What's Wrong with Fiscal Space?

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February 2020

1. Introduction

A new expression has recently surfaced: fiscal space. The European Commission makes an abundant use of this concept and the numbers that it produces are regularly quoted by the media and policymakers. Even the notoriously careful European Fiscal Board discusses the Commission's estimates without health warning. This note argues that the fiscal space concept developed by the Commission is at best inadequate and possibly misleading, and it outlines another approach.

The IMF too uses the concept of fiscal space, but a very different one. The spirit is the same as the one presented here but the implementation is far more detailed. This may be an advantage but it requires many more assumptions, which makes the results less transparent and more difficult to assess, possibly subject to more judgmental errors. It concludes that "fiscal space is a concept that is difficult to operationalize. To inform its assessment, a variety of tools and indicators should be used. Ultimately, assessing fiscal space is and should remain a matter of economic judgment" (IMF, 2017, p. 37). This warning is fully warranted.

The notion of fiscal space is intuitively interesting. Its aim is to indicate how much room is available to carry out an expansionary fiscal policy when needed for countercyclical purposes, without jeopardizing long-run debt sustainability. The problem is that, for practical purposes, debt sustainability itself is an elusive concept (Debrun et al., 2020). The theoretical definition of debt sustainability is that the government's intertemporal debt constraint is satisfied. That means looking far into the future – all the way up to infinity. Because it is impossible in practice, corners must be cut, and because the future is unknown, assumptions must be made. This applies *ipso facto* to any assessment of the fiscal space. Any statement about the fiscal space is necessarily hypothetical, imprecise and subject to significant uncertainty.

Many thanks to Roel Beetsma, Olivier Blanchard and Francesco Giavazzi for helpful comments and suggestions.

The Commission cuts through these difficulties by looking into the near future and therefore effectively ignoring the budget constraint. Indeed, it replaces the budget constraint with country commitments under the Stability and Growth Pact over a three-year horizon. The Stability Pact, however is not related to sustainability as normally defined because it is based on arbitrary targets. Furthermore, the three-year horizon compresses the analysis to the immediate near future while sustainability is a long-run concept. Thus, the Commission's fiscal space is a statement about where a country stands relatively to its commitments under the Stability Pact, not about what it can afford without compromising fiscal sustainability. The IMF looks much further into the future and explicitly acknowledges uncertainty by producing fan charts that assess the probability of various paths for the public debt. An interesting alternative is to parametrize key sources of uncertainty to derive a number of alternative estimates of the maximum sustainable debt, as proposed by Collard et al. (2015). This approach could be extended to compute estimates of the fiscal space under assumptions consistent with the assumed parameters, but it has not been done yet.

The present paper suggests an alternative approach. to uncertainty. It roots the concept of fiscal space firmly into the theoretical definition of debt sustainability. As noted above, the immediate corollary is that we face the need to make hypotheses about the very long run, which in turn implies major uncertainty and a considerable lack of precision. The idea is to turn this challenge around. Instead of attempting to make projections and to contain imprecision, it proposes to use the well-worn out intertemporal budget accounting to directly link budget outcomes to assumptions. To do so, it replaces the theoretically-correct probabilistic treatment of uncertainty with the presentation of simulations according to various combinations of transparent assumptions. It leaves it to the policymaker to make her own assumptions, for which she will have to take responsibility; the economic technician then calculates the corresponding fiscal spaces.[1]

There is nothing new in these calculations, which use the familiar budget accounting identity, and there is no theory involved. The exercise may be seen as overly simplistic but this is by design. The idea is to free fiscal space from theroretical assumptions that act as a black box and provide a potentially misleading sense of precision. Instead, the unavoidable long-term projections become the object of choice for policymakers. They are invited to commit to the projections that deliver the fiscal space that they want to use.

2. What is Fiscal Space?

2.1. Fiscal space and subsequent correction

What makes the concept particularly tricky is that it is not just about immediate action but also about its aftermath. Opening up a budget deficit – or deepening the existing deficit – should be of little concern if this is strictly temporary and systematically followed by corrective action that erases the attendant debt increase. If such a correction could be fully guaranteed, even largely indebted governments could afford a fiscal expansion, without

[1] I have nothing against the fan chart approach, see Eichengreen et al. (2018) and Wyplosz, (2018), but I am not confident that it can be used in practice because of its "black box" nature and also because it may convey a false sense of precision.

adverse negative reactions such as an increase in borrowing costs or the risk of triggering a crisis.[2]

Thus, the question of what is a feasible temporary fiscal expansion during a recession is unavoidably linked to the subsequent consolidation, including dealing with the debt existing even before the expansion. The fiscal space concept must focus squarely on the post-recession evolution of fiscal policy. The fact that this evolution is uncertain, and quite possibly unpredictable, is not a valid reason to ignore it.

Obviously, corrective action cannot be fully guaranteed. One reason is that a government cannot tie the hands of future governments. Another reason is that it may even be unable to tie its own hands. An aggravating factor is the existence of a deficit bias, the tendency of governments to run deficits even they are not justified.[3] Evidence of the deficit bias is sketchy so far, but the buildup of public debts in a large number of countries has been impressive. The total gross debt ratio of the large advanced countries rose from 23% in 1973 to 64% in 2007 and 91% in 2015, according to the IMF's Historical Database. Yared (2019) provides a detailed interpretation of these trends. They suggest an asymmetry: fiscal policies tend to be countercyclical during recessions and procyclical during expansions (Balassone and Francese, 2004; IMF, 2015). As a result, the debt is growing relentlessly over successive business cycles.[4] A vast literature examines how fiscal rules backed by independent fiscal councils can be applied to tie governments' hands.[5] Progress along these lines would open up the possibility of tying governments' hands.

2.2. Definition of fiscal space

As an accounting identity, the intertemporal budget balance constraint is assumption-free. It describes the evolution of the public debt to GDP ratio B_t as a function of a small number of variables: the primary budget deficit ratio Dt, the real interest rate r_t and the GDP growth rate g_t, and the starting debt position B_0:

$$B_t = \prod_{q=0}^{t-1}(1 + r_q - g_q)\, B_0 + \sum_{q=1}^{t-1} \prod_{u=q+1}^{t-1}(1 + r_u - g_u) D_q \qquad (1)$$

The sustainability condition is that $\lim_{t\to\infty} \frac{B_t}{\prod_{q=0}^{t-1}(1+r_q-g_q)} \leq 0$.

Fiscal space can be defined as follows. From today's perspective ($t = 1$), we want to know which primary deficits, this year or over the next few years, are compatible with the

[2] An important issue, therefore, is that the instruments used in the initial fiscal expansion should be easy to reverse. Appropriations and other structural measures are not and should be avoided.

[3] Calmfors (2010) offers a good survey of the deficit bias phenomenon. It lists the main sources of the bias: (i) An insufficient understanding of the budget constraint. Policymakers and citizens may fail to fully grasp the intertemporal nature of the budget constraint; (ii) Political cycles whereby governments may engage in political expenditures ahead of elections, with the intent of pleasing crucial categories of voters; (iii) Short sightedness, if governments have short horizons because the probability of remaining in power is limited; (iv) Time inconsistency, when governments commit to save in the future only to renege because economic and/or political circumstances have changed; (v) Common pool, the externality that arises because public expenditures often target individual groups but the corresponding taxes are borne by the public at large.

[4] In addition, Beetsma et al. (2009) show that realized budgets are frequently less ambitious than planned budgets, which they link to the deficit bias.

[5] Recent surveys are Beetsma and Debrun (2018) on fiscal rules and Eyraud et al. (2018) on fiscal councils.

sustainability condition. The space is the difference between these possible deficits and the current primary balance. For just one year, for example, we have:

$$\text{Fiscal space } X_1 = D_1 - D_{0,1} \text{ such that } \lim_{t\to\infty} \frac{B_t}{\prod_{q=0}^{t-1}(1+r_q-g_q)} \leq 0. \quad (2)$$

where is $D_{0,1}$ is the currently (at end of $t = 0$) planned deficit for the coming year and D_1 just satisfies the sustainability condition (with equality). A number of remarks immediately follow.

First, the fiscal space depends on future budget balances, far into the future, as much as on the coming deficits.

Second, there is not just one fiscal space, there is an infinity of them. There is a space associated to any path of future deficits. For any such path, there are as many spaces as there are plausible forecasts of future real interest and growth rates.

Third, the literature on economic disasters (Barro, 2006; Pindyck and Wang, 2013) shows that rare events with catastrophic consequences may occur. This leads to the concept of prudence, as practiced in New Zealand: the space may be reduced to allow for a safe margin. This reduction can be seen as an insurance premium and its size should be explicitly stated.

Fourth, as Blanchard (2019) reminds us, $r - g$, the sign of the difference between the real interest rate and the real growth rate, directly affect the sustainability condition. If $r - g < 0$ forever, the debt is sustainability condition is satisfied unless future deficits are permanently very large and growing. A more careful statement is that the debt sustainability condition is highly sensitive to $r - g$, and increasing with the debt level, so that estimates of the fiscal space will depend crucially on the corresponding assumptions. This again calls for prudence (Wyplosz, 2019).

2.3. Implementing the definition

It may seem unrealistic to look at an infinite horizon. On the other hand, ignoring the budget constraint is even worse since it misses out the trade-off between the fiscal space and subsequent budget balances.[6] A shortcut, to be evaluated below, is to truncate the planning horizon to n years. Yet, anyway, n must be large since the fiscal space depends on the subsequent correction. Adopting a short horizon amounts to front-loading the correction, which may unreasonably constrain the fiscal space. In the end, whether the horizon is infinite or finite but distant, we must "forecast" the variables in (1).

The solution adopted here is to consider that, beyond the short run during which a fiscal expansion is in place, the economy is on its steady-state path. All future cyclical fluctuations around the steady-state path are ignored, in effect assuming that they can be subsumed by the steady state.

Public budgets are usually set annually and this is often how the concept of fiscal space comes into play. However, fiscal policy is rarely a year-by year move, as convincingly

[6] Eichengreen et al. (2018) provide a telling example: in the case of Greece, the conditions, based on a five-year horizon, required by the Commission do not deliver sustainability under most plausible assumptions about the correction.

argued by Alesina et al. (2019). As a counter-cyclical instrument, it should match the duration of business cycle downswings, the stance being expansionary over a couple of years or so and then contractionary – if only to meet the budget constraint – for another few years.[7] Thus we assume that the budget balance is reduced during p years.

Under these assumptions, dropping the time subscript for variables at the steady-state, (1) can be rewritten as:[8]

$$B_n = (1+r-g)^n B_0 + \frac{(1+r-g)^n-(1+r-g)^{n-p}}{r-g} D_1 + \frac{(1+r-g)^{n-p}-1}{r-g} D_2 \quad (3)$$

where D_1 and D_2 are, respectively, the primary deficit during the fiscal expansion and in the steady state. This equation can be arranged to compute the fiscal expansion primary deficit:

$$D_1 = \frac{r-g}{(1+r-g)^n-(1+r-g)^{n-p}} \left[B_n - (1+r-g)^n B_0 - \frac{(1+r-g)^{n-p}-1}{r-g} D_2 \right] \quad (4)$$

The fiscal space is therefore $FS = D_1 - D_{0,1}$.

In the case when the horizon is infinite, using the sustainability condition, (4) becomes:

$$D_1 = -\frac{(r-g)(1+r-g)^p}{(1+r-g)^p-1} B_0 - \frac{1}{(1+r-g)^p-1} D_2 \quad (5)$$

Note that, in contrast with the infinite horizon, under truncation the fiscal space depends on the debt ratio B_n at the end of the planning horizon. An important disadvantage of truncating the horizon is the need to replace the sustainability condition with an assumption of what is an acceptable end-of-horizon debt ratio. This can only be a value judgment or, alternatively, a policy target decision.

3. How does the Commission do it?

The European Commission has framed its concept of fiscal space within the framework of the Stability and Growth Pact. The pact has been reformed in 2012 (the so-called six-pack and two-pack regulations and directive). One objective was to move from the short-term, year-by-year surveillance to a longer-term perspective, which is more in tune with the intertemporal budget constraint. As part of this exercise, member countries must agree with the Commission on Medium Term Objectives (MTO), which specify the evolution of the structural deficit over the next three years. The MTO balance is derived from the Stability and Growth Pact's requirements and it must be met by the end of the three-year planning horizon (while never exceeding the 3% limit).[9] It also informally takes into account the collective fiscal stance, which is deemed important for the Euro Area. There is no link between the MTO and the concept of debt sustainability.

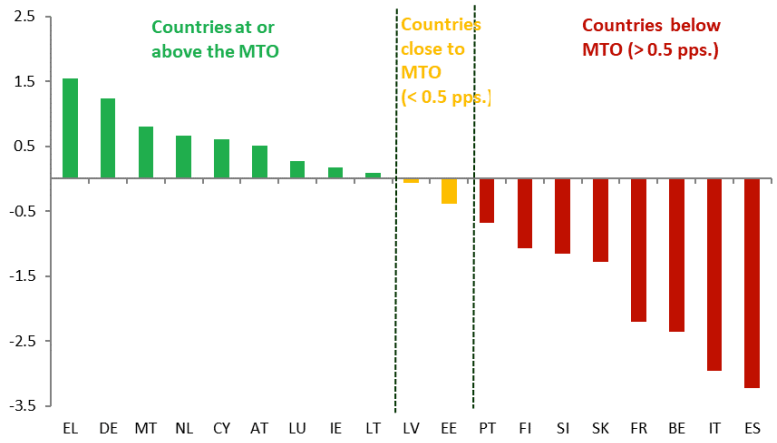
[7] Presumably, this is the rationale for the medium-term orientation of the Stability and Growth Pact. Unfortunately, a three-year medium term is not matching the usual length if business cycles.

[8] Note that $r - g$ is also assumed to be at its steady state level during the period when a fiscal expansion is in place.

[9] For details, see European Commission (2013).

The fiscal space is defined as the distance between the forecasted structural balance and the MTO-agreed structural balance. Thus, countries that are expected to surpass the MTO balance have fiscal space while those that fail to reach are required to achieve a minimum benchmark. Using the MTO figures presented in the Commission's "2020 Draft Budgetary Plans: Overall Assessment" published in November 2019 and forecasts published in mid-2019, Figure 1 presents the implied fiscal space for 2020. Referring to the Netherlands and Germany, the Assessment Report (p.3) indicates that "some of their fiscal space will be left unused. Given the extent of their fiscal space, those euro-area Member States should stand ready to continue using it", while "some of those euro-area Member States with no fiscal space plan either no meaningful fiscal adjustment or a fiscal expansion in 2020". Thus, these calculations underpin policy recommendations.

Figure 1. Fiscal space for 2020 (% of GDP)



Sources: "2020 Draft Budgetary Plans: Overall Assessment", European Commission.

Three observations are in order. First, the calculations concern the structural balance, which is defined as the cyclically-adjusted primary budget balance net of one-off actions. In principle, this is the correct measure of the fiscal stance. As we have learned painfully over the years, however, cyclical adjustments are notoriously imprecise and subject to frequent sizeable revisions.

Second, the MTO objectives are the result of negotiations between each member country and the Commission. They are based on two strictures of the Stability and Growth Pact, the 3% deficit and the 60% debt ceilings, which lack any theoretical justification and have been ignored for much of existence of the pact. Using the MTO objectives bypasses the intertemporal budget constraint, and the associated uncertainty, which is convenient. However, it comes at the expense of mixing up debt sustainability and the Stability and Growth Pact objectives while creating a misleading impression of precision and certainty. The rationale is that repeated compliance with the Stability and Growth Pact will deliver sustainability. Effective compliance might be a sufficient condition for debt sustainability, it certainly is not a necessary one, thus producing narrower fiscal spaces than required.

Third, the intertemporal budget constraint is not a medium-term concept. In theory, it implies looking at the very long term, infinity really, not at a three-year horizon. In practice, as noted

above, violations of debt sustainability occur beyond the business cycle frequency. The MTO figures, driven as they are by medium-term considerations, completely miss out this very basic requirement. It may be noted that the IMF' own approach recognizes that "fiscal space is a forward-looking and dynamic assessment. […] Fiscal space should be assessed under alternative assumptions on future policies and states of the economy". This is precisely what is suggested here, without additional assumptions on the probabilities of the developments under consideration.

4. An example: Germany

This section uses (4) and (5) to illustrate how the previous considerations can be put to work in the case of Germany. This country is chosen because it is often identified as a country with fiscal space. The next section presents summary results for other Euro area countries. I start with a base case constructed with a set of explicit assumptions and then examine how the result changes when the assumptions are changed. In all cases, the inherited gross debt B_0 is the gross debt at the end of 2019, 59.16% of GDP.[10] The assumptions are first presented.

4.1. Assumptions

- The steady-state values of the primary budget deficit.

Given that the public debt is positive to start with, the steady-state primary budget must be in surplus to leave some room for an initial expansionary stance. The base case assumes a steady-state surplus: D_2 = -1% of GDP.

- The planning horizon.

The base case adopts a planning horizon of n = 30 years. As will become clear, this assumption strongly affects the results as argued in Section 2.3 above.

- The size and duration of an expansionary stance.

Following (4) or (5), the size of the deficit D_1 is computed endogenously so as to meet the sustainability condition. It is therefore the largest possible deficit under the assumptions. The duration of the fiscal expansion is set at p = 3 years in the base case. This is in line with the analysis in Alesina et al. (2019).

- The debt ratio at the end of the planning horizon

As noted above, with truncation of the horizon, the infinite-horizon sustainability condition cannot be imposed. Instead, we must assume the debt ratio at the end of the planning horizon. One solution is to take the debt ceiling of 60% required under the Stability and Growth Pact. In view of the need for a safety margin, as suggested in Section 2.2, the debt target is B_n = 40% of GDP.

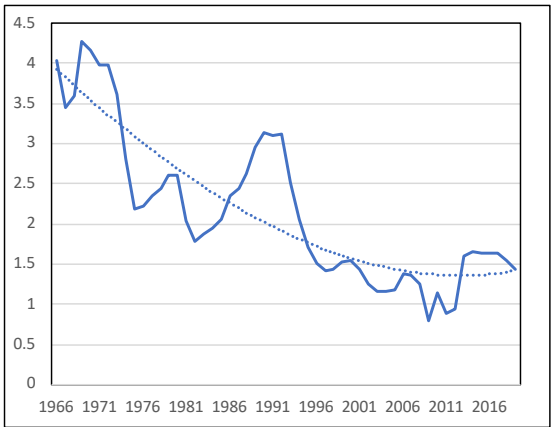
- The value of $r - g$ during both periods.

Long-run forecasts, of the interest and growth rates decades away may seem hopelessly difficult. For example, Figure 2 shows *ex post* estimates of GDP potential growth for Germany over the last 50 years, alongside a third-degree polynomial trend. Fifty-year ahead forecasts made in 1966 would probably have been closer to the then-prevailing growth rate,

[10] The correct concept is the net debt, which is presumably smaller than the net debt. Existing estimates of net debts are not reliable, though, so I use the gross debt. Depending on the size of public assets, the estimates presented here are like to be more stringent than required.

between 3.5 and 4%, than 1.5% as estimated over the last decade. Similar observations can be made regarding the real interest rate.

Figure 2. Potential GPD growth rate (%) - Germany



Source: AMECO on line, European Commission

The implication is stark: the uncertainty of distant forecasts is considerable and their precision unknown. The situation is less desperate than it seems, though. The debt accumulation process (4) only involves r - g, the difference between the interest and the growth rates. As Table 1 shows, the average range of variation of r - g is reasonably narrow, especially if we exclude crisis countries like Ireland and unsustainable periods like Greece before its crisis. However, the solace is superficial. The standard deviations are large and, if sustained, small changes in r - g strongly affect the debt accumulation process.

Table 1. Interest rate *less* GDP growth rate (%) – Average over1999-2019

	Average	St. Dev
Australia	1.3	1.7
Austria	0.4	2.3
Belgium	0.3	2.1
Canada	1.0	2.7
Denmark	0.4	2.6
France	-0.2	1.9
Germany	-0.1	2.9
Greece	-4.9	9.6
Ireland	3.7	9.9
Italy	-1.7	2.4
Japan	-0.7	2.4
Korea	1.7	1.7
Netherlands	0.6	2.6
New Zealand	0.3	1.9
Norway	1.9	5.3
Portugal	-1.5	4.7
Spain	0.3	4.2
Sweden	1.2	2.6
Switzerland	0.7	2.0
United Kingdom	0.4	2.0
United States	0.7	1.9
Average	0.3	3.3
Maximum	3.7	9.9

Note: Annual observations, short-term interest rate, nominal rates. The sample period is chosen to cover the period when the euro was in existence.
Source: Economic Outlook 2019-2, OECD.

With this caveat in mind, two assumptions are made. First, no distinction is made across the two periods $t = (1, p)$ and $t = (p + 1, n)$, so that $r - g$ is assumed to always be at its steady state level. Second, given the presumption is that both r and g are likely to be lower going forward than they have been in past, with r likely to be more reduced than g, the base case assumes that $r - g = 1\%$.

4.2. Results

Table 2 applies (4) to a number of assumptions, which are indicated in each case.

4.2.1. Base case

The base case is shown in the first column of Table 2. There is no fiscal space available. In order to bring the debt ratio to 40% of GDP, a primary surplus of 2.2% of GDP is required for 2020-2022. The projected surplus of 0.8% is too low, hence a negative fiscal space of -1.4%. Once again, this is not a policy recommendation, just the mechanic implication of the budget constraint under explicit (but arbitrary) assumptions. The real question is how sensitive is this result to the assumptions.

4.2.2. Role of $r - g$

As previously emphasized, little is known about the steady state value of $r - g$, while it is well understood that small changes in this value have a powerful impact on the budget constraint. This is confirmed when comparing Columns (1), (2), (3) and (4) in Table 2.[11]

4.2.3. Role of the debt target B_n

The base case assumes that the public debt is brought down to $B_n = 40\%$ by the end of the planning horizon. This assumption can be interpreted as a commitment, but today's government cannot precommit its successors over n years. Setting B_n low might be seen as a cheap way of advertising the government's own commitment to fiscal discipline but, in fact, it is not cheap if we take the budget constraint seriously. Indeed, the lower is B_n the narrower is the fiscal space, which Column (5) illustrates with the objective set at 20% of GDP. Conversely, a good way of enlarging the fiscal space is to set B_n higher. In column (6) the debt is intended to stay where it is at the outset ($B_n = B_0$), which delivers a positive fiscal space.

Table 2. Simulations for Germany

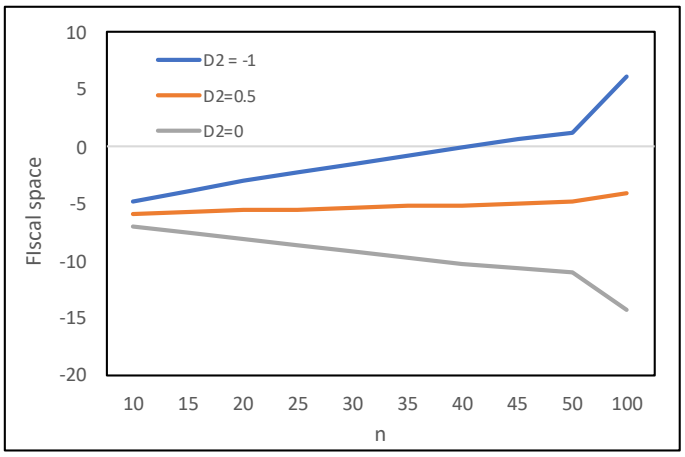
	Base case (1)	$r - g$ higher (2)	$r - g$ lower (3)	$r = g$ (4)	$B_n = 20$ (5)	$B_n = B_0$ (6)
$r - g$	1%	3%	-1%	0%	1%	1%
p	3	3	3	3	3	3
n	10	10	10	10	10	10
D_2	-1	-1	-1	-1	-1	-1
B_0	59.2	59.2	59.2	59.2	59.2	59.2
B_n	40	40	40	40	20	59.2
$D_{0,1}$ (Forecast)	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
D_1	-2.2	-9.2	8.8	2.6	-7.3	2.6
Fiscal Space	-1.4	-8.4	9.6	3.4	-6.5	3.4

[11] With a truncated horizon, we can assume $r - g < 0$. If the horizon is infinite, any temporary deficit is possible.

4.2.4. Role of the planning horizon

The choice of the planning horizon n and of the duration p of the fiscal expansion is rarely mentioned in policy discussions, probably because it is considered too technical but also because it is arbitrary. Starting with the planning horizon, the compromise between the theoretically correct $n = \infty$ and the need for realism is uncomfortable. No one can claim to be realistic when making assumptions about growth or interest rates in the infinity of time. Elementary prudence suggests choosing a small n. Figure 3, which plots the fiscal space against the planning horizon n, shows that this seemingly technical assumption is not innocuous. The upper curve corresponds to the base case with n allowed to vary from 10 to 100.[12] The exogenously-set surplus of 1% ($D_2 = -1$) beyond $t = p$ is insufficient to achieve the debt target $B_n = 40$ when n is small. Consequently, debt reduction has to be front loaded – remember that D_1 is endogenous. A surplus is required during the first p years and the fiscal space is negative, the more so the shorter the horizon. The fiscal space only becomes positive for n above 40. As the planning horizon is increased, fiscal space quickly becomes much larger, rising to 13.7% for $n = \infty$. Truncating the planning horizon for the sake of realism severely alters the results. This is a key reason why the Commission pushed for procyclical austerity during the early 2010s, which is now widely recognized as a major policy mistake.[13]

Figure 3. Fiscal space and the planning horizon



It also illustrates the importance of the assumed exogeneity of the primary balance (the deficit D_2) in the steady state. In the absence of effective fiscal rules, this assumption is both unrealistic and time inconsistent. Indeed, the surplus is likely to be reduced as the debt ratio declines over time toward B_n. Figure 3 illustrates the sensitivity of the fiscal space to this assumption. The two other curves correspond to D_2 set at -0.5% and 0% of GDP, respectively. In the latter case, the combination of no debt stabilization after $t = p$ and a

[12] From (4) we know that the curve has an exponential shape. Up to $n = 50$, the curves look straight because they correspond to the flat part of exponential curve. Going in one step to $n = 100$ shows that the slope eventually steepens.

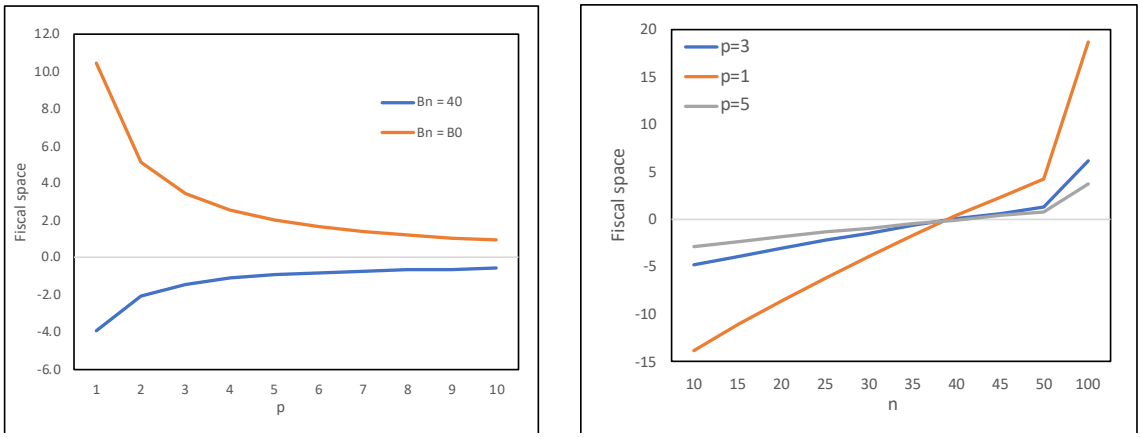
[13] Contrast the defense of austerity by its promoters: "Countries with very high and/or rapidly rising debts may be well-advised to pursue a fast adjustment, in spite of an unfavourable economic environment, if the alternative of a sovereign-debt crisis is sufficiently plausible." (Buti and Pench, 2012, p.2) with: "At the time, we did not see the increasing burden that was put on monetary policy. In particular, we did not appropriately weigh risks and costs in the tradeoff between sustainability and stabilisation." (Buti, 2020, p. 5).

positive r -g requires an increasing stabilization during the first p periods as the planning horizon and the inherited debt is being compounded.

4.2.5. Role of the duration of the fiscal policy expansion

Quite unrealistically, the assessment of the fiscal space often looks at just one year, as noted above. Here, the base case more realistically that $p = 3$. The leftmost chart in Figure 4 shows what happens when p varies from 1 to 10. In the base case ($B_n = 40$), the fiscal space is negative to achieve the debt reduction but, quite obviously, the effort is lower the longer it is carried out. When there is no debt reduction objective ($B_n = B_0$), all else unchanged, the fiscal space is positive and also lower the longer it lasts.

Figure 4. The role of duration of the fiscal expansion



That the absolute value of fiscal space declines quickly as p rises is intuitive. Of interest is how this effect plays out as the planning horizon changes. Like Figure 3, the rightmost chart shows how the fiscal space changes with the planning horizon n, for various values of p. If we look at a one-year fiscal action, the duration of the planning period dramatically affects the outcome. This shows the fragility of results that combine a short planning horizon and a one-year fiscal action.

5. Fiscal spaces in the Eurozone

It should be clear by now that, at best, any estimate of a fiscal space is not just merely reflecting the assumptions about the evolution of the economy, but also technical choices on the duration of fiscal policy actions, on the planning horizon and on the end-of-horizon debt ratio. The previous section has looked at the case of Germany to illustrate the sensitivity of estimations to these assumptions and technical choices. In the present section, I apply the same methodology to the other Euro Area countries, presenting a single base case for each one of them.

The assumptions are the same as in Section 4.2.1 with the exception of B_n. One might argue that the steady-state growth rate may differ as poorer countries catch up with the richer ones. The interest rate may also reflect different risk assessment regarding the highly indebted countries. Once again, these are not meant to be forecasts, just a pedagogical tool to examine how the intertemporal budget constraint can be made operational.

Given that the initial debt situation differs considerably across countries, the assumption regarding the debt level in $n = 30$ years requires some logic, even it will always be arbitrary. The Stability and Growth Pact requires that debts in excess of 60% be reduced every year by 1/20th of the difference between the actual debt ratio and 60%. What happens after the cutoff ratio is reached? In Section 4, it is arbitrarily assumed that Germany will aim at a prudent level of 40%. With different starting position, we need to make different assumptions about B_n, each of which is inevitably arbitrary. For the sake of transparency, the following rule is adopted:

- Countries with debt ratios between 55% and 90% reduce the debt on average by 0.5% each year, hence a total reduction of 15% of GDP over the 30-year planning period ($B_n = B_0 - 15$).
- Countries with debt ratios above 90% reduce their debt ratios by 20% over the 30-year planning period ($B_n = B_0 - 20$).
- Countries with debt ratios between 40% and 55% aim at a debt of 40% ($B_n = 40$).
- Countries with debt ratios below 40% aim at keeping the debt at the same level ($B_n = B_0$).

The cutoff ratio is not 60% but 55% so that a total reduction of 15% allows countries with a ratio of 55% to reach the prudent ratio of 40% by the end of the planning period. Note that this approach implies that $B_n = 44.2$ for Germany, not 40 as assumed in Section 4.

Under these assumptions, the results are displayed in Table 3. Table 3 merely illustrates the methodology under arbitrary assumptions. For a complete analysis, these results must be subject to the same variations as in Section 4 before drawing any conclusion.

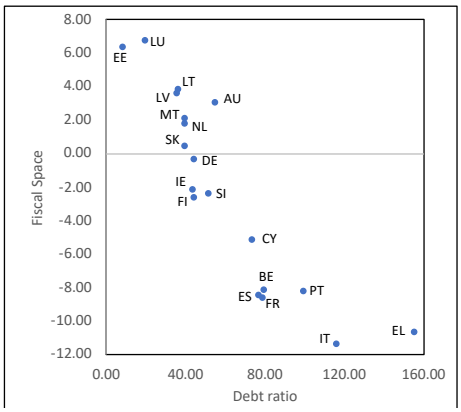
Table 3. Fiscal space for the Euro Area countries

	B0	Bn	D1 forecast	D1	Fiscal space
Belgium	99.5	79.5	2.2	-6.0	-8.2
Germany	59.2	44.2	-0.8	-1.2	-0.4
Estonia	8.7	8.7	0.7	7.0	6.3
Ireland	59.0	44.0	1.0	-1.2	-2.2
Greece	175.2	155.2	-1.9	-12.6	-10.7
Spain	96.7	76.7	2.8	-5.8	-8.6
Finland	59.2	44.2	1.5	-1.2	-2.7
France	98.9	78.9	2.7	-6.0	-8.7
Italy	136.2	116.2	2.2	-9.2	-11.4
Cyprus	93.8	73.8	-0.3	-5.5	-5.2
Latvia	36.0	36.0	1.1	4.6	3.5
Lithuania	36.3	36.3	0.8	4.6	3.8
Luxembourg	19.6	19.6	-0.6	6.1	6.7
Malta	43.3	40.0	1.1	3.1	2.0
Netherlands	48.9	40.0	0.2	1.9	1.7
Austria	69.9	54.9	0.3	3.3	3.0
Portugal	119.5	99.5	0.5	-7.8	-8.3
Slovenia	66.7	51.7	0.6	-1.9	-2.5
Slovakia	48.1	40.0	1.1	1.5	0.4

Sources: End of 2019 debt ratios: AMECO on line. Forecasts of the primary budget balance for 2020: European Commission (2019), Annex Table IV.6.

According to the table, many countries have no fiscal space, in fact they need to adopt restricitive fiscal policies. Keeping in mind that, for all countries, I use the same assumptions about r - g, p and n, the fiscal spaces differ only because of different initial and final debts, B_0 and B_n and planned budget balances D_1. Figure 5 shows that the target debt ratio plays a crucial role, largely because it is assumed that the more indebted governments need to cut their indebtedness more severely. The results indicates the crucial importance of the debt target. Opting for a less ambitious debt reduction can allow almost any country to generate a positive fiscal space if needed for macroeconomic stabilization. Alternatively, debt consolidation can be the key to restoring the ability to conduct stabilizing fiscal policies.[14]

Figure 5. Fiscal space and the target debt ratio (% of GDP)



6. Conclusion

There is nothing new in this paper, which only plays around with an accounting identity equation. It merely intends to warn that the concept of fiscal space, although potential helpful, is unlikely to ever deliver a single number upon which policymakers can rely. As used by the Commission, the fiscal space is a measure of the amount of fiscal expansion that a country may undertake without violating its commitments under Stability and Growth Pact. It is meant to deal with cases when fiscal policy is deemed too restrictive, thus restoring some degree of symmetry to a procedure that has become seen as promoting fiscal austerity. This effort is worthwhile. While many countries are subject to the well-known fiscal deficit bias, which the Stability and Growth Pact is designed to rein in, others have become associated with a fiscal surplus bias, which the Commission is trying to counteract by spotting fiscal spaces. Redressing the asymmetry is indeed a most welcome objective. It is a pity that the methodology is rooted in the strictures of the Stability and Growth Pact, not in the logic of debt sustainability, which must be driven by the intertemporal budget constraint.

The idea adopted here is to start with the intertemporal budget constraint and face the challenging limitation of having to make assumptions about the distant future. The suggested procedure is as follows. Assumptions are made explicit and presented to policymakers along with the corresponding results. The fiscal space is not a black box (an arbitrary number or even a fan chart) but a set of numbers transparently related to the assumptions. Policymakers are invited to make a judgment about the assumptions, including the debt in the long run. The

[14] Various debt stabilization schemes have been proposed, including outright reductions (as in Pâris and Wyplosz, 2014) and debt mutualization (a recent review is Zettelmeier and Leandro, 2018).

exercise makes them fully aware of the fragility of the results. In this way, they own the chosen assumptions and the corresponding results, which they share with the public at large. In the European context, these results can form the basis of discussions between the Commission and each government, replacing the arbitrary numbers that are currently used in the surveillance procedure.

As they are meant to be purely illustrative, the computations carried out here are based on rough and simplistic assumptions but, of course, they can be vastly improved upon (provided the process remains fully transparent). Obvious improvements include taking into account the impacts of the demographic transition climate change, and technological progress.

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