Perspectives on Public Debt and Productivity Growth in the Euro Area

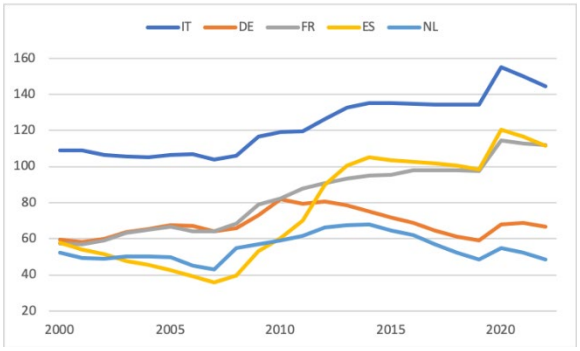
By Luca Fornaro[1]

1 The issue

There is a lot of heterogeneity in public debt positions across the euro area. As shown in Chart 1, some countries feature historically high public debt-to-GDP ratios, while other have moderate levels of government debt. These remarks focus on the macroeconomic implications of this heterogeneity. In particular, I will argue that the relationship between public debt, investment and productivity growth may act as a source of divergence among euro area member countries.

Chart 1

Heterogeneous public debt-to-GDP ratios in the euro area



Notes: data from the International Monetary Fund.

Chart 2 shows the evolution, over the last 30 years, of the public debt-to-GDP ratio and labor productivity in a sample of advanced economies. The sample is split between high-debt countries, that is those countries with an average debt-to-GDP ratio above 90%, and the rest. The chart illustrates how productivity growth has been substantially lower in high-debt countries. This fact is in line with a vast empirical literature, that has documented a negative relationship between public debt and growth (e.g. Reinhart, Reinhart and Rogoff, 2012; Eberhardt and Presbitero, 2015).

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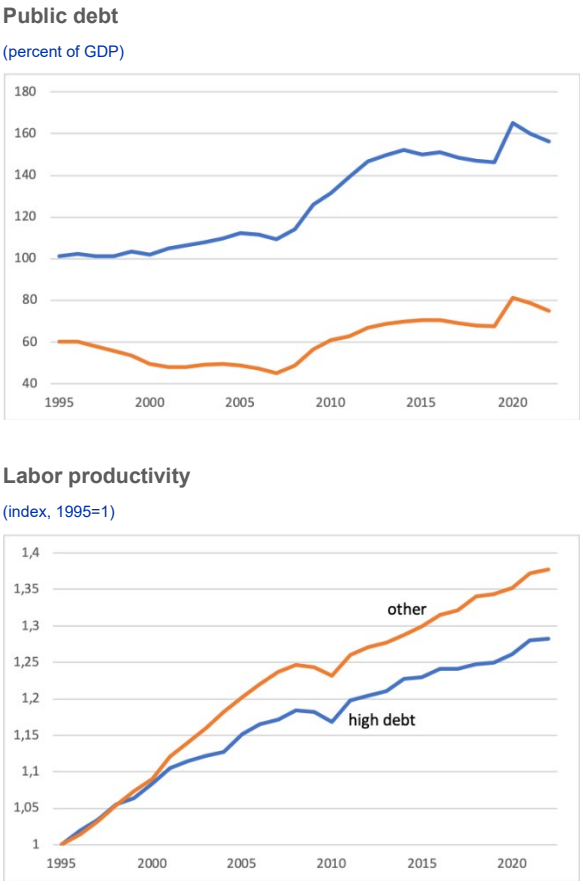
Chart 2

The public debt/productivity growth nexus



Notes: author's calculations based on IMF and OECD data. High-debt refers to the average between Belgium, Italy, Japan and Portugal, that is the countries with an average public debt-to-GDP ratio above 90%. Other refers to the average between Australia, Canada, Germany, Denmark, Spain, Finland, France, United Kingdom, Netherlands, Norway, Sweden and United States. Labor productivity is defined as real GDP per hour worked.

2 The public debt/productivity growth vicious cycle

The empirical negative correlation observed between public debt and productivity growth is not surprising. In fact, we would expect a two-way relationship between these two variables to exist. On the one hand, lower growth tends to increase the public debt-to-GDP ratio, through its negative impact on future GDP. This relationship is illustrated by the FF schedule in the diagram shown in Chart 3, which captures the notion that lower growth (g) causes an increase in the public debt-to-GDP ratio (d).[2]

However, especially in high-debt countries, some reverse causality might be at play. To sustain a high stock of public debt, the government is likely to implement fiscal measures that distort the incentives to invest and depress growth. Think about the imposition of high taxes on capital and labor, or cuts in public investments and public services, or even the fact that a high stock of public debt may prevent the use of

[2] See Fornaro and Wolf (2025) for the theoretical framework underpinning the diagram shown in Chart 3.

countercyclical fiscal policies to mitigate the impact of economic downturns on investment. All these factors imply that a high stock of debt is likely to hinder productivity growth, which is the relationship captured by the GG schedule in Chart 3.

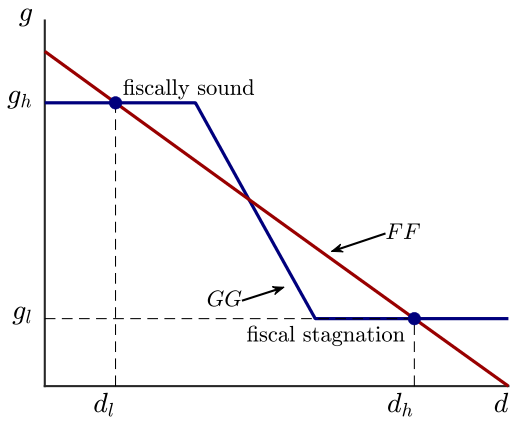
Putting these two forces together gives an amplification effect, or vicious cycle, between public debt and productivity growth. To see this point, imagine that a country is hit by a negative shock, which requires some fiscal adjustment. Suppose also that this fiscal adjustment generates substantial distortions, so that as a result investment and growth both drop. Lower growth will then put upward pressure on the debt-to-GDP ratio, requiring another round of fiscal adjustment to ensure the sustainability of government debt. A further drop in investment and growth will follow, and so on.

In joint work with Martin Wolf, we provide a theoretical framework to study the macroeconomic implications of this public debt/productivity growth vicious cycle (Fornaro and Wolf, 2025). There we show that the interplay between public debt and productivity growth may lead to multiple long-run equilibria, as illustrated in Chart 3. Our key result is that a fiscally sound equilibrium may coexist with a fiscal stagnation one. In the fiscally sound equilibrium, which is the desirable one from a welfare perspective, low debt and high growth support each other. But countries characterized by high stocks of legacy debt may end up being trapped into a fiscal stagnation equilibrium, in which high debt, high fiscal distortions, low investment and low growth self-perpetuate over time. As I will argue next, part of the euro area may be at risk of falling into fiscal stagnation over the coming years.

Chart 3

The fiscally sound and the fiscal stagnation equilibria

(productivity growth on the vertical axis, public debt-to-GDP on the horizontal axis)



Notes: See Fornaro and Wolf (2025) for the theoretical framework underpinning this diagram.

3 Toward a two-speed monetary union?

At present, European countries are envisioning large public investment programs to foster the green transition, the digitalisation of the economy (including the development and adoption of AI technologies), and to improve defence capacity (Draghi, 2024). These investments have the potential to boost high-tech activities and growth in the euro area, and to reduce the productivity gap relative to the United States.[3] However, public debt overhang may hinder investments in part of the euro area. The union may thus split into a fiscally sound/high growth block, and a fiscally stagnant one.

Would such a two-speed monetary union be an issue? This is a legitimate question, given the high geographical concentration of high-tech activities in the United States (just think of the Silicon Valley). However, compared to the US, the euro area lacks mechanisms to spread the prosperity generated by technological clusters. The euro area, in fact, is not a fiscal union, and has limited capital markets integration.

Moreover, a euro area split between a fiscally sound and a fiscally stagnant block may be difficult to manage for the ECB. The reason is that fiscally stagnant countries are likely to face a combination of low aggregate demand, caused by their poor growth prospects, and inflationary pressures, due to the fact that weak productivity growth sustains firms' marginal costs and prices.[4] This is akin to a cost-push shock, that is a worsening of the inflation/economic activity trade-off faced by the central bank. As it is well known, cost-push shocks represent a challenge for monetary policy (e.g. Blanchard and Gali, 2007).

These considerations suggest that ending up in a two-speed monetary union is an outcome that we should seek to avoid.

4 A pro-growth approach to fiscal and monetary policy

How to mitigate the risk of fiscal stagnation? A promising avenue is to adopt a pro-growth approach to fiscal policy. The US experience suggests that increases in public investments, especially in public R&D, have a persistent positive impact on real GDP and productivity (Antolin-Diaz and Surico, 2025, Fieldhouse and Mertens, 2025). It thus looks like there is scope to boost productivity growth by shifting the composition of government spending towards public investments and public R&D programs.

Moreover, a pro-growth approach to fiscal policy may also help to reduce the public debt-to-GDP ratio, by making the economy grow out of its debt. In fact, pro-growth

[3] For instance, recent estimates by Antolin-Diaz and Surico (2025) and Fieldhouse and Mertens (2023) suggest that public investments, especially in R&D, played an important role in boosting productivity in the United States.

[4] See Benigno and Fornaro (2018) and Fornaro and Wolf (2023) for frameworks connecting productivity growth, aggregate demand and inflation.

fiscal interventions may jumpstart a virtuous cycle of higher productivity and public debt reductions, thus lifting high-debt countries out of fiscal stagnation.

There are several measures that could increase governments' incentives to perform public investments. For instance, the preferential treatment given to public investments in the new Stability and Growth Pact goes in the right direction (Bouabdallah et al., 2025). One could also think of introducing automatic investment stabilizers, to prevent governments from adopting measures that depress public and private investments during economic downturns. This would square well with the renewed interest in automatic stabilizers as a tool to mitigate economic fluctuations (Blanchard, 2025).

Another option worth considering is the joint financing of EU public goods, perhaps in the form of a European productivity compact (Panetta, 2024). First, joint financing would reduce the incentives to free ride on other countries' investments in public goods. This is particularly true for public R&D programs, which are likely to generate substantial international knowledge spillovers. Moreover, joint financing at the EU level would reduce the drag on investment caused by public debt overhang in high-debt countries, thus mitigating the risk of divergence among euro area member countries.

To conclude, let me spend a few words on monetary policy. While fostering productivity growth is not the main mandate of the ECB, monetary policy may usefully complement supply-side policies to stimulate productivity growth.

First, keeping inflation expectations anchored is crucial to maintain medium-run interest rates to moderate levels, thus facilitating fiscal adjustments and private investments. Having a strongly countercyclical monetary policy is also important, given the mounting evidence suggesting that deep recessions leave persistent scars on future productivity.[5] Lastly, maintaining a strong aggregate demand encourages firms to invest to increase their future productive capacity (Benigno and Fornaro, 2018 and 2019). Through these three channels, monetary policy can contribute to revive productivity growth in the euro area.

[5] See the evidence cited in Benigno and Fornaro (2019) and Fornaro and Wolf (2023).

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