects of the long-term sustainability analysis, nor active promotion of transparency of fiscal policy and IFI legal mandate can be neglected, as implied by the regressions.

However, it has not been proved that fiscal councils exert pressure on higher fiscal discipline by making recommendations for policymakers.[12] These are dummy variables, containing only information on whether IFIs perform such activities or not. In contrast, other variables attain a wider range of numerical values depending on the level of performance of the relevant activity. On the other hand, the sustainability analysis indicator or the promotion of transparent fiscal policy are also dummies. None of the IFI attributes proved to be significant in public debt reduction. Therefore, although fiscal rules and fiscal councils may have limited the discretionary fiscal policies, they apparently have not prevented debt accumulation over the period 1995–2019.

11 Such a relationship is conditioned by the extent to which the government respects the views of the fiscal council.

12 For the sake of clarity, such a variable is not included in Table 2.

4. Discussion and Research Limits

Although the regressions applied in the previous section have implied positive impacts of both fiscal rules and IFIs on discretionary fiscal policy, certain research limitation need to be considered. The main caveat is the limited availability of IFI data (from 2015 to 2019); therefore, the SIFI indices had to be prolonged artificially, as done by Nerlich and Reuter (2013). On the other hand, almost no reform was reported for the IFIs concerned, and more than half of EU countries have established them relatively recently (see Section 2). The selected IFI attributes and their impact also need to be considered carefully due to the artificial prolongation of the time series.

Despite the research caveats caused by limited times series on the IFIs, the regressions have implied that the fiscal rules and fiscal councils were successful in limiting the discretionary fiscal policy from the mid-1990s to the late 2010s, but failed to prevent significant public debt increases over time. The same conclusion can be drawn from Davoodi *et al*. (2022), who adds that the national fiscal rules were flexible enough during the crises. This is particularly the case for the COVID-19 pandemic, representing a "stress test" in which widespread use of escape clauses was typical in the majority of EU Member States. Such flexibility elements (together with the EU general escape clause) provided large room for budgetary manoeuvres in dealing with health and economic consequences of the pandemic.

Fiscal councils proved to be important during the pandemic as well, especially in monitoring the activation of escape clauses or costing epidemic-related budgetary measures. Furthermore, a lot of fiscal councils put emphasis on transparency in fiscal measures, and adjusted their mandate in fiscal oversight. As indicated with regressions, specific IFI attributes continue to be important, especially those related to surveillance, transparency, legal mandate or budgetary estimations (Davoodi *et al*., 2022). Even before the pandemic, such attributes were stressed by Jankovics and Sherwood (2017), who argued in favour of strengthening IFI independence and monitoring safeguards, improving forecast endorsement processes, and improving transparency elements. Even Casey *et al*. (2021) show that EU fiscal councils have become essential institutions for budgetary forecasts and debt sustainability analyses.

It should be noted that fiscal policies across EU countries should comply with supranational fiscal rules (embedded mainly in SGP). Further research may be complemented with the EFB database (Larch and Santacroce, 2020), for instance by applying a regression analysis between national rules (as an explanatory variable) and the compliance with EU numerical rules, as national fiscal frameworks may increase the compliance with the Union requirements.

5. Conclusion and Policy Implications

The impacts of fiscal councils on the discretionary behaviour of fiscal policy were examined using the time series from 1995 to 2019, where it was demonstrated on a sample of 27 EU countries that these fiscal institutions contribute positively to the stability of public finance. However, compared to national fiscal rules, this was negligible. Although an explanatory variable representing selected characteristics of fiscal councils (specifically the SIFI index) was used in the regression (and not only their existence), it was necessary to examine the influence of selected attributes of fiscal councils. Yet, the complementarity between national fiscal rules and IFIs proved to be successful in limiting not only the fiscal discretion, but also the public debt.

The regressions proved that the specific attributes of fiscal councils are apparently more important for achieving better budgetary results than the mere existence of the IFIs. The most significant influence on fiscal discipline was demonstrated in the case of variables related to monitoring of fiscal rules. In this context, it was implied that fiscal councils have a major influence on the management of public finance by monitoring compliance with fiscal rules, which confirmed the assumption that there is a complementary relationship between fiscal councils and fiscal rules in EU countries. Fiscal councils also proved to have a significant impact via approval (or preparation) of macroeconomic and budgetary forecasts, which implies that by approving the forecast the IFI motivates the government to develop a realistic forecast with no optimistic bias. It is also necessary to mention the apparent positive impact of the long-term sustainability analysis. The limiting effects of the IFI legal status on the discretionary fiscal policy cannot be neglected either.

However, it should be noted that this paper takes into account certain caveats due to limited time series on IFIs and the need for artificial prolongation of time series. On the other hand, the empirical results have implied similar effects of fiscal rules and IFIs as shown in other sources (even in a pandemic context). Yet, they were largely unable to prevent rapid increases in public debt.

The following recommendations could be taken into account after relaunching the consultation process on the EU economic governance: (i) supporting the mandates of IFIs in monitoring compliance with fiscal rules, (ii) assessing the expenditure amount covered by flexibility elements of the fiscal rules, (iii) independent economic judgement in case of differentiated debt targets among Member States or generally in case of moving toward rather qualitative nature of fiscal surveillance.

Appendix

Fiscal rule index (FRI)[13]

One of the institutional variables used in this paper is the fiscal rule index (FRI). This index is calculated on the basis of the following five criteria: (a) legal basis, (b) scope for revising the fiscal target covered by the relevant rule, c) institution for monitoring compliance with the fiscal rule[14], d) correction mechanism, e) resilience to economic shocks and events outside of the control of the government. Before calculating the fiscal rule index (FRI), the fiscal rule strength index (FRSI) is calculated for each national numerical fiscal rule separately (based on the criteria (a) to (e) above). The values of each criterion are standardised on a scale from 0 to 1, and an index reflecting the strength of each rule (FRSI) is then calculated. This index, however, allows comparison among the numerical rules themselves, not among EU countries. Therefore, the FRSI indices are aggregated into fiscal rule index (FRI) for each Member State. This index is calculated by multiplying the FRSI index by the coverage rate of the general government sector for the relevant fiscal rule. These totals are then added together for each country. If more than one fiscal rule covers the same level of general government, then the strongest rule (according to the FRSI) is weighted 1, the second strongest is weighted ½ and the third strongest is weighted ⅓.

Scope of Fiscal Institutions Index (SIFI)[15]

The Scope of Fiscal Institutions Index (SIFI) reflects the scope of competencies exercised by fiscal councils. These competencies are listed in the following six categories:

1) **Monitoring compliance with national fiscal rules:** The degree of involvement of fiscal councils in monitoring compliance with fiscal rules ranges from a descriptive assessment of fiscal policy (based on historical data) to issuing opinions on the functioning of fiscal rules in real time (**TK1a**: value ranging from 0 to 2). The criterion for monitoring compliance with fiscal rules also takes into account whether the fiscal council participates in the activation of the corrective mechanism of the fiscal rule (**TK1b**: value equal to 0.5), as well as whether it monitors all fiscal rules for the entire general government sector (**TK1c**: value equal to 0.5).

13 Source: EC (2017).

14 This criterion includes the following sub-criteria: (i) nature of the monitoring institution, (ii) real-time monitoring, (iii) nature of the institution monitoring in the event of deviation from the relevant fiscal rule, (iv) independent institution and its relation to macroeconomic forecasts.

15 Source: EC (2017), using definitions by EC (2014).

2) **Preparation (or approval) of the macroeconomic forecast:** For this criterion, the decisive factor is whether the fiscal council prepares or approves the macroeconomic forecast (**TK2a**: value ranging from 0 to 2). This criterion also takes into account the role of the fiscal council in reconciliation of diverging views between the government and the forecast endorser (**TK2b**: value equal to 0.5).
3) **Preparation (or approval) of the budgetary forecast and opinion of the fiscal council on quantitative policy costing:** Similarly to the previous criterion, the decisive factor is whether the fiscal council makes a budgetary forecast or approves it (**TK3a**: value ranging from 0 to 3). In addition, this criterion takes into account whether the fiscal council adopts an opinion on the quantification of the estimated government revenues and expenditures (**TK3b**: value equal to 0.5).
4) **Preparation of long-term fiscal sustainability analysis:** this is a dummy variable depending on whether the fiscal council has this competence (**TK4**).
5) **Promoting the transparency of fiscal policy:** this is a dummy variable depending on whether the fiscal council has this competence (**TK5**).
6) **Normative recommendations for fiscal policy-makers:** this is a dummy variable depending on whether the fiscal council has this competence (**TK6**).

The values of these six categories are multiplied by the **legal force coefficient**. This may range from 0.25 (competence on its own initiative performed sporadically) to 1.00 (competence stipulated by law). This product is then weighted so that the competences arising from EU legislation gain more significance. This is the method of calculating the SIFI index for a particular fiscal council. For countries with two fiscal councils, the values for each of the six competencies mentioned above are added up. If a certain competence is relevant for both institutions in the same country, only the competences of the higher value fiscal council are taken into account.

For regression purposes, legal force coefficients were averaged for each country, so it forms an artificial variable representing the average legal force coefficient per country.

Dataset of independent fiscal institutions (in 2019)

Country	Est./Ref.	TK1a	TK1b	TK1c	TK2a	TK2b	TK3a	TK3b	TK4	TK5	TK6	Legal force
AT	2013*	2	0.5	0.5	2	0	1	0.5	1	1	1	1
BE	*1989*	1	0.5	0.5	2	0	0	0	1	0	1	0.67
BG	2015	2	0.5	0.5	1	0	2	0	0	1	1	0.58
CY	2014	2	0.5	0.5	1	0.5	2	0.5	0	1	1	0.67
CZ	2017	2	0.5	0.5	0	0	0	0	1	1	1	0.88
DE	2013	2	0.5	0	1	0	1	0	0	1	1	0.71
DK	1962	2	0.5	0.5	0	0	0	0	1	1	1	0.79
EE	2014	2	0.5	0.5	1	0	2	0	0	0	0	0.5
EL	*2015*	2	0.5	0.5	1	0	3	0	0	0	0	0.42
ES	2013	2	0.5	0.5	1	0	2	0	1	1	1	0.96
FI	2013	2	0.5	0.5	0	0	0	0	0	1	1	0.33
FR	2012	2	0.5	0	1	0	2	0	0	0	0	0.5
HU	2008	2	0.5	0.5	1	0	2	0	0	0	0	0.5
IE	2011	2	0.5	0.5	1	0.5	1	0	1	1	1	0.83
IT	2014	2	0.5	0.5	1	0.5	2	0.5	1	1	0	0.83
LT	2015	2	0.5	0.5	1	0.5	2	0	1	1	0	0.58
LU	*2014*	2	0.5	0.5	2	0	1	0	1	1	1	0.71
LV	2013	2	0.5	0.5	1	0.5	0	0	1	1	0	0.5
MT	2014	2	0.5	0.5	1	0	3	0	1	0	1	0.83
NL	2013*	2	0.5	0	2	0	2	0.5	1	1	1	0.71
PL	1919	1	0	0.5	0	0	0	0	0	0	1	0.25
PT	2012	2	0.5	0.5	1	0	2	0	1	1	0	0.83
RO	2010	2	0.5	0.5	1	0	2	0.5	0	1	1	0.83
SE	2007	1	0	0.5	1	0	1	0	1	1	1	0.75
SI	*2015*	2	0.5	0.5	2	0	2	0	0	1	1	0.58
SK	2012	2	0.5	0.5	0	0	2	0.5	1	1	0	0.54
UK	2010	2	0	0.5	2	0	3	0	1	1	0	0.83

Notes: Est./Ref.: Year of establishment/reform of the national fiscal council; * Date of last reform; *italics*: date of establishment of the last IFI (in the case of countries with more than one IFI).

Source: EC (2017, 2013)

Augmented Dickey-Fuller test results

	intercept	intercept and trend
CAPB	–3.768***	–2.3028**
Output gap	–7.6862***	–4.69516***
Lagged interest payable	–5.50828***	–3.18471***
Electoral year	–23.1834***	–19.8909***
Ideological range	*not relevant*	*not relevant*
5 years before euro	*not relevant*	*not relevant*
FRI	2.37843	–2.54483***
SIFI	*not relevant*	*not relevant*
IFI attributes	*not relevant*	*not relevant*

* 10% significance level, ** 5% significance level, *** 1% significance level.

Source: Own analysis

Summary statistics for the main variables (1995–2019)

Variable	Obs.	Mean	Std. dev.	Min.	Max.	Variation
CAPB	672	0.10977	3.0659	–27.692	9.7171	27.932
Output gap	668	–0.07199	3.1947	–15.78	13.05	44.377
Lagged interest payable	648	2.6321	1.8552	0	15.7	0.70484
Ideological range	675	1.9279	1.6563	0	7.5	0.85913
FRI	675	0.18814	1.0097	–0.98553	3.0685	5.3664
SIFI	602	20.678	27.511	0	83.571	1.3305
Debt to GDP	673	56.935	33.674	3.8	181.2	0.59144

Source: Ameco Database, Fiscal Governance Database, ParlGov Database

Results of F-test, Breusch-Pagan (B-P) test, Hausman (H) test for regression in Table 2 and Table 3.

Ad Table 2

***F*-test**	2.329***	2.088***	2.444***	6.240***
B-P test	3.199*	2.741*	3.760*	25.434***
H-test	60.705***	54.691***	63.792***	98.137***

* 10% significance level, ** 5% significance level, *** 1% significance level.

Source: Own analysis

Ad Table 3

***F*-test**	1.889 ***	1.936 ***	1.972 ***	1.971 ***	2.300 ***	1.882 ***	1.684 **	1.549 **	1.770 **
B-P test	1.543	1.974	1.614	1.997	2.816 *	1.146	0.702	0.213	0.796
H-test	49.450 ***	50.752 ***	51.697 ***	51.676 ***	60.877 ***	49.311 ***	43.9057 ***	40.282 ***	46.266 ***

* 10% significance level, ** 5% significance level, *** 1% significance level.

Source: Own analysis

References

Alesina, A., Tabellini, G. (1990). A positive Theory of Fiscal Deficits and Government Debt. *Review of Economic Studies*, 57(3), 403–414, https://doi.org/10.2307/2298021

Alesina, A., Tabellini, G. (2005). *Why is fiscal policy often procyclical?* National Bureau of Economic Research Working Paper No. 11600. Available at: https://www.nber.org/papers/w11600.pdf

Allen, F., Gale, D. (2000). Financial contagion. *Journal of Political Economy*, 108(1), 1–33.

Annett, A. (2006). *Enforcement and the Stability and Growth Pact: How Fiscal Policy Did and Did Not Change Under Europe's Fiscal Framework*. IMF Working Paper 06/116.

Beetsma, R., Debrun, X. (2016). *Fiscal Councils: Rationale and Effectiveness*. IMF Working Paper WP/16/86.Available at: https://www.imf.org/external/pubs/ft/wp/2016/wp1686.pdf

Calmfors, L. (2010). *The role of independent fiscal policy institutions*. CESifo Working Paper Series No. 3367, http://doi.org/10.2139/ssrn.1775797

Calmfors, L. (2015). *The roles of fiscal rules, fiscal councils and fiscal union in EU integration*. IFN Working Paper No. 1076. Available at: https://www.econstor.eu/bitstream/10419/129635/1/833111620.pdf

Calmfors, L., Wren-Lewis, S. (2011). *What Should Fiscal Councils Do?* Stockholm University: Institute for International Economic Studies. Seminar paper No. 768.

Casey, E., Oliinyk, I., de Groen, W. P., et al. (2021). The role of the Independent Fiscal Institutions in assessing the sustainability of high public debt in the post-Covid era. Network of EU Independent Fiscal Institutions [online]. Available at: https://ec.europa.eu/info/sites/default/files/eddie_casey_paper_-_network_of_eu_ifis_-_the_role_of_ifis_in_assessing_sustainability_of_high_public_debt_post-covid.pdf

Coletta, G., Graziano, C., Infantino, G. (2015). *Do Fiscal Councils Impact Fiscal Performance?* Rome: Department of the Treasury, Ministry of Economy and Finance. Working Paper No. 1. Available at: http://www.dt.mef.gov.it/export/sites/sitodt/modules/documenti_it/analisi_progammazione/working_papers/WP_N._1_2015.pdf

Council of the European Union (2011). Council Directive 2011/85/EU of 8 November 2011 on requirements for budgetary frameworks of the Member States. In: *Official Journal of the European Union*. OJ L 306, 23. 11. 2011, pp. 41–47. Available at: https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32011L0085

Davoodi, H. R., Elger, P., Fotiou, A., et al. (2022). *Fiscal Rules and Fiscal Councils: Recent Trends and Performance during the COVID-19 Pandemic*. IMF Working Paper No. 2022/011.

Debrun, X., Kinda, T. (2014). *Strengthening Post-Crisis Fiscal Credibility: Fiscal Councils on the Rise – A New Dataset*. IMF Working Paper WP/14/58, https://doi.org/10.5089/9781475516135.001

Döring, H., Manow, P. (2020). *Parliaments and governments database (ParlGov): Information on parties, elections and cabinets in modern democracies* [online]. [Accessed 2020-06-11]. Avaliable at: http://www.parlgov.org/

EC (2013). *Independent Fiscal Institutions database 2013 vintage* [online]. Brussels: European Commission [Accessed 1 March 2022]. Avaliable at: https://ec.europa.eu/info/sites/default/files/economy-finance/independent_fiscal_institutions_database_2013_vintage.xlsx

EC (2014). Independent fiscal institutions across the EU. In: *Report on Public Finance in EMU 2014*. Brussels: European Commission, 54–68. ISSN 1725-3217. Available at: https://ec.europa.eu/economy_finance/publications/european_economy/2014/pdf/ee9_en.pdf

EC (2017). *Fiscal institutions database* [online]. Brussels: European Commission [Accessed 11 March 2021]. Available at: https://ec.europa.eu/info/publications/fiscal-institutions-database_en

EC (2019). Fiscal outcomes in the EU in a rules-based framework – new evidence. In: *Report on Public Finance in EMU 2018*. Brussels: European Commission, 105–156. ISSN 2443-8014. Available at: https://ec.europa.eu/info/sites/default/files/economy-finance/ip095_en.pdf

EP and Council of the European Union (2013). Regulation (EU) No. 473/2013 of the European Parliament and of the Council of 21 May 2013 on common provisions for monitoring and assessing draft budgetary plans and ensuring the correction of excessive deficit of the Member States in the euro area. In: *Official Journal of the European Union.* OJ L 140, 27. 5. 2013, pp. 11–23. Available at: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32013R0473

Escrivá, J.-L., Janeba, E., Langenus, G. (2018). Fiscal councils in federal or decentralised countries: Belgium, Germany and Spain. In: Beetsma, R., Debrun, X. *Independent Fiscal Councils: Watchdogs or lapdogs?* London: Centre for Economic Policy Research. ISBN 978-1-912179-08-4.

Feld, L. (2018). *The quest for fiscal rules*. Diskussionspapiere zur Ordnungsökonomik No. 18/09. Available at: https://www.econstor.eu/bitstream/10419/181494/1/1029138397.pdf

Foremny, D., Freier, R., Moessinger, M.-D., et al. (2018). Overlapping Political Budget Cycles. *Public Choice*, 177, 1–27, https://doi.org/10.1007/s11127-018-0582-9

Hagemann, R. (2011). How Can Fiscal Councils Strengthen Fiscal Performance? *OECD Journal*: *Economic Studies*, https://doi.org/10.1787/eco_studies-v2011-1-en

Hagen, J. (1992). Budgeting Procedures and Fiscal Performance in the European Communities. *Economic Papers*, 96. Avaliable at: http://aei.pitt.edu/37058/1/A3038.pdf

Hagen, J. (2018). Are fiscal councils here to stay? In: Beetsma, R., Debrun, X. *Independent Fiscal Councils: Watchdogs or lapdogs?* London: Centre for Economic Policy Research. ISBN 978-1-912179-08-4.

Halac, M., Yared, P. (2014). *Fiscal Rules and Discretion under Persistent Shocks*. NBER Working Paper 18545. Avaliable at: https://www.nber.org/papers/w18545.pdf

Hallerberg, M. (2016). Fiscal Governance and Fiscal Outcomes Under EMU before and after the Crisis. In: Caporaso, J. A., Rhodes, M. *The Political and Economic Dynamics of the Eurozone Crisis*. ISBN 978-0198755739.

Hallerberg, M., Hagen, J. V. (1997). *Electoral institutions, cabinet negotiations and budget deficits in the European Union*. NBER Working Paper Series No. 6341, https://doi.org/10.3386/w6341

Hallerberg, M., Yläoutinen, S. (2010). Political Power, Fiscal Institutions and Budgetary Outcomes in Central and Eastern Europe. *Journal of Public Policy,* 30(1), 45–62, https://doi.org/10.1017/s0143814x09990213

Hallerberg M., Strauch, R., von Hagen, J. (2004). *The design of fiscal rules and forms of governance in European Union countries*. Frankfurt am Main: European Central Bank. Working Paper Series No. 419, http://doi.org/10.5282/ubm/epub.13401

Hallerberg, M., Strauch, R., von Hagen, J. (2009). *Fiscal Governance in Europe*. Cambridge: Cambridge University Press. ISBN 978-0-521-85746-8.

IMF (2013). *The Functions and Impact of Fiscal Councils* [online]. Washington: International Monetary Fund. July 2013 [Accessed 27 November 2020]. Avaliable at: https://www.imf.org/external/np/pp/eng/2013/071613.pdf

Jackson, M., Yariv, L. (2015). Collective Dynamic Choice: The Necessity of Time Inconsistency. *American Economic Journal: Microeconomics*, 7(4), 150–178, http://doi.org/10.1257/mic.20140161

Jankovics, L., Sherwood, M. (2017). *Independent Fiscal Institutions in the EU Member States: The Early Years.* European Commission Discussion Paper No. 067. Available at: https://ec.europa.eu/info/sites/default/files/dp_067_en.pdf

Jonung, L., Larch, M. (2004). *Improving Fiscal Policy in the EU: the Case for Independent Forecasts*. Economics Papers No. 210, https://doi.org/10.1111/j.1468-0327.2006.00162.x

Kopits, G. (2018). Some myths about independent fiscal institutions. In: Beetsma, R., Debrun, X. *Independent Fiscal Councils: Watchdogs or lapdogs?* London: Centre for Economic Policy Research. ISBN 978-1-912179-08-4.

Larch, M., Santacroce, S. (2020). *Numerical compliance with EU fiscal rules: The compliance database of the Secretariat of the European Fiscal Board* [online]. [Accessed 6 March 2019]. Available at: https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/european-fiscal-board-efb/compliance-tracker_cs

MFCR (2017). *Fiscal Outlook of the Czech Republic November 2017*. Prague: Ministry of Finance of the Czech Republic. ISSN 2570-5695. Avaliable at: https://www.mfcr.cz/assets/en/media/Fiscal-Outlook-of-the-Czech-Republic-November-2017.pdf

Miranda, A. R., Picur, R. (2003). Fooling the People: Fiscal Illusion in Public Finance. *Government Finance Review*, 28–35, [online]. Avaliable at: https://www.researchgate.net/publication/275334044_Fooling_the_People_Fiscal_Illusion_in_Public_Finance

Nerlich, C., Reuter, W. (2013). *The Design of National Fiscal Frameworks and their Budgetary Impact.* European Central Bank Working Paper Series No. 1588, http://doi.org/10.2139/ssrn.2322659

Nerlich, C., Reuter, W. (2015). *Fiscal Rules, Fiscal Space and Procyclical Fiscal Policy*. European Central Bank Working Paper Series No. 1872, http://doi.org/10.2866/521587

Poterba, J. M., von Hagen, J. (1999). *Introduction to Fiscal Institutions and Fiscal Performance*. Chicago: University of Chicago Press. ISBN 0-226-67623-4.

Wyplocz, C. (2018). Fiscal councils and fiscal rules: Complements or substitutes? In: Beetsma, R., Debrun, X. *Independent Fiscal Councils: Watchdogs or lapdogs?* London: Centre for Economic Policy Research. ISBN 978-1-912179-08-4.