THE FALLACY OF r – g

LORENZO BINI SMAGHI

IEP@BU Policy Brief
n.32
January 2025

Università Bocconi
IEP@BU
Institute for European Policymaking

ISSN 3035-577X
IEP@BU Policy Briefs Series
[online]

The sustainability of public debt is an essential component of fiscal policy evaluation. This analysis is conducted by major international institutions, such as the International Monetary Fund and the European Commission. In particular, the Debt sustainability analysis (DSA) is at the core of the revised Stability and Growth Pact.

The DSA is based on elaborate forecast models projecting macroeconomic and policy variables over a relatively long horizon.

However, the public debate has increasingly focused on the relationship between two key variables, the rate of interest paid on the debt (r) and the rate of growth of the economy (g). When growth is projected to be systematically higher than the rate of interest ($r - g < 0$), countries do not need to have a (high) primary budget surplus to ensure that the ratio between public debt and gross domestic product decreases over time. In other words, fiscal policy has greater room for maneuver when economic growth is higher than interest payments on the debt.[1]

The focus on r and g has increased for two basic reasons. First, it makes the whole debt sustainability issue easier to understand than just looking at the outcome of what looks like a "black box". Second, the results obtained through the traditional DSA tend to be very volatile and sensitive to the underlying hypotheses. Furthermore, some of the hypotheses often proved wrong, especially concerning interest rates, which in many advanced economies turned out to be lower than expected, due to factors such as the savings glut, secular stagnation or the quantitative easing policies implemented by central banks during the past decade.

Based on the experience prior to the pandemic, several academics and commentators suggested that favorable r-g conditions are likely to prevail in the coming years and thus fiscal policy should be much more expansionary than foreseen. In the US, the privileged status enjoyed by the dollar in the international financial system, which keeps the interest on US debt instruments relatively low compared to the (nominal) rate of growth of the economy, should provide the room for continued fiscal expansion. In Europe, it is suggested that the large spending requirements on defense, environmental and digital transition be financed through joint debt issuance, which is safer than the national debts and has a lower risk premium.[2]

The empirical evidence does not confirm the hypothesis that the public debt tends to be more stable

[1] Blanchard, O. *Fiscal Policy under Low Interest Rates*, MIT Press, 2023
[2] Benigno, P. and E. Reviglio, *Safe Asset Europei*, Astrid, 2024

in countries where the (real) interest rate is systematically lower than (real) growth. On the contrary.

The figures 1-6 attached in the annex show that in countries where the interest rate was lower that nominal growth, the debt often increased markedly over the past quarter century (as a percentage of GDP).

The most obvious case is the US, where the debt-to-GDP ratio doubled, from 60% to 120% of GDP, despite a negative r-g for most of the period. In Japan and in France, debt increased irrespective of the r-g level.

Only in Germany the correlation between r-g and the debt dynamics turned out as expected, as debt decreased in parallel with lower interest rates. In Italy, the relationship changed over time. Overall, r-g does not look like a good predictor of debt developments.

The data suggests that the public debt depends much more on the “forgotten” variable of the debt sustainability equation, i.e. the primary surplus. The debt increased systematically in countries like the US, Japan or France, despite the favorable r-g conditions, because of the large and apparently incompressible primary deficits. In fact, over the past quarter of a century, these three countries never recorded a primary surplus.

Focusing primarily on the r-g relationship means implicitly that the third key variable of the debt sustainability analysis, i.e. the primary balance, is assumed to be exogenous. This is a standard hypothesis for policy variables. Evidence suggests however that this is not only simplistic but also misleading. In fact, the three variables that determine the debt sustainability are closely interrelated and even interdependent. For at least four reasons.

1. Growth depends on fiscal policy (even in the medium term)

The first reason is that the g in the r-g relation, i.e. the expected growth rate, is not independent of the level of the primary surplus. An expansionary fiscal policy protracted for several years has an impact on the growth rate.

The typical example is the US, which recorded a growing primary deficit for a prolonged period, both before and after the pandemic: from 1.7% to 3.5% of GDP between 2015 and 2019; and from 1.1% to 3.7% of GDP between 2022 and 2024.

In cyclically adjusted term, the expansion is even sharper: according to IMF data the US primary deficit rose from 3.3% of GDP in 2015 to 6.1% in 2019. Without the protracted fiscal expansion, growth and inflation would have been lower and thus r-g less favorable. In other words, the r-g comparison would have looked less favorable had the impact of the ongoing expansionary fiscal

policy been fully considered.

Any fiscal adjustment needed to ensure debt sustainability would lower growth, at least in the short term, and thus lead to a less favorable r-g condition.

To sum up, r-g cannot not be considered independently of the prevailing primary balance and the impact that any adjustment of such a balance has, in particular on growth. This means that the higher is a country's primary deficit, the less reliable is g to assess the sustainability of the debt.

2. Also the interest rate depends on Fiscal policy

The second reason why just looking at r-g, while omitting the primary surplus, in assessing debt sustainability can be a mistake is that also the rate of interest depends on the projected fiscal policy. A significant change in fiscal policy which may jeopardize the debt dynamics can increase the risk premium and deteriorate the r-g relationship. An example is the market reaction the budget announced by the then British Prime Minister Liz Truss government in the Fall 2022 (Figure 6).

On the other hand, the rate of interest may be particularly low, compared to growth, for a prolonged period of time independently, and even despite an unsustainable fiscal policy. This may reflect other factors, which may be temporary. One example is when the central bank implements a policy deliberately aimed at compressing the risk premium at the long end of the curve, through asset purchases. Another case is the status of safe asset that a debt instrument may have for some time but may suddenly be lost when market sentiment changes in an unpredictable way.

To sum up, projecting r over time without taking future fiscal policy into account can be misleading, as it assumes that fiscal policy can become significantly more expansionary without any effect on the risk premium.

3. Fiscal policy depends on growth and interest rates

The third argument is that the omitted variable in the sustainability condition, i.e. the primary surplus, is itself not independent of r-g.

First, reducing a primary deficit entails short term negative effects on economic growth and employment. It is thus politically costly. This is the reason why fiscal consolidation tends to be postponed. Second, a low risk-premium encourages countries to maintain high primary deficits.

In sum, the missing part of the debt sustainability equation is endogenous. While high growth rates incentivize expansionary fiscal policy, high interest rates incentivize more prudent policies. This is the reason why fiscal adjustments tend to be pro-cyclical and happen only under the pressure of the bond vigilantes.

The opposite experiences of Italy and France tends to support this hypothesis. The financial tensions experienced in the Italian debt market over the past 30 years forced the country into repeated fiscal adjustments and reforms, particularly of the pension system. In France instead, the absence of major financial stress and the alignment of French long-term interest rates to German rates reduced the incentive to cut the primary deficit over the years, to the point that it has now become politically very difficult to do so.

The same applies to the US, where the privileged status of the dollar in the international financial system creates the incentive for the US authorities to pursue systematically expansionary fiscal policies, with budget deficits averaging 6% of GDP in the last 25 years, without feeling any pressure to adjust. It is unlikely that any correction will be implemented soon, unless markets give some sign of concern.

To sum up, experience shows that low interest rates may provide a favorable financial environment for debt sustainability but also perverse incentives to policy makers to widen the budget deficit, either through higher spending or lower taxes. Reversing these policies is very costly, politically and economically, unless major signs of instability emerge.

4. Countercyclical vs "Structural" fiscal policy

The last reason why focusing only on r-g may be misguiding for fiscal policy recommendations is the lack of distinction between one-off and persistent fiscal policy measures. r-g may be useful to assess the feasibility of one-off increases in the debt, due for instance to a specific shock like the pandemic or war spending, which can be absorbed over time with favorable r-g conditions. There is no need in this case to adjust the primary balance in the future. It is the same reasoning underlying counter-cyclical fiscal policy.

The situation is different when the fiscal expansion foresees a prolonged increase in the budget deficit for several years. One example is the proposal to increase defense spending above 2% of GDP in Europe. Financing such spending, year after year, through public borrowing would entail higher primary deficits for a prolonged period. Without a time-limit to the spending program, the debt sustainability equation is inevitably affected, independently of r-g.

This is the reason why the European debt issued to finance the Next Generation EU was ultimately easier to accept from a political – and financial – viewpoint, without the need to agree on a major restructuring of the EU budget. Financing a multi-year investment plan to address the environmental, energy and digital transition, with European debt as proposed in some recent reports, would be a totally different exercise. It would not be financially possible without a substantial increase in European budgetary resources.[3] This is the reason why it is politically much more difficult to agree on such a proposal. Indeed, many member states are reluctant to raise the EU's own resources or to increase the national contributions to the EU's budget.

5. Policy conclusions

The assessment of the sustainability of public debt cannot rely only on the r-g variable, just assuming that the primary balance is an exogenous policy variable that can be easily adjusted. In fact, the primary balance is closely influenced, at times in a perverse way, by the r-g situation, which explains the procyclicality of public finances, and often their unsustainability. In this context, the fiscal policy framework is as important, if not even more important, than r-g to assess a country's debt sustainability.

[3] Draghi, M. *The Future of EU Competitiveness* , European Commission, September 2024

Annex

Figure 1

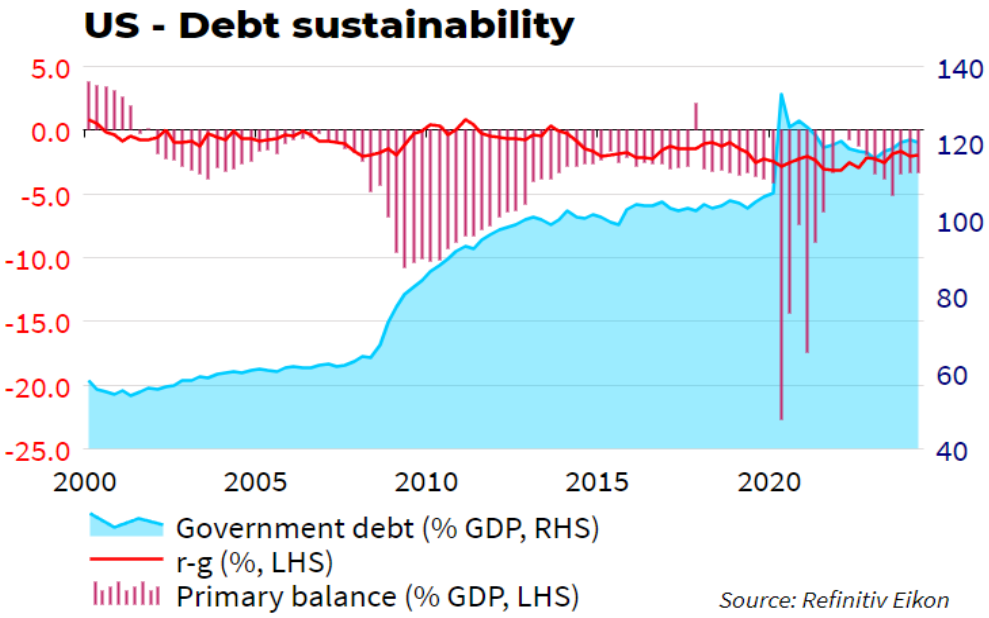

Figure 2

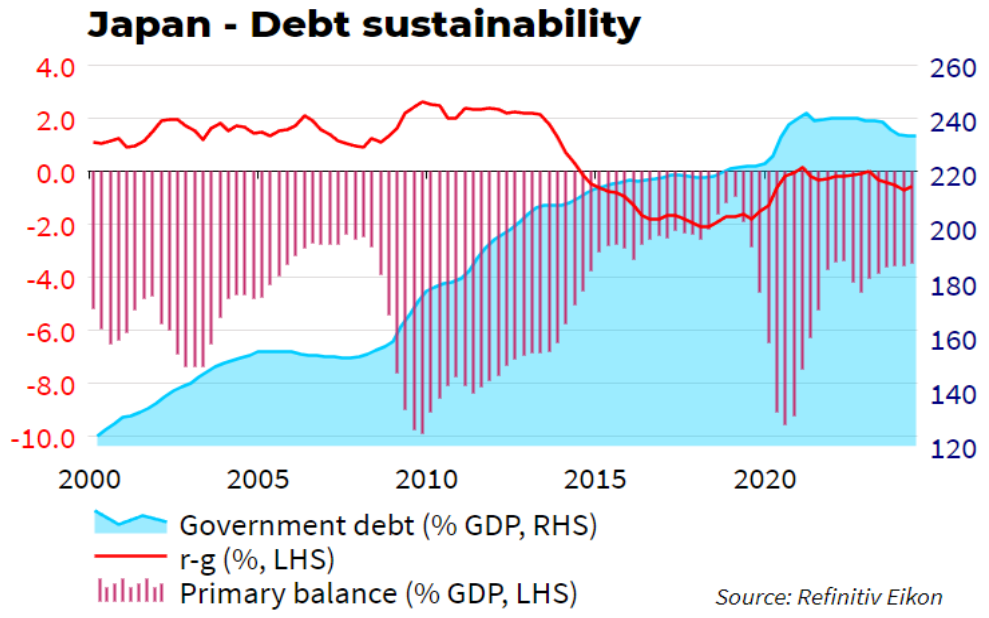

Figure 3

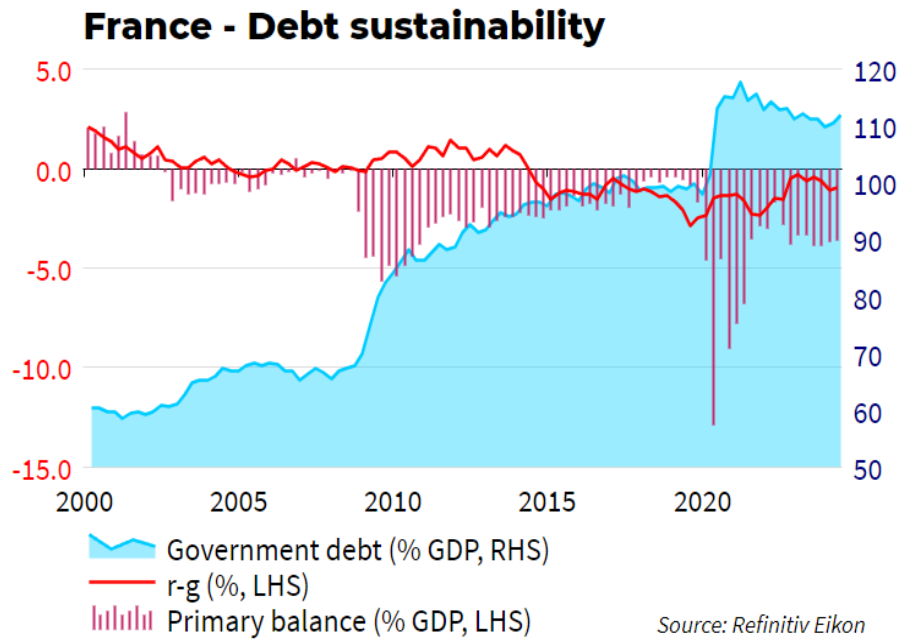

Figure 4

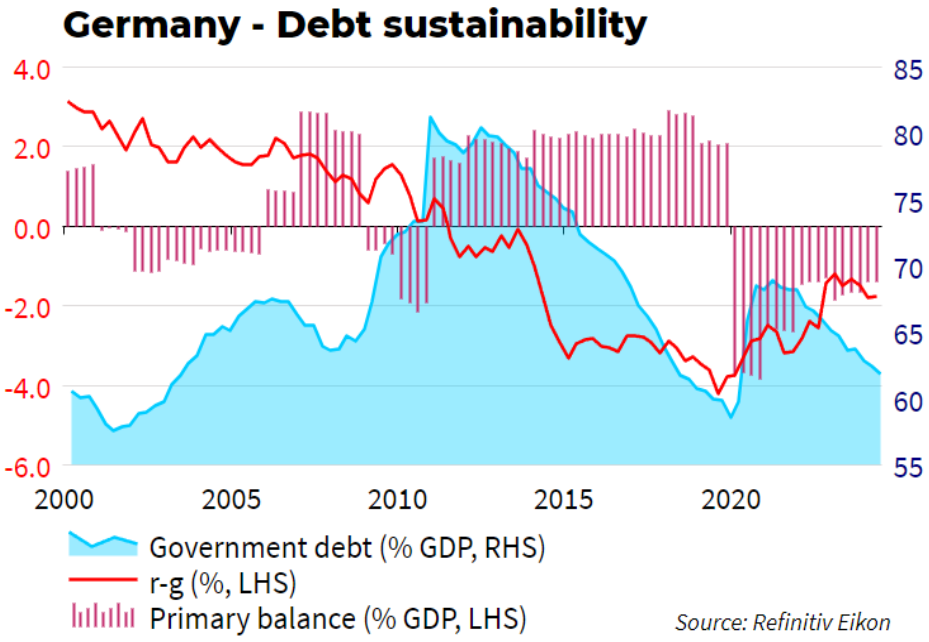

Figure 5

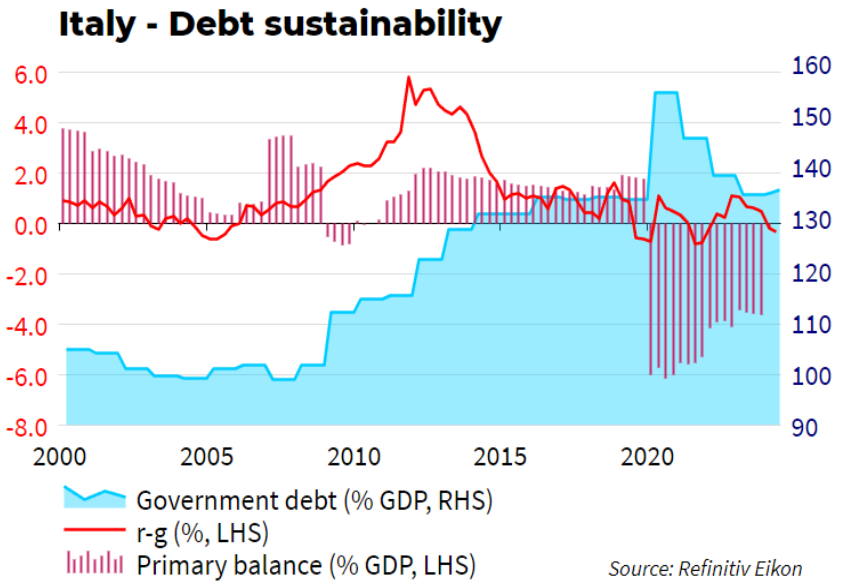

Figure 6