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## 1. Introduction

It is widely acknowledged that governments spontaneously tend to favor budget deficits over surpluses.<sup>1</sup> One reason for the deficit bias is that each ministry believes that it is for the others to abide by discipline, the so-called common pool problem. Another reason is that a government may feel that the task of straightening public finances is better left to its successors, a case of time inconsistency. Yet another possibility, the political budget cycle, is that election times encourage deficits, which are not always corrected afterwards, whether the profligate incumbent is reelected or whether the successor does not wish to be constrained by the predecessor.

Yet, fiscal discipline is not a choice. A country whose governments fail to respect discipline must eventually either default on its debt or resort to monetary financing that results in inflation. Following a period of growing public indebtedness, more and more governments have adopted fiscal rules designed to constrain the bias and deliver discipline. Rules differ widely across countries and their effectiveness varies greatly. Much has been learned from these experiments, as recently summarized in Eyraud et al. (2018a), but a consensus of what constitutes a good rule remains elusive. This paper argues that progress requires taking theory seriously before designing rules. Consider, for example, the Delors Report, which shaped the Maastricht Treaty and the Stability and Growth Pact:

“In the economic field a wide range of decisions would remain the preserve of national and regional authorities. However, given their potential impact on the overall domestic and external economic situation of the Community and their implications for the conduct of a common monetary policy, such decisions would have to be placed within an agreed macroeconomic framework and be subject to binding procedures and rules. This would permit the determination of an overall policy stance for the Community as a whole, avoid unsustainable differences between individual member countries in public-sector borrowing requirements and place binding constraints on the size and the financing of budget deficits.”  
Delors Report (1989), p. 18.

The Delors Report correctly identifies important issues that require careful attention and adequate policy responses. It explicitly calls for fiscal rules. The justification is a vaguely defined externality of national fiscal policies, complemented with the observation – elsewhere in the report – that its impact is compounded in the presence of irrevocably fixed exchange rates increase. This is correct, but what externality exactly? Is it about income flows? Is it about potential sovereign debt crises? In that case, is it about contagion and/or about fiscal dominance? Three decades ago, these questions may have been seen as dealing with small details. Nowadays we know much more, but the institutions that were then created survive and, unsurprisingly, fail to deliver effective solutions. They need to be revisited, both in the Eurozone and in the many countries that have adopted rules.

Section 2 looks at theory. It starts by defining what fiscal discipline means. It argues that it means implementing the solvency condition derived from the intertemporal budget constraint while avoiding illiquidity. The next section derives a number of principles regarding the choice of a target, the horizon over which the rule must look, the distinction between target and instrument and the dangers of multiple and numerical targets. Section 4 presents three

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<sup>1</sup> See Alesina and Tabellini (1990), von Hagen and Harden (1994) and Krogstrup and Wyplosz (2010).

examples or rules, two that failed (the US and the Eurozone) and a successful one (New Zealand). Drawing on the conclusions reached so far, Section 5 proposes a new framework for fiscal discipline in the unique conditions of the Eurozone. The last section concludes.

## **2. Fiscal discipline: Theory**

### **2.1. What does fiscal discipline mean?**

Existing fiscal rules implement many different concepts to characterize the budget constraint. They are sometimes labelled responsibility, a term used in the UK and several Latin American countries. New Zealand uses the term prudence. The IMF refers to sustainability. Because these expressions have been transformed into specific measures, some of which are criticized below, I start from a clean sheet and refer to fiscal discipline.<sup>2</sup> Discipline here does not involve any notion of optimality. Optimal policies are derived from maximizing welfare under some constraints. This paper leaves welfare aside, because it involves political preferences, and focuses instead on the constraints. Two constraints are relevant: solvency and illiquidity.

### **2.2. Solvency**

It seems natural to relate fiscal discipline to the intertemporal budget constraint. Satisfying this constraint *ex ante* defines solvency. An entity is deemed solvent if its existing debt is no larger than the expected present value of future revenues less the expected present value of future expenditures. This is clear cut, but hard to implement in practice, especially so for governments (relative to corporations), for four main reasons.

First, it implies to look at the present, the existing debt, and at future revenues and expenditures. Since a state is normally expected to exist forever, government revenues and expenditures must be estimated over the indefinite future. This cannot be done, of course, so any operationalization requires that the indefinite future be approximated with a long-term horizon.

Second, revenues include seigniorage earned by the central bank. Printing money to cover deficits should normally lead to inflation. Fiscal discipline must therefore include a constraint on inflation. In practice, this means making the central bank independent and subject to a strict price stability objective.

Third and related, if nominal growth is high enough to exceed the nominal interest cost of the debt service, the debt will tend to automatically decline. Importantly, however, this is not a sufficient condition for solvency. Solvency still requires that the primary budget deficit be constrained or that the return from public spending be high enough to outweigh the borrowing costs.

Fourth, sovereign debts can be defaulted upon, in totality or partly. While insolvent corporations are closed down, there will always be a government. Of course, defaulted-upon creditors can try to recover losses, just like when a corporation becomes bankrupt. However, while firm bankruptcies are subject to specific legislation enforced by courts, governments can change domestic laws so that domestic creditors are unlikely to succeed. Foreign creditors can sue the government in foreign jurisdictions but the principle of foreign

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<sup>2</sup> The seminal contribution to the literature on fiscal rules, Kopits and Symansky (1998), also refers to discipline.

immunity implies that success is rarely achieved. When it is, enforcing foreign court judgment remains a massive hurdle.<sup>3</sup>

That a government cannot be shut down like a bankrupt firm separates out discipline from solvency. *Ex ante* violations are necessarily corrected *ex post*, possibly through inflation or default. Government solvency is always satisfied *ex post*, if need be by different means than budget surpluses. Discipline requires that these means are not used *and* that using the other mean, the budget, does not imply serious economic disruptions.

### 2.3. Illiquidity

Whether they are solvent or not, governments may lose market access. When it happens, they are unable to raise resources to finance their deficits, including debt service. The result is illiquidity. Illiquidity arises when the markets consider that a government is insolvent *ex ante* and that a default is likely. Thus, markets can act as the agent that enforces discipline. However, it is not desirable to rely on market-based fiscal discipline alone for three reasons.

First, the literature documents that markets indeed charge higher interest rates when the debt increases,<sup>4</sup> but the effect is not linear. This suggests that market discipline operates late and then too strongly. This is confirmed by studies that focus on the role of rating agencies, which also note the destabilizing impact of credit downgrades<sup>5</sup>.

Second, that same literature shows that the interest rate premium also responds to the quality of fiscal institutions. It is lower where there exist legal limits to indebtedness, deficits and government spending, and they are higher when taxation is subject to a ceiling. Market-based fiscal discipline is more a complement than a substitute to fiscal restraints.

Third, as often when expectations drive market prices, self-fulfilling prophecies may occur. Illiquidity then arises when lenders stop lending and investors liquidate their positions because they anticipate these events. They are proven right *ex post* but their *ex ante* judgments may well be unjustified. Market-based fiscal discipline subjects governments to the whims of financial market participants.

The upshot is that fiscal discipline is unlikely to be adequately enforced by the financial markets. In the language of statistics, this approach is vulnerable to Type I and Type II errors: markets often fail to send timely signals when fiscal policy is actually dangerously undisciplined and they occasionally send warning signals – with grave consequences – when there is no serious problem of indiscipline.<sup>6</sup>

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<sup>3</sup> A recent paper by Schumacher et al. (2018) shows that the legal landscape is changing as litigation by ‘vulture funds’ has considerably increased.

<sup>4</sup> See e.g. Bayoumi et al, (1995), Poterba and Rueben (1999), Ardagna et al. (2007), von Hagen et al. (2011).

<sup>5</sup> A good review is Eijffinger (2012).

<sup>6</sup> This was duly noted in the Delors Report (p.24): “To some extent market forces can exert a disciplinary influence. [...] Experience suggests that market perceptions do not necessarily provide strong and compelling signals and that access to a large capital market may for some time even facilitate the financing of economic imbalances. Rather than leading to a gradual adaptation of borrowing costs, market views about the creditworthiness of official borrowers tend to change abruptly and result in the closure of access to market financing. The constraints imposed by market forces might either be too slow and weak or too sudden and disruptive.”

### **3. From theory to practice: principles**

#### **3.1. Fiscal rules: issues**

Section 2 can be summarized as defining fiscal discipline as the combination of three constraints, to be met simultaneously: 1) *ex ante* solvency; 2) price stability; 3) avoiding illiquidity. In order to deal with the deficit bias, adequate incentives must be put in place to encourage governments to deliver fiscal discipline. A first incentive is to design the budgetary process to reduce the common pool problem, whereby ministries and lobbies vie for public spending while others want to reduce tax revenues. A second incentive is the adoption of fiscal rules that create legal obligations. A third incentive is the creation of independent fiscal councils, which evaluate budget proposals, monitor their implementation and strengthen the bite of rules. No solution is best for each and every country, but some general principles emerge from theory and practice.

Some 90 countries have adopted one form or another of a fiscal rule. The rules range from simple balanced budget rules to elaborate arrangements that include several constraints and a host of indicators. A complete rule must also include an enforcement procedure: which institution is in charge of assessing fiscal discipline and what, if any, are the corrective measures required when discipline is in jeopardy.

As has long been known, however, a rule generally is time-inconsistent: to be credible, a rule must be strictly adhered to but there will always exist circumstances when it is too costly to be implemented. There is no easy way-out. One approach is to specify circumstances when escape clauses can be triggered. However, not all circumstances can be foreseen, so this approach is bound to eventually fail. The other approach is to design a rule that is flexible enough to be interpreted when unexpected events occur. The border between flexibility and laxity is fuzzy, however. This has led a number of countries to rely on a ‘referee’ in the form of an independent fiscal council that interprets how flexibility can, or cannot, be used.

Most rules rely on at least one numerical target; examples include a deficit rule or spending caps. If the target is not under the direct control of the government, the rule must specify a policy instrument under the control of the government and how it relates to the target. This is where theory can make important contributions.

#### **3.2. Net and gross debts**

The budget constraint refers to the net debt, not the gross debt. However, in most cases it is very difficult to define and evaluate the value of sovereign assets. Work is under way to improve the evaluation of sovereign assets<sup>7</sup> but, at this stage in most countries, the imprecision remains too large to use net debt data. Fortunately, current estimates of net and gross debts show that they usually tend to move together as the example shown in Figure 1 indicates. Given the conclusions to follow, using gross debt measures does not raise any serious difficulty.

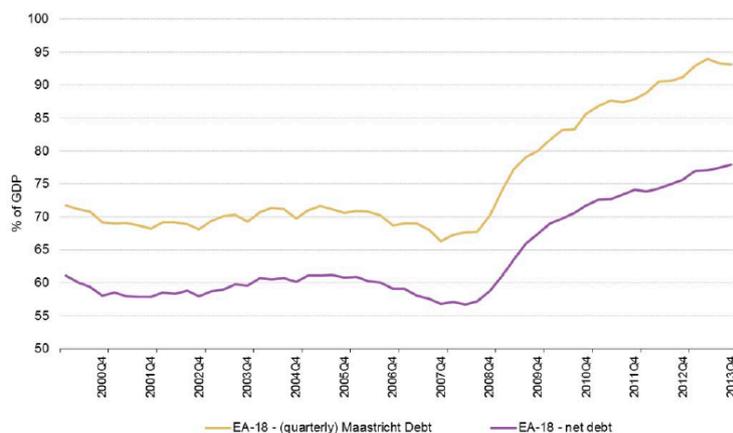
However, it must be recognized that theory does not imply that the gross debt be zero. Aiming at a zero gross debt is too restrictive and possibly counter-constructive because the

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<sup>7</sup> A good review of the issues is *Measuring Net Government Debt: Theory and Practice*, Eurostat, 2014.

finance industry as we know needs safe assets (see Caballero et al., 2017) and sovereign debts currently are the only potential safe assets.<sup>8</sup>

Figure 1. Gross and net debt of Eurozone governments



Source: Eurostat (online data codes: gov\_q\_ggdebt, gov\_q\_ggfa and namq\_gdp\_c)

Source: *Measuring Net Government Debt: Theory and Practice*, Eurostat, 2014.

### 3.3. Choice of targets and associated instruments

#### *The popular choice: budget targets*

Many popular rules choose the budget deficit as their target. Obvious as it seems, this choice is not well justified. Consider a balanced budget rule, year in, year out. The rule is sufficient but not necessary for solvency, so it is too strict. Furthermore, it implies that the net public debt will become negligible as a share of GDP as long as nominal growth is on average positive. Unless the government holds a large amount of assets, the gross debt could be too small given the financial markets' need for safe assets. Finally, a balanced budget rule prevents the use of the fiscal policy as an instrument to stabilize activity.

A popular alternative is to aim at balancing the primary budget. It is not sufficient to prevent an unbounded growth of the debt to GDP ratio when the interest rate exceeds the growth rate.<sup>9 10</sup> In that case, the target must be a primary surplus that matches at least the debt service adjusted for economic growth, which makes it similar to the overall balanced budget target, with the same lack of flexibility to cope with cyclical fluctuations.

This is why a number of countries target the cyclically-adjusted primary budget balance. Over the long run, as cyclical fluctuations even out, this target has the same properties as the

<sup>8</sup> The gross public debt of Singapore, a small country with a very large financial market, stands at around 100% of GDP. This is not a consequence of a fiscal indiscipline but of the need to provide the market with safe assets. (I owe this observation to Xavier Debrun.)

<sup>9</sup> The debt accumulation accounting leads to  $b_{t+n} = (1 + \delta)^n b_t + \sum_{j=1}^n (1 + \delta)^{j-1} pd_{t+j}$ : where  $pd$  is the primary budget deficit to GDP ratio and  $\delta$  is the adjusted discount rate approximated as  $i - G$ , the difference between the nominal interest rate  $i$  and the nominal GDP growth rate.

<sup>10</sup> Blanchard (2019) notes that the post-war experience is that the interest rate has often been smaller than the growth rate in many countries. This is an intriguing observation.

primary budget target but it has the important short-run advantage of enabling counter-cyclical fiscal policies through the automatic stabilizers. In spite of this desirable property, the cyclically-adjusted primary budget balance target suffers from two lethal problems. First, computing the cyclical adjustment is known to be highly imprecise. This lack of precision can lead to policy mistakes, which undermine the credibility.<sup>11</sup> Second, there is no guarantee that the automatic stabilizers are powerful enough to cope with large economic disturbances. The frequently observed solution is to allow for escape clauses but, as noted above, escape clauses are an entry point for time inconsistency.

Crucially, these popular targets have in common that they do not follow directly from the principles laid out above, which emphasize instead the long-term evolution of the public debt. A few years of deficits, even large ones, do not necessarily imply indiscipline if they are sure to be followed by surpluses. Once it is agreed that every year cannot be seen as crucial to fiscal discipline, the incentive to abide by the rule is weakened, making it possible to succumb to the deficit bias while claiming a commitment to discipline. Unsurprisingly, budget targets have not performed well, generally (Eyraud et al. 2018).

#### *Public expenditure target (or instrument?)*

Recently, proposals for targeting public expenditures have become popular. Most proposals follow the same logic.<sup>12</sup> Given GDP trend growth, a target is set for public expenditures. Given tax revenues, this target is chosen to guide the budget balance, which is driving the evolution of the public debt. A key advantage is that the target is set as a proportion of potential GDP, so that fiscal policy is countercyclical.<sup>13</sup> Another advantage is that the government can control its expenditures quite precisely. Additionally, if the objective is to reduce the public debt, spending cuts have a low negative impact on cyclical conditions according to Alesina et al. (2019).

These are valid but misleading arguments. Public spending *per se* is unrelated to fiscal discipline. The link to the public debt works through the budget balance *via* assumptions about tax revenues. This is why most proposals actually target the change in expenditures net of changes in discretionary revenues – i.e. non-cyclical revenues. Any planned change in discretionary revenues must therefore be matched by an equal change in expenditures. Thus, the target is a mix of expenditures and revenues. This concept is far from intuitive and therefore unlikely to be understood by the public. In addition, it operates like a modified cyclically budget balance and faces the same limitations due to errors on estimates of potential GDP.<sup>14</sup> Furthermore, the spending cap implicitly rests on assumptions about tax revenues, which has led sometimes to complement the target with a tax floor. This then translates into a deficit ceiling. But spending caps and tax revenue floors are more demanding than a deficit ceiling. They interfere with the question of the size of government, which is deeply political and wholly unrelated to fiscal discipline. Some countries may benefit from lower public spending when it is large and inefficient, while others stand to benefit from

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<sup>11</sup> The same issue arises for monetary policy. Orphanides and Williams (2005) describe how the Fed failed to stabilize both prices and output by acting on poor estimates of the unemployment gap.

<sup>12</sup> For a presentation and references, see European Fiscal Board (2018).

<sup>13</sup> With a target set for  $G/\bar{Y}$ , where  $G$  is public spending and  $\bar{Y}$  is potential GDP, an increase in actual GDP  $Y$  relatively to  $\bar{Y}$  leads to a decrease in  $G/Y$ .

<sup>14</sup> Darvas et al. (2018) present simulations that indicate a limited effect of forecast errors on the expenditure target.

higher spending. Mixing up discipline with such conflictual issues stands to undermine any sustained effort at achieving fiscal discipline.

In fact, the target is the debt and expenditures are an instrument to achieve the target. The vocabulary is not innocuous. It creates the misleading impression that aiming at expenditures is an end to itself. The limited evidence on expenditures target is inconclusive.<sup>15</sup>

*Theoretically correct: the debt target*

The formal definition of solvency presented in Section 2.2 can be restated differently: the debt to GDP ratio must be zero or negative in the infinite future.<sup>16</sup> A key challenge is the infinite horizon. A natural solution is to look at a finite horizon, long enough to be purged from cyclical fluctuations but short enough for projections to be meaningfully produced. This opens up a second challenge: since we look at a finite horizon, the solvency condition must be reinterpreted, especially as we look at the gross debt. In practice, this means that the debt must be low enough in the long run. The challenge is to give operational content to ‘low enough’ and to the ‘long run’. This section argues that these are serious difficulties but that they can be dealt with.

There is no generally agreed definition of what ‘low enough’ is. Theory remains largely silent. One observation is that large debts make the debt accumulation process very sensitive to variations in interest and growth rates, which is a source of macroeconomic instability, possibly leading to a debt crisis (illiquidity). Another observation is that a large debt service requires a correspondingly large primary surplus. The only conclusion that can be drawn at this stage is that a low debt level is preferable to a high debt level, which is neither surprising nor particularly helpful. Fortunately, there is more to be said.

A large empirical literature asks when the public debt becomes too large. Pioneered by Reinhart and Rogoff (2010), this literature remains fairly controversial although the results for the developed economies seem to delineate ranges, like 70 to 100% of GDP, beyond which growth is impaired.<sup>17</sup> As part of its debt sustainability analysis (DSA) framework, the IMF has developed a set of limits that are meant to rule out with high probability the risk of debt distress (Eyraud et al., 2018c).

In fact, there is no need for numerical targets. That the public debt ratio should not be ‘too large’ over the very long run means the ratio should remain low if it is low to start with, or that it should be set on a declining trend if it is initially too large for comfort. This view shifts the target away from the debt level and towards to its evolution from its starting position. Rather than a given-for-all-times numerical debt target, we look at a desirable path for the gross debt ratio over the long run. Over time, the debt must stay clear of what can be considered as a ‘too large’ level.

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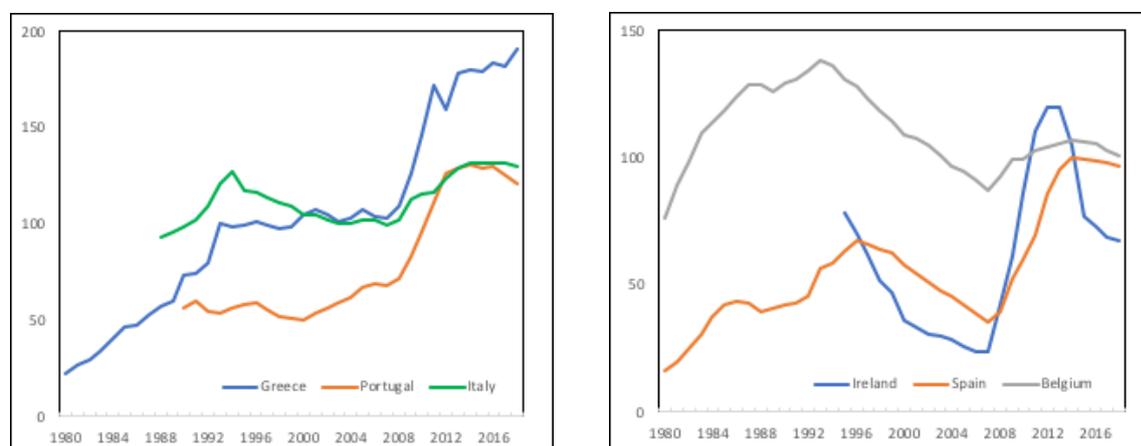
<sup>15</sup> Cordes et al. (2015) report that expenditure rules increase the primary balance but they recognize that many expenditure rules coexist with other rules and that they are unable to separate out the effects.

<sup>16</sup> It is an equivalent definition because the future debt is the sum of the pre-existing (‘today’s’) and the excess of future deficits over future surpluses cumulated with the interest charge. If the cumulated excess of future surpluses over future deficits at least matches today’s debt – the previous definition – then future debt will be zero or negative. Formally, debt accumulation accounting leads to the following equation:  $b_{t+n} = \frac{b_t}{(1+G)^n} + \sum_{j=1}^n \frac{d_{t+j}}{(1+G)^{j-1}}$  where  $b$  is the debt to GDP ratio,  $d$  is the budget deficit to GDP ratio and  $G$  the nominal GDP growth rate.

<sup>17</sup> For a survey and detailed results see Fall et al. (2015),

This view involves judgment, which may sound worrisome at first. It turns out that it is not difficult to assess whether a debt path is compatible with fiscal discipline. Looking at past history provides a first example. In Figure 2, the left-hand chart displays the case of three countries where deficits were not eventually matched by adequate surpluses. In the right-hand chart, significant debt buildups were eventually compensated for by subsequent surpluses. Eyeballing the chart suggests fiscal indiscipline in Greece, Italy and Portugal and fiscal discipline in Belgium, Ireland and Spain.<sup>18</sup> The figure also shows that fiscal policies go through multi-year cycles. This may reflect government changes or the realization that the debt buildup must be halted, often both. At any rate, a rising debt ratio is not alarming if the trend is subsequently reversed. A proper rule allows for such cycles while guaranteeing that slippages will be reversed in due time.

Figure 2. General government gross debts (% GDP)



Source: WEO database, IMF

When the target is not under the direct control of the authorities, the rule must identify an instrument that can be set by the authorities and that affects the target. This applies to the inflation target for monetary policy and to the debt target for fiscal policy. There are some differences, though. Central banks directly control the short-term interest rate, which eventually and indirectly affect inflation. Regarding fiscal policy, the budget balance directly affect debt, but governments poorly control the budget balance, if only because it depends on the growth rate of the economy. On the other hand, the interest rate that matters most for inflation is the long-term rate, which central banks poorly control as well. On this ground, debt targeting does not seem to be less attractive for fiscal policy than inflation targeting for monetary policy.

Another difference is that central banks typically aim at inflation over a medium-term horizon of a few years while, as noted above, the debt target should be set for a much longer horizon. This make matters more complicated, but not entirely hopeless. The DSA

<sup>18</sup> Note that in Ireland and Spain fiscal discipline was undercut by poor banking supervision that led to a crisis, which required the authorities to suddenly borrow large amounts to shore up failing banks in the wake of the global financial crisis. The result was a loss of market access. This confirms the earlier statement that proper banking regulation and supervision is an integral part of fiscal discipline.

methodology derives possible future paths for the public debt corresponding to current and future fiscal policies. The methodology can be reverse-engineered to derive current and future balances compatible with a given debt target at the chosen horizon.

An interesting aspect of this computation is that there exists an infinity of budget balances that deliver a given debt. This leaves the government free to choose the budget path that meets its political preferences. In particular, it gives wide space to conduct counter-cyclical fiscal policies. However, with a far-away debt target, this flexibility could be misused, allowing the current government to indulge in the deficit bias while constraining future governments. We return to this issue in Section 3.5.

### 3.4. Numerical targets

Most existing rules operate a numerical target, independently of what the target is. Section 3.3 argues that balanced budget targets are not well justified. More generally, whether the target is the budget balance, public expenditures or the debt, there is no theory backing any specific number. Any numerical target, therefore, is arbitrary. It is also driven by existing conditions at the time when it is adopted and these conditions will change over time. Numerical targets cannot be firmly justified when they are adopted and they stand to become outdated as time passes by.

Section 3.1 reminds us that the time inconsistency of rules is unavoidable and without any clear-cut solution. A numerical target is particularly vulnerable. It pins the rule's credibility down on a number that is at best difficult to justify, and quite possibly arbitrary. When the rule becomes binding, the numerical target comes under intense scrutiny. This is when political expediency sets in and the rule stands to be suspended or ignored, as has been the case repeatedly in the US case, see Section 4.2. Box 1 shows how the numerical debt target of the European Stability and Growth Pact has become obsolete and how attempts at reviving it are being ignored.

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#### Box 1. Numerical rules in the Eurozone

The Stability and Growth Pact specifies that the debt should not exceed 60% of GDP and, if it does, that it should decline “at a satisfactory pace”, with numerical annual targets. Figure 3 shows the unweighted average of public debts among the twelve member countries that were part of the monetary union at its start.<sup>19</sup> The average only fell below 60% in two years (2005 and 2006). The figure also displays the percentage of countries where the debt has been above the limit. The proportion has been below 50% only three years, early on. There is no logic about the 60% limit. Officially, it was the average in 1998, just before the Stability and Growth Pact went into effect but even that is not correct (the unweighted average was 66%, the weighted average was 72%). The budget deficit limit of 3% was linked to the debt target under long-outdated assumptions about the interest and growth rates. Among the same twelve countries, over the period 1999-2018, the 3% limit has been satisfied only 42% of the time.

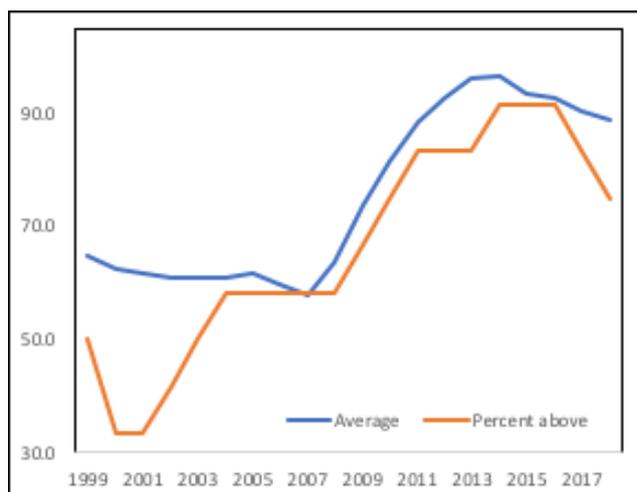
Instead of recognizing that these numerical rules are arbitrary, the 2012 revision of the Stability and Growth Pact added another rule. It now requires that, as long as it exceeds 60%,

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<sup>19</sup> It includes Greece, which joined two years later.

the debt to GDP ratio must be reduced by 5% per year on average. Assuming that this rule is applied, out of the 9 countries above the 60% limit in 2018, it will take until 2034 for all but one (Greece) to comply with the debt requirement. Looking at the 10 countries where the debt limit was exceeded in 2012, the 5% debt reduction objective has been met 15% of the time over the period 2013-18.

Figure 3. Debts in the Eurozone:  
Average level (% of GDP) and percent of countries above 60%



Source: AMECO on line.

Section 3.3 argues that the correct target is the public debt and that a numerical target is unwarranted. It suggests to adopt instead the ‘eyeball test’. This requires a method to pass judgement on debt paths as well as on deviations from the chosen path. The IMF considers that the debt is sustainable when the government always remains able to serve its debt without drastic, and therefore implausible, changes in public spending or taxation. Likewise, fluctuations around the trend should never require the government to take drastic actions. The vagueness of this definition may seem unsatisfactory, in fact it is intended. It also matches the fact that different countries are considered as fiscally disciplined even though the evolution and levels of their public debts are very different. Some governments can accumulate large debts and yet keep on borrowing at low cost. One reason is that the markets believe, rightly or wrongly, that current and future governments will keep honoring their debts. Another reason is that the markets consider that the central bank will always guarantee the public debt. A good rule should cement such beliefs. Announcing a debt path sends an important signal to the markets and their reactions provide useful additional information to pass judgment.

### 3.5. Horizon and changes of governments

A running theme of this paper is that annual budget balances are a poor guide to fiscal discipline because a few years’ budget balances have a limited impact on the long-term debt path.

How far should we look into the future? Figure 2 makes it clear that a horizon of several decades is required to allow for multi-year swings in fiscal policies and to come close to the concept of insolvency. Yet, as the horizon lengthens, the more uncertain the projections become. Fortunately, some progress has been achieved in this direction under the Debt Sustainability Analysis (DSA) procedure. DSA rests on debt accumulation accounting. It starts with explicit – but not always transparent and carefully reasoned – assumptions about the future primary budget balances, interest rates and growth rates. These assumptions make it possible to compute the future evolution of the debt to GDP ratio. However, these assumptions are quite uncertain, and uncertainty quickly rises as we look further into the distant future. The results should not be seen as forecasts but as conditional projections that merely reflect the underlying assumptions.

One popular solution to the problem of uncertainty is to limit DSA to short horizons, typically five years. Unfortunately, such short horizons are wholly inadequate as an approximation of the infinite horizon. Applying the results of DSA over short horizons can easily lead to flawed policy implications. In particular, it may encourage front loading corrective measures, which is often inefficient and can be counterproductive if the economy is in the midst of a recession.<sup>20</sup> It also contradicts the principle that tax revenues and public expenditures should be adjusted as smoothly as possible.

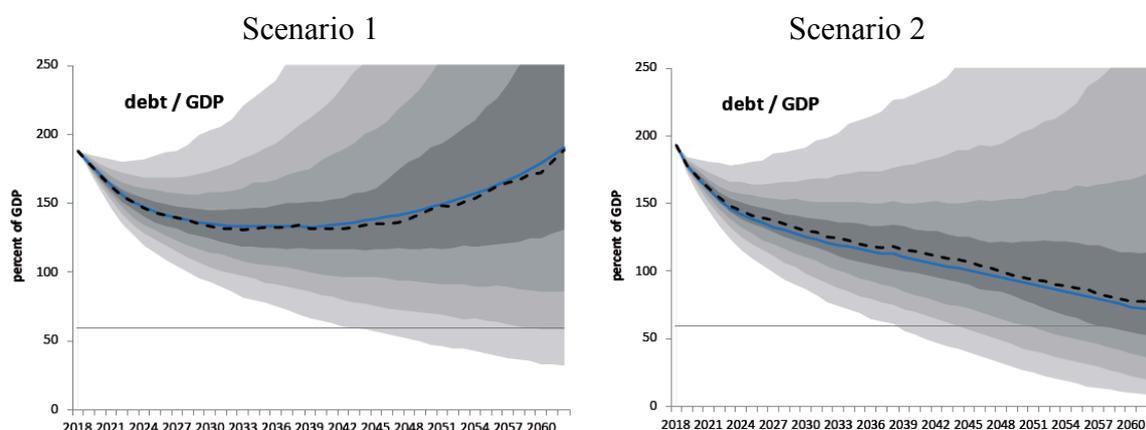
Extending DSA far into the future – several decades – is possible. The IMF and the US Congressional Budget Office (CBO), among others, do it. Because the results are very sensitive to the assumptions (Wyplosz, 2011), some precautions are essential, however. First, the assumptions must be explicitly described and justified. Second, robustness tests are needed to provide indications on the range of possible results. Third, uncertainty can be estimated too. It is possible to compute margins of confidence around the projections pretty much as central banks now commonly produce fan charts (admittedly at much shorter horizons, rarely exceeding five years). Eyraud et al. (2018c) and Eichengreen et al. (2018) show how fan charts can be constructed.

The examples presented in Figure 4 illustrate how the estimated uncertainty rises over the horizon. It shows the evolution of the Greek debt to GDP ratio as computed in 2018 over a horizon that extends to 2100. Two simulations are shown. Scenario 1 is a collection of assumptions that are seen by the authors as realistic while Scenario 2 incorporates optimistic assumptions about growth and budget balances. It shows how fragile the projections are and how uncertain the debt path is. One way of reading the figure is that we do not really know where the debt will be four decades from now. In fact, it explains how the ‘eyeball test’ works. Under Scenario 1, the debt ratio initially declines but then rises inexorably, whether we look at the dotted line (the point estimate) or at most components of the fan charts. The conclusion is that the debt is likely to be unsustainable, even though a horizon of ten years would indicate otherwise. Under Scenario 2, instead, the central estimate of the debt ratio keeps on declining, and so do most of the components of the fan. The debt can be seen as likely to be sustainable. The ‘eyeball test’ says that the budget balances assumed in Scenario 2 are compatible with discipline, but only under optimistic assumptions about economic growth. It also says that the budget balances assumed in Scenario 1 are incompatible with discipline under ‘reasonable’ growth assumptions.

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<sup>20</sup> This has been the case in the case of the Greek crisis, as argued in Sgherri and Wyplosz (2016).

Figure 4. Debt sustainability analysis for Greece



Source: Eichengreen et al. (2018)

Another major issue is that it is simply impossible to imagine over long horizons what future governments will be and *à fortiori* what they will do. Recent political developments around the world may suggest that we have entered into an era of higher policy volatility, in which case the margins of uncertainty used to produce fan charts are underestimated. More importantly, perhaps, elected governments have a strong legitimacy and they cannot be constrained by previous governments. The repeated experience is that governments dispose of rules when they bind.

Yet, it can be argued that legislated rules too have a strong legitimacy. This requires that the fiscal rule be enshrined in high-level legislation, ideally in the constitution. The constitution is the right place to recognize that fiscal discipline is mandatory. Yet, it remains to be seen whether that is enough to establish the legitimacy of rules over the legitimacy of governments.

The procedures adopted in New Zealand (see Section 4.3) or the Netherlands are effective even though they are not inscribed in the constitution. In both cases the debt target is set at the beginning of a government legislature for its end. The end-of-legislature debt target is embedded in long-term projections of the debt path. While the path cannot be binding on future governments, it serves two purposes. First, it makes it possible to determine whether the end-of-legislature debt target lies on a long-run path consistent with fiscal discipline. Second, the longer-term path serves as a yardstick for the subsequent legislatures. In these two countries, it weighs on the subsequent election when candidates articulate their objectives. It may well be that such an approach does not function in other countries with different political traditions. Traditions, however, can change, which is one potential outcome of setting independent fiscal councils, which are discussed in Section 3.7.

### 3.6. Simplicity and the Gulliver syndrome

A tendency among the many countries that have adopted a fiscal rule has been to add new targets, mostly numerical, when the previous one(s) do not deliver. The Stability and Growth Pact in Europe and the various arrangements adopted at the federal level in the US

(Auerbach, 2008) are examples of this tendency. The apparent logic of the ‘Gulliver syndrome’: is to tie the government with a thousand knots.

Multiplying targets is unlikely to deliver fiscal discipline. One reason is that the various targets must be consistent with each other. In contrast to Gulliver’s knots, consistency requires computation, which inevitably entails assumptions. When some of these assumptions inevitably turn out to be disproved, consistency is not achieved and the construction loses credibility. In that case, the government can pick and choose among the various rules those that are easier to meet, which may or may not deliver adequate discipline. In addition, the more numerous the rules are, the more complex is the process. Complexity reduces understanding and undermines legitimacy. Debrun and Jonung (2018) describe a trilemma between simplicity, flexibility and enforcement. There is a strong case for a unique and easily understood rule. This paper argues in favor of anchoring it on non-numerical debt target.

### 3.7. Fiscal Councils

There is wide agreement on the rationale for independent fiscal councils, their functions and key characteristics.<sup>21</sup> Beetsma et al. (2018) report disappointingly limited empirical evidence that the councils are effective, possibly because they focus on the EU, or because they only rely on too few observations, or because not all councils are alike. This section looks at the less studied issue of their insertion in the budgetary process.

Governments set up independent fiscal councils to tie their own hands, but they are reluctant to let the constraint bind. Currently, no council has the power to force a government to follow its advice, they all have only an advisory function. When their advice is rejected, they still can influence the outcome if the public opinion recognizes their competence and nonpartisanship. Trust by the public opinion, however, is a necessary but not a sufficient condition for effectiveness. Effectiveness depends on how well a council is integrated in the budgetary process and on its ability to produce its own estimates of key parameters such as growth, interest rates and budget forecasts.

As they have no democratic mandate, independent fiscal councils have no legitimacy on their own, which explains why they can only be advisory bodies. In effect, independent fiscal councils are expected to constrain and incentivize governments, just like fiscal rules. Importantly, however, rules usually are legal constructs or public government commitments, each of which confer legitimacy. Defining the mandate of councils as the upholding of rules gives councils legitimacy so that rules and councils are complementary (Wyplosz, 2018).

A council that reports to the government provides advice to the very authority that it is supposed to constrain. The alternative is for the council to report to the parliament, whose role is to control the government. Only 13 of the 39 councils surveyed in Debrun et al. (2017) report to the parliament, as indicated in Table 1. While not a panacea if only because parliaments sometimes tend to support the governments no matter what, reporting to parliament stands a better chance of influencing the outcome

Table 1. Councils reporting to Parliament

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<sup>21</sup> Kopits (2011) develops the essential principles to be adopted for fiscal councils. A collection of essays in Beetsma and Debrun (2018) cover in great depth the main issues. Beetsma et al. (2018) offers an overview.

Finland	Mexico
Georgia	Serbia
Greece	South Africa
Iran	South Korea
Italy	Uganda
Latvia	United States
Lithuania	

Note: Based on either the name of the council or on whether council members are appointed exclusively by the parliament.

Source: IMF Fiscal Council Dataset, 2017, see Debrun et al. (2017).

#### 4. Three cases

This section presents three cases of fiscal rules in order to illustrate the previous argumentation and to lay the ground for the proposal presented in Section 5. The Eurozone shows the difficulties of enforcing multiple numerical rules. In the USA, fiscal discipline has not been achieved at the federal level because rules were dismissed whenever they became binding. At the state level, however, fiscal discipline is firmly established. Finally, the successful procedure adopted in New Zealand is well aligned with the principles developed above.

##### 4.1. The Eurozone

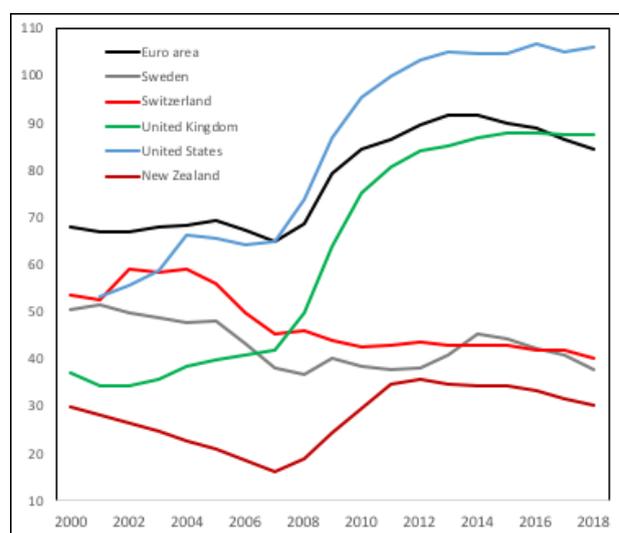
The Stability and Growth Pact had failed to achieve its key purpose, namely to preserve the monetary union from potentially lethal debt crises.<sup>22</sup> Even before the crisis, there were indications that the pact was not delivering as Figure 3 illustrates. Supporters of the pact observe that, in practice, the 60% debt limit has been discarded long ago. Accordingly, they regard as irrelevant the evidence that more than half countries have been in violation of the rule ever since 2003. But ignoring the binding component of a rule is hardly reassuring. In fact, a similar proportion of countries have been placed in the Excessive Debt Procedure because of other violations of the pact.

The evidence displayed in Figure 5 offers a more nuanced view, which matches the empirical literature.<sup>23</sup> Since 2000, the Eurozone's debt has increased significantly less than in the UK and the US, and has started to decline following the jump prompted by global financial crisis. On the other hand, outside of the Eurozone, Sweden and Switzerland have managed to reduce their public debts to moderate levels. The post-2012 decline, however, reflects diverging evolutions across the Eurozone. Some countries, such as Austria, Finland, Germany, Ireland have brought their debts down. Others, some of which are not shown in Figure 2, have allowed their debts to rise quite sizably. One size does not fit all, which is a key failure of the Stability and Growth Pact.

<sup>22</sup> In an early study of the pact, Eichengreen and Wyplosz (1997) write: "Our conclusion is that the Stability Pact may have some slight benefits in terms of fiscal discipline, but may have significant costs, both in diverting political effort from more fundamental problems and indeed in making those fundamental problems worse than before."

<sup>23</sup> Ioannou and Stracca (2011) provides econometric evidence that the pact has had no effect on primary balances. Using counterfactuals, Koehler and König (2014) report some constraining effects, mostly among the less indebted countries. Larch et al. (2010) describe the pact as ineffective in good times and implausibly restrictive in bad times.

Figure 5. Gross public debts (% of GDP) in selected countries



Source: *World Economic Outlook* online database, IMF.

As emphasized by von Hagen and Harden (1994), in order to be effective, fiscal procedures have to be adapted to the budgetary process, including the nature of political governance. Given the wide disparity of political governance arrangements across the Eurozone, a single set of rules is unlikely to work everywhere.

A second interpretation, is that national ownership matters. Some countries, for example Austria and Netherlands, had long developed their own rules and mechanisms before the Stability and Growth Pact was created. This may explain their successes in achieving fiscal discipline. Other countries, that have long been undisciplined, for example France, Greece, Portugal or Italy, have struggled to implement the Stability and Growth Pact. The involvement of an external agent, the European Commission, may well be counter-effective as its recommendations do not fit into the national budgetary process. Well aware of the issue, the Commission has created the Spring Semester, intends to promote, at an early stage of national budgetary processes, detailed discussions between the Commission and each government. In practice, the procedure is as complex as the rules, which leads to opacity, which undermines the budgetary processes.

A third interpretation concerns the enforcement of the pact. is very much in doubt. In addition to potential reputation costs, the only stick is the fine that can be imposed on a non-compliant country. Such a decision is politically combustible and has been avoided so far.

The Stability and Growth Pact has been reformed twice, in 2005 and 2011-12. Each reform has added new rules, criteria and obligations so that the pact is now “extremely complex”, as noted in European Fiscal Board (2018, p.70). Part of the complexity arises from the multiplicity of criteria: the actual balance, its cyclically-adjusted version, public expenditures and the medium-term objectives. In addition, several carrots allow from leniency (in presence of economic reforms and public investment). As a result, the Commission verdict is based on tradeoffs between multiple objectives and official carrots, rarely a black-and-white situation.

Inevitably, political considerations are sure to creep in, in stark contrast with the highly technical rules.<sup>24</sup>

This is one more illustration of the fact that rules must be interpreted by independent councils. The European Fiscal Board (EFB) has a major role to play. Unfortunately, while the EFB is independent and competent, it is embedded within the Commission to which it reports, its members are meant to dedicate very little time<sup>25</sup> and they rely entirely on the Commission's own staff for information and calculations.

Furthermore, the Stability and Growth Pact is undermined by the prospect of a bailout, which potentially provides an incentive towards fiscal laxity as emphasized by the literature on fiscal federalism (see, e.g., Wildasin, 1997, and Kopits, 2001) and confirmed by experience. This was well understood even before the creation of the euro and indeed led to the 'no-bailout' clause of the Maastricht Treaty. Unfortunately, the clause was ignored at the first instance when it became binding in 2010.

Finally, the 'doom loop' phenomenon (Brunnermeier et al., 2016) calls attention to the tight embrace between a government and its banks, which hold large amounts of the national public debt. A well-disciplined government can be dragged into a debt crisis if its banking system suffers a serious blow, as happened in Ireland in 2010. It follows that banking stability must be an integral part of any fiscal discipline framework.

Previous changes to the Stability and Growth Pact have added complexity in an endless quest for tighter rules that are evaded by some member governments – which pick and choose what they abide to – or diluted in an opaque bureaucratic process open to politicization. The pact has to be replaced with a new arrangement that closely matches the theoretical principles. Wyplosz (2003) argues in favor of decentralizing the responsibility for fiscal discipline to the national level, where both legal authority and democratic legitimacy are located, while restoring a foolproof no-bailout rule. Section 5 elaborates on this approach.

## 4.2. The US

The US model constitutes an apparent puzzle. At the sub-federal level, it has worked well for over a century and a half (Figure 6) while it is failing at the federal level (Figure 5). Both its success and failures, however, offer important lessons.

Figure 6 compares the distribution of the debt ratios among the 50 US states and the 16 German Länder. Even the highest debt in the US (Rhode Island at 15.1% of GDP) is lower than the second quartile in Germany, where Bremen exhibits a debt of 65.1%. In the US, State (and local) rules are self-imposed and self-administered. Most of them are constitutional. They require one form or another of zero deficits, with some loopholes which have been visibly exploited.<sup>26</sup> In Germany, the Länder are subject to a centrally imposed and enforced stability pact, a tough version of the Stability and Growth Pact. Crucially, the adoption of state-level constitutional roles in the US followed the adoption of a no-bailout

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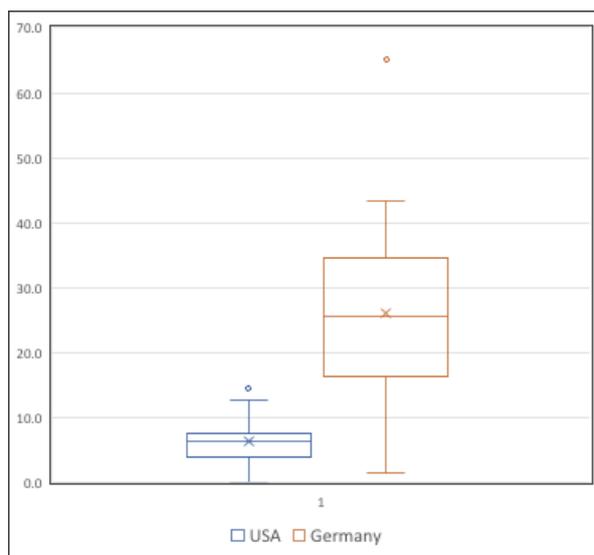
<sup>24</sup> In 2015, surprising leniency was applied to France. Asked about it, President of the Commission famously answered "because it is France", see <https://uk.reuters.com/article/uk-eu-deficit-france/eu-gives-budget-leeway-to-france-because-it-is-france-juncker-idUKKCNOYM1N0>.

<sup>25</sup> The Chair is to spend 30 days of work a year and the four other members 15 days each.

<sup>26</sup> For details, see National Conference of State Legislatures (2010).

rule adopted by the federal Congress in the 1840s. On the contrary, the German Constitutional Court has bailouts of laender on the Federal government in 1992.<sup>27</sup> This is powerful evidence of the crucial importance of both a credible no-bailout rule and of the ownership of fiscal rules. The simplicity of US States' fiscal rules is also noteworthy while their variety suggests that details matter little when the rule is written in the relevant constitution.

Figure 6. Debt to GDP ratios in Germany (2017) and the USA (2018)



Sources: Destatis and <https://www.usgovernmentdebt.us>

Notes: The box-and whiskers diagram displays, from bottom to top: the first quartile (lower whisker), the second quartile (lower side of the box), the median (mid-line), the average (cross), the third quartile (upper side of the box), the fourth quartile (upper whisker). The circles correspond to outliers.

The US federal case is a potent illustration of the deficit bias. As recounted by Auerbach (2008), the US has successively adopted various rules since the mid-1970s. These rules were set by Congress, which overturned them when they became binding. At various times, the list included multi-year deficit targets that could lead to automatic sequestration of expenditures, limits on discretionary spending, the requirement that any increase on spending or tax reduction proposed by Congress be compensated to leave the balance unaffected. Since 1999, when the last rules were abandoned, the only constraint is a numerical nominal debt ceiling that requires a formal vote of Congress to be raised. Figure 5 shows that has Congress has dutifully obliged, sometimes after spectacular closures of government.

Yet, the fraught federal arrangements include a silver lining, the creation of the Congressional Budget Office (CBO) in 1974. It is not a fiscal council as defined above but a staunchly independent and nonpartisan agency, run by a single director. It is prevented by law from presenting views of what should, or should not be done. Its role is to evaluate every proposed legislation that has budgetary implications. Its projections extend to 10 years, and some

<sup>27</sup> There has been one exception to the no-bailout jurisprudence in the US, that of the District of Columbia in 1995 (where Congressmen spend a part of their times). Henning and Kessler (2012) offer a a brief historical overview of the US and Seitz (1999) does the same for Germany. Von Hagen et al. (2000) look at bailouts in Australia, Germany, Italy and Sweden.

versions extend the horizon to 30 years. In effect, the CBO is in charge of technical preparations for the budget as it produces projections of the various alternatives under consideration. To that effect, it employs a large (about 245 people) staff that include highly competent economists and lawyers. Its reports are universally considered as reliable. They are presented to Congress and play a prominent role in its deliberations. Congress trusts the CBO because it is its own office.

In the absence of any rule, the Congress remains free to adopt any budget of its choice. This shows that the existence of an independent council cannot be a substitute for effective rules. Conversely, the simple State-level rules are effective, even in the absence of fiscal councils because they are constitutional. On the other hand, the state rules are procyclical, the consequence of the stark simplicity of balanced-budget rules adopted some hundred years ago. They are bearable for two reasons: 1) federal transfers, most of which are automatic, provide countercyclical resources; 2) individuals, households and firms, borrow in bad times and pay back in good times. Quantitatively, by far the most important channel is the second one, as shown by Asdrubali et al. (1996) and Gros and Belke (2015).

### 4.3. New Zealand

The fiscal framework of New Zealand is not widely known and yet it has been highly successful. Figure 5 shows that its debt is the lowest in the sample, even though fiscal policy turned sharply expansionary after 2007 while other disciplined countries like Sweden and Switzerland relied on spillovers from other countries' fiscal expansions. The framework – it is telling that it is not called a rule – is also very different from most other fiscal rules. A brief review is therefore in order.<sup>28</sup>

With its Fiscal Responsibility Act of 1994, New Zealand can probably claim to be the first country to formally legislate on fiscal discipline. The Act establishes a set of principles and mandates the government to develop a strategy consistent with these principles. The principles essentially define fiscal responsibility as follows. The debt must be kept at 'prudent levels' by balancing expenditures and revenues over time. Fiscal risks must be managed prudently. The fiscal strategy must have regard on its impact on present and future generations. Thus, the debt is the target, without any numerical rule, and the strategy is definitely long run.

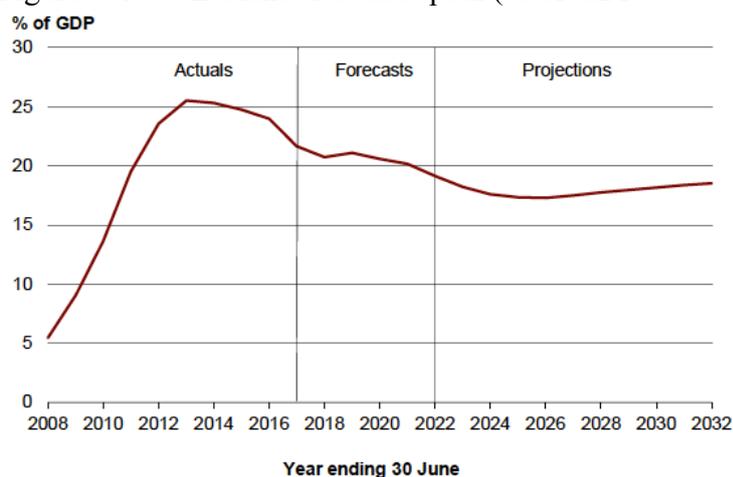
The details of the strategy have changed over the years but the general approach remains the same. Currently, the government must publish each year a *Fiscal Strategy Report*, with an interim update. The Report present its *decisions* for the next fiscal year, its *intentions* over the next four years and, at least every four years, a *statement* for the next 40 years, under the assumption that current expenditure and revenue policies remain unchanged. The reporting concerns the net debt, the net worth, expenditures, revenues and the balance. Importantly, the government must explain how the strategy is responsible. If disturbances require strategies inconsistent with the responsibility principles, the government must give reasons and explain how it intends to return to the principles. The projections are produced by the Treasury, which enjoys a great degree of independence from the government, in effect acting as a fiscal council. The latest net debt trajectory is shown in Figure 7. It passes the 'eyeball test' suggested in the previous section. In 2018, the Treasury started to produce stress tests.

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<sup>28</sup> A more detailed description is provided by New Zealand Government (2015).

The Act emphasizes three aspects. First is prudence. The debt target that the government sets for itself includes a buffer to deal with unforeseen shocks. It identifies vulnerabilities and must be consistent with long-run sustainability. Second is transparency, which relies on regular updates published by the independent Treasury. Third are incentives. The framework explicitly rejects the idea of precise and numerical targets, asserting instead that each government must own its commitments.

Figure 7. New Zealand: Net debt path (% of GDP)



Source: *Fiscal Strategy Report 2018*, The Treasury

## 5. Synthesis: What model for the Eurozone?

This section describes a proposal on how to establish fiscal discipline in the Eurozone. Unrealistically perhaps, it assumes that we start from a white sheet, without the Stability and Growth Pact and its various derivatives.

### 5.1. Decentralization and no-bailout

Since the legal authority to decide on the budget rests at the national level, it is only at this level that fiscal discipline can be enforced.<sup>29</sup> Those who justify the Stability and Growth Pact observe that it is part of a treaty that all member countries have ratified and must therefore respect. The problem is the existence of two contradictory principles: national sovereignty and an international treaty. The hope was that the treaty would take precedent over national sovereignty. This did not happen, because democratic legitimacy matters a lot and because governments are elected at the national level. Maybe, in the future, the EU will evolve into a full-blown confederation. Until it happens, fiscal discipline can only be established at the national level.

The counter-argument is that some countries seem unable to impose fiscal discipline onto themselves so some centralized control is needed. The examples presented in Section 4 show that this conclusion is not warranted. In the US, fiscal discipline is achieved through a combination of State constitutional rules and a rock-solid no-bailout rule that has remained unchallenged for nearly two centuries. The German case – which inspired the Stability and

<sup>29</sup> This is an important result from the literature on fiscal federalism

Growth Pact – is a perfect example of centralized control, combined with a mandatory bailout rule, which does not work very well (Figure 6).

## 5.2. National rules

As argued above, a good rule rests on a target and an instrument. The target is the long-run evolution of the public debt, measured as a ratio of gross debt to GDP. The policy instrument is the budget balance. The horizon is broken down into the long run (several decades) for the target and the end of the legislature as an intermediary target. Countries with large debts must commit to bring them down in the long run, countries with a moderate debt ratio may want to keep it is or to bring it down. Countries with low debts do not need budget restraints (but a rule must be in place to deal with possible future slippages). The chosen debt path is translated into a budget path over the relevant horizon. When shocks occur, the path can be adjusted without allowing the end-of-horizon debt target to slip, bygone should not be bygone. The adjustment recognizes that annual outcomes must be seen within a multi-year process. A good example is the Swiss debt-brake, which records budget slippages in a special account and requires that unplanned deficits be compensated for by unplanned surpluses. Unplanned surpluses can be used as a rainy-day fund. However, aiming at the end of the legislature is open to some criticism, as explained in Box 2.

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### Box 2. The end-of-legislature conundrum

Adopting as an intermediary target the debt ratio at the end of the legislature is both logical and problematic. It is logical because a government cannot make commitments for its successor, even it is reelected. It is problematic because, over time, the horizon shrinks and it may become impossible to reach the intermediate target during the last year of a legislature. In addition, a departing government is unlikely to be highly focused on meeting its earlier commitments even if it is concerned with its credibility or that of its ruling party(ies). Furthermore, how to deal with severe unforeseen shocks?

This issue is directly related to the literature on political business cycles, which explains how and why governments tend to expand transfers or cut taxes before elections.<sup>30</sup> This literature suggests that there is no straightforward solution.

Perhaps, the only encouraging result from that literature is that transparency mitigates the problem. For instance, Repetto (2017) finds that the political business cycles are reduced when the press ensures quality coverage. This suggests an important role for independent fiscal councils. Otherwise, one possibility is to apply the New Zealand principle of prudence and allow for a buffer into the target (as also suggested by Eyraud et al., 2018b). A more ambitious solution would be to build in a sequestration mechanism that cuts automatically spending when the target becomes out of reach, but it could easily lead to procyclical fiscal policies, as in the US.

Another issue is whether to reset the long-run debt path at the beginning of a legislature. On the one hand, it can be argued that a new government should not be put in a bind because of

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<sup>30</sup> For a review, see Drazen (2000) and the comments thereafter. An empirical update is Phillips (2016).

poor discipline of its predecessor, or even that such a constraint is not politically realistic. On the other hand, the presence of recurrent political business cycles would contribute to ever-rising indebtedness.

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### **5.3. Fiscal councils**

Section 3.7 argues that fiscal councils have an important role to play in the implementation of fiscal rules. In Europe, the Treaty on Stability, Cooperation and Governance (TSCG) mandates member countries to establish fiscal councils but leaves them relatively free regarding crucial details. If, as suggested, fiscal discipline is to be decentralized to the national levels, it becomes crucial that all countries adopt best practice.

#### *Previsions and projections*

Optimistic assumptions about growth and the interest rate are a classic ingredient of the deficit bias. The parliament and the broader public are ill equipped to challenge the government numbers. This is why in a (small) number of countries, such as the Netherlands or (partially) the UK, the technical step is delegated to the fiscal council (or to an independent Treasury in New Zealand). In the US, the Congressional Budget Office (CBO) operates in parallel with the government's Office of Management and Budget and its work tends to prevail when the Congress adopts the budget law. These examples show that there is just one way to proceed. Every country should be free to adopt the arrangement that best fits its institutions but the translation of the choices of the government into budget numbers should be delegated to an independent organization, which has the financial and technical resources to carry out the task.

#### *Target and instrument*

The independent fiscal council should also be tasked to pass judgment on what is a reasonable long-run debt target given prevailing conditions and to translate this debt target into an intermediate (end of legislature) debt target as well as into annual budgets, the instruments.

An example of a good solution is provided by the Netherlands. Its CPB is tasked to evaluate government budgetary plans spelled out at the outset of a legislature, to derive annual budget implications and to monitor outcomes. The CPB also presents long-run estimates, which can be seen as a DSA in the sense that they show whether the debt target is consistent with the solvency requirement. The CPB forecasts are then reviewed and evaluated by two other independent bodies (the Official Advisory Group on Fiscal Principles and the Social and Economic Council). A simpler structure would task a single Fiscal Council with both producing and evaluating the forecasts relative to a debt rule.

#### *Reporting*

The budget process typically involves three main steps: 1) Negotiations within the government; 2) Production of the relevant numerical implications; 3) Approval by the parliament. The first step is political, the second one is technical and should be delegated to the fiscal council. Quite possibly, these two steps can be recursive.

The third step varies a great deal across member countries, but everywhere this is where control over the government is exercised. This control, however, is often weak. Political considerations may restrain the vigor of the parliamentary debate and few members of parliament are versed in budget technicalities. Since fiscal councils have no legitimacy, and therefore no authority, to impose discipline on governments, the parliamentary step is the best hope for dealing with the deficit bias. Unfortunately, parliaments too may be subject to the deficit bias.

The best hope is for the relevant discipline rule to be written in the constitution, which delegates ultimate responsibility for delivering fiscal discipline to the parliament. Thus legally bound, the parliament is less likely to succumb to the deficit bias. This is even more likely if a constitutional court is able to reject parliamentary decisions that violate the fiscal rule. To be effective, the parliament needs to have access to truthful information. The experience of the Dutch CPB suggests that a well-informed parliament trusts (over time) an independent fiscal council. The experience of the US CBO is that trust is strengthened when the fiscal council is created within the parliament to which it reports.

#### **5.4. The European level**

No matter how well designed the rule and how efficient the council, there will always be a risk that fiscal discipline is not achieved in a member country. This would represent a seriously negative externality for the monetary union as a whole. The probability that it occurs must be reduced as much as possible. Four proposals deserve consideration.

##### *Oversight of national frameworks*

To start with, the TSCG already sets principles for national budgetary processes. Unfortunately, its requirements are (intentionally) vague, which has led to the adoption of frameworks of variable quality and legal status. An improved treaty should provide more precise criteria and subject each country's framework to approval by the European Fiscal Board. Not all countries should be required to adopt the same arrangement; those with solid arrangements (e.g. the Netherlands) should be free to keep them. What is needed is to agree on explicit criteria. The European Fiscal Board would evaluate each national arrangement and determine whether the criteria are met.

##### *The no-bailout clause*

Section 4.2 strongly suggests that, in a 'federal' arrangement, the ultimate line of defense of fiscal discipline at the sub-central level is a rock-solid no-bailout clause. It can provide a powerful incentive, but only if its implementation is one hundred percent guaranteed. The fact that it was pushed aside when it became binding at the outset of the Greek sovereign debt crisis means that the no-bailout clause does not exist anymore. The clause needs to be reinstated. That probably means improving the wording of the relevant articles of the treaty and redefining the mission of the European Stability Mechanism (ESM), whose role is to bailout member countries.

##### *ECB instruments*

A sometimes-overlooked specificity of the Eurozone is that the ECB routinely purchases national treasury bonds for its operations under the assumption that they are all zero-risk, with exceptions when a country is under an ESM program. The result is that, in normal times, there is no market risk premium and no *ex ante* market-based incentive to exercise discipline. In contrast, in the US and Canada, the central bank is prohibited to deal in sub-federal public

debt instruments, so that the interest rates are entirely market determined. How can this be applied to the Eurozone? The ECB needs safe instruments for its routine operations. The solution could be for the ECB to issue its own debt instruments. If it were to conduct initially one big operation with the market, swapping its debt against public debt, it would bear risk, which is not desirable – or acceptable. The alternative is for the ECB to take advantage of the forthcoming winding down of its QE to absorb liquidity against its own debt (and let its bond portfolio shrink as instruments mature).

### *Sovereign debt crises*

Finally, how to deal with a country that fails to achieve fiscal discipline and eventually is hit by a crisis? During the sovereign debt crisis, the need to build firewalls was recognized early on. It eventually led to the creation of the ESM. The trade-off between the need for a firewall and a no-bailout rule is acute. Taken in isolation, there is no compelling argument to guide the choice between these two alternatives. If, however, it can be agreed that the no-bailout rule is an essential component of the fiscal discipline framework, then the conclusion is that no firewall should come at the expense of the no-bailout rule. A number of implications follow.

First, the doom loop implies that we need two different firewalls, one for banks and one for public debts. Completing the Banking Union with a tight resolution mechanism backed by a common resolution fund and a deposit insurance mechanism is the widely agreed way to construct a firewall against banking crises (Gros and Schoenmaker, 2014). In addition, there should be a cap on domestic public debts held by banks, another widely held view that is facing political resistance.

Second, in case of a sovereign debt crisis, the natural way to avoid breaking the no-bailout rule is for the relevant country to seek help outside the Eurozone, and the IMF is the relevant port of call. If large amounts are needed beyond normal IMF loans, some Eurozone countries can lend to the IMF as part of a standard procedure (General Agreements to Borrow). In this case, it becomes possible to modify the mandate of the ESM, away from bailouts and exclusively in charge of bank resolutions. Along with the creation of a bank deposit insurance scheme, as suggested for example in European Commission (2015), the banking union would be complete.

Third, because simplicity is of the essence and to avoid a multiplicity of rules (Section 3.6), the Stability and Growth Pact should no longer be the centerpiece of the fiscal discipline architecture. This would change the role of the Commission. It would still monitor national budgets but would not need to trigger excessive deficit procedures. Instead, its main role would be to detect instances when a member country does not abide by its own rules, in which case it could ask the European Court of Justice to require that the country fulfills its own constitutional obligations.

Fourth, the mission of the European Fiscal Board would also have to be modified. It could still be tasked with the responsibility of evaluating the aggregate fiscal policy but its main role would be to oversee the work of national fiscal councils. It could be helpful that the Board operate under the responsibility of the European Court of Justice.

## 6. Conclusions

The Stability and Growth Pact has been created more than twenty years ago, at a time when our understanding of fiscal rules and councils was rudimentary. Even though it may have succeeded in sometimes reducing deficits, the debt buildup since 1999 in some countries, which resulted in the sovereign debt crisis, indicates that it has not achieved its aims. Successive reforms have not improved its performance, despite the Commission's best efforts.

This paper recognizes that the concept of fiscal discipline is fuzzy. This is one reason why numerical fiscal rules are often inefficient. The resulting tendency to make them ever more complex makes matter worse, as they become ever more opaque and more open to interpretation. This paper argues that a new rule should identify the debt to GDP ratio as a long-run non-numerical target. The end-of-legislature debt ratio would then be an intermediate target and the instrument would be budget balance. Technical work and evaluation of the targets and of the required path for the instrument would be delegated to national fiscal councils embedded in parliamentary work.

Obviously, the practical feasibility of these propositions is easy to challenge. They will face political opposition, if only because recognizing that the Stability and Growth Pact cannot be further improved is a giant step. In addition, they may require a new treaty, a step that policymakers are disinclined to take. Yet, they are derived from solid principles and informed by a growing body of evidence. As an original experiment, the monetary union could not have been perfect from the beginning. A number of changes have taken place in the wake of the sovereign debt crisis. Many more changes will have to be enacted before it can be seen as reasonably flawless. A better fiscal discipline regime is one of them. Rationally, it should happen before the next crisis but, admittedly, the experience so far suggests otherwise. This sad observation does not mean that the propositions are unrealistic.

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