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Public Investment: Is There a Golden Rule Separating “Good” from “Bad” Debt?

It is commonly agreed that governments need to increase investment to support decarbonization, energy security and digitalization. This, in turn, raises questions of how to finance such investments, and this has revived the debate whether fiscal rules are biased against public investments.

Since fiscal rules serve the purpose of counteracting political present-biases, it is paradoxical if the rules imply that public investment is suboptimally low. Such a bias may arise in the political process since investments have up-front costs while the benefits accrue later, over a sequence of years. This may arise not only because investments are included in expenditure targets, but also from the constraints arising from deficit/surplus targets.

In the ongoing debate on reforms of the fiscal rules in the EU, public investment also plays a role. The European Commission (2023) thus writes: “Reforms and investment are both essential. The green and digital transitions, the strengthening of economic and social resilience and the need to bolster Europe’s security capacity will require large and sustained public investment in the years to come [...] The proposals therefore aim to facilitate and encourage Member States implementing important reform and investment measures. Member States will benefit from a more gradual fiscal adjustment path if they commit in their plans to a set of reforms and investment that comply with specific and transparent criteria.” The proposal for revised fiscal rules maintains the limit of 3 percent of GDP for budget deficits and 60 percent of GDP for debt, but aims to give governments more flexibility and encourage public investment. Hence, countries that exceed the limits have to undergo a fiscal adjustment over a four-year period to ensure that the deficit falls below 3 percent of GDP and debt is at a prudent level and being reduced at the end of the period. As long as the deficit exceeds the limit, a minimum fiscal adjustment of 0.5 percent of GDP per year applies. However, if the countries commit to reforms and investments in the green and digital transitions, the adjustment period can be extended to seven years.

Many aspects of this proposal can be discussed, but the contingency defined in terms of investment can be seen as a recognition of not only a need for public investment, but also a risk that fiscal rules may crowd out such investments.

For a start, it is useful to consider actual levels of public investment. Public investment as a share of GDP is rather steady for most countries, although there are examples of reductions, for instance in Italy

and Spain after the Financial Crisis (Figure 1a). But there are also examples of countries, like Denmark and Sweden, having steady levels of investment despite debt consolidation. There is no clear relation between the level of investment and the size of the public sector (Figure 1b). There is thus no general tendency in public investment indicating that it is being crowded out by fiscal frameworks and numerical rules, and the systematic cross-country differences in levels unrelated to the public sector size suggest that there may be different country practices when it comes to recording public investment.

PUBLIC INVESTMENT AND DEBT FINANCING

The debate on public investment and fiscal rules revolves around the question of when debt financing of public expenditure is justified. A key argument for fiscal rules is that a present bias in political decision-making creates an incentive to finance various expenditures with debt, thus pushing the financing into the future and therefore becoming a burden to future generations. The deficit bias view is summarized by Ball and Mankiw (1995, 108): “Thus,

KEY MESSAGES

- **Across EU countries there is no general tendency for public investment to be crowded out by fiscal rules**
- **The notion of investment in the public sector is different from the private sector, and it is problematic to base policy rules on the national account definition of investment**
- **A Golden Rule allowing debt financing of public net investment requires a fundamental change in accounting principles to be applied consistently and raises fundamental implementation issues**
- **Needs for government investment are increasing due to the green transition, energy supply disruption and digitalization, but do not require more complicated fiscal rules**
- **Policy focus on investment can be increased by a continuous in-depth monitoring of public investment and/or separate expenditure targets for public consumption and investment**



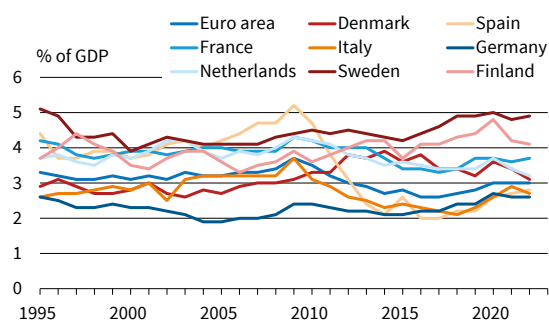
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Figure 1

Public Investments and Public Sector Size

A. Public investments in selected EU countries



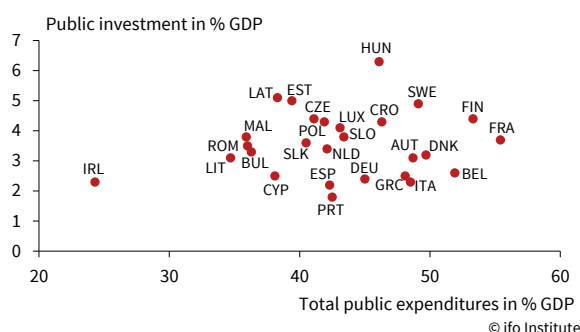
Source: Eurostat.

the winners from budget deficits are current taxpayers and future owners of capital, while the losers are future taxpayers and future workers. Because these gains and losses balance, a policy of running budget deficits cannot be judged by appealing to the Pareto criterion or other notions of economic efficiency.” A large political-economy literature has developed various arguments why deficit biases may arise (for an overview - see e.g., Persson and Tabellini 2000; Calmfors and Wren-Lewis 2011; Alesina and Passalacqua 2017). The key explanations run in terms of short horizons of voters, informational problems, political fragmentation, and common-pool problems. The welfare consequences of a deficit bias and the implied debt accumulation can be summarized by debt servicing causing a wedge between tax payments and current expenditures on, for instance, key welfare areas (social safety net or welfare services; see Andersen 2019). As an example, in Italy net interest payments amounted to 10 percent of GDP in the mid-1990s, more than total spending on education.

An alternative view is that debt is justified if it is caused by investment benefiting future generations. Investments have up-front costs, while the benefits accrue in the future. Under a balanced budget requirement, the dilemma that investments harm current generations to the benefit of future generations may become more visible. This may imply a suboptimally low level of investment, or that investments have detrimental implications for intergenerational distribution. Allowing debt financing makes it possible to invest in the future under the intergenerational Pareto condition that no cohorts are worse off, and future generations are better off (Andersen and Bhattacharya 2020). Moreover, intergenerational distribution arguments may justify debt if future generations are better off than current generations (Calvo and Obstfeld 1988).¹

¹ To see this, assume a utilitarian social welfare function defined over the lifetime utility of different cohorts. If future generations are better off than current generations due to factors such as productivity growth, their marginal utility of consumption would be lower than for current generations. Hence, a utilitarian planner will redistribute from future generations to current generations, and such a policy would imply some debt accumulation.

B. Public sector size and investments, EU countries



The question thus becomes whether there is a case for treating public consumption and investment differently in the fiscal rules, or to phrase it differently, to separate the cases where debt financing is justified from the cases where it is not.

A GOLDEN RULE FOR PUBLIC INVESTMENT?

Public sector accounts are based on a cash accounting principle recording all current expenditures and revenues. While some liabilities, including public sector borrowing and debt, are reported, a complete balance sheet including all assets and liabilities and changes in their value is not made, as is the case for private cooperation following an accrual accounting principle. Specifically, under the latter principle, investments are recorded as assets, and depreciation and maintenance of the capital stock are recorded as current expenditures.

Recording investments as current expenditures in public accounts raises the question of whether accounting principles—and fiscal rules based on them—are biased against public investments, given that the public balance measures financial savings and not total net savings. This is the outset for the proposals for following a so-called Golden Rule approach, where budget rules are defined in terms of total net savings and investments can be debt-financed. The argument is that debt matched by increases in the real capital stock is not a burden on future generations, while debt-financing of current running expenditures is. The Golden Rule implies in the long run that all public debt is backed by real capital. The idea of a Golden Rule for public investment has a long history, going back to Pigou (1928) and Musgrave (1939) - see also Blanchard and Giavazzi (2004); and discussions of modified Golden Rules in Mintz and Smart (2006) and Blesse et al. (2023b).

On theoretical grounds, the Golden Rule principle sounds plausible, but the analogy to private companies is not straightforward. A change to an accrual accounting principle for the public sector is a major and difficult step. A private company makes an investment anticipating to generate revenue to cover the

investment's costs (including maintenance and other items), financing costs, compensation for the risk, and possibly turn a profit. For the public sector, the situation is different. Generally, public sector activities and services are provided for free to the citizens, and this is a crucial part of the motivation for making the public sector responsible for providing these goods. Public activities are determined in a political process without any market test. Moreover, the costs and benefits affect different generations, raising intergenerational issues which do not arise for a private company.

While the public sector² needs to invest in buildings, roads, equipment, infrastructure, etc., the notion of investment is broader and appears in policy areas like education, health, and day-care, where current activities and thus expenditures may affect future employment, wages and so on, and therefore also public finances via both the expenditure and revenue sides of the budget. Recent advances in microeconomic work yield interesting and important insights on this point (Hendren and Supran-Kaiser 2020). The bottom line is that attaching special attention to public investment in the national account sense may introduce a potential distortion of expenditure programmes relative to other areas, which in the broader sense has an investment dimension. The notion of an investment for the public sector is thus broader than and different from that of a private company, and in practice the national account distinction³ between consumption and investment does not precisely target the key elements in the political decision problem.

Moreover, it is not that the political bias is stronger for public investment than consumption. Ribbon-cutting when public investments are inaugurated may attract more attention and public interest than spending money on improvements in education, for instance, which will show its effects through less visible channels several years later. There is also evidence of substantial misallocation of public investment (so-called white elephants) and frequent cost-overruns. The IMF (2015) assesses that the average inefficiency in public investment processes is around 30 percent. Empirical evidence does not find clear evidence that the fiscal rules have had a negative effect on public investment (Blesse et al. 2023a).

PUBLIC POLICIES AND INVESTMENT

In broad terms, the benefit-cost criterion for public expenditures/investments compares the present value of the benefits generated to the present value of the

costs. The latter includes the direct investment costs (including maintenance/reinvestment, etc.) but also includes indirect budget effects arising if the expenditure via behavioural responses affects tax bases and thus tax revenue (or via explicit user payments), or lower expenditures (e.g., on transfers). Debt-financing up to the point that can be covered by this revenue flow (if positive) is unproblematic. If the investment cost is larger, a financing issue arises.

The investment decision is straightforward if a specific public investment generates a future stream of net revenue covering the direct investment, and therefore in that sense finances itself (negative net costs). In this case the project does not worsen, or may even improve, fiscal sustainability, and debt-financing is unproblematic. But few investments are likely to pass that test. However, a neutral or positive effect on fiscal sustainability is not a necessary condition for the investment to be socially worthwhile. This requires that the present value of the benefit stream exceeds the present value of the net costs. Whether a project is socially worthwhile can thus not be judged solely from how it affects fiscal sustainability or whether it involves accumulation of capital. To take a concrete example, an investment in critical infrastructure may, via user payments and effects on economic activity, release a net revenue that covers the investment, but this is unlikely for an investment in a building used as a nursing home, even if the latter is justified on welfare terms.

It follows that debt-financing beyond the level that can be covered by the net revenue stream requires that the budget each year includes an expense that, in present value terms, covers the gap. But the determination of this expense is not trivial, since the project has a social surplus and hence there is a distributional question on how to share the costs. Moreover, this requires continuous monitoring of both the benefit flows and the net revenue flows over the horizon of the investment project.

An additional challenge of fiscal rules explicitly distinguishing between consumption and investment is how to define these concepts and avoid creative accounting, where expenditures are classified as investments to avoid budgetary constraints on running expenditures.⁴ It is thus a difficult and demanding task to introduce the accrual accounting principle, or even elements of it, for the public sector due to a fundamental difference with regard to the private sector.

Finally, it is important to stress that there is no perfect alternative, and existing fiscal rules are also subject to problems, including the risk that investments are underprioritized in the political process discussed above. Moreover, budget rules treating consumption and investments on par can be evaded via

² The public production function depends on labour, real capital, and materials, and generally the wage share is high; that is, labour is the most important input for many activities. In most cases, the degree of substitution between capital and labour is small, and there is thus a tight link between the level of activity and the need for real capital.

³ In national accounts (ESA 2010), public investments are defined in terms of general government gross fixed capital formation, which comprises the total value of general government acquisitions, less disposals, of fixed assets (tangible and intangible), plus additions to the value of non-produced assets (e.g., land improvements) - see Manescu (2021).

⁴ These problems are also showing in assessments of the national Recovery and Resilience Plans (RRPs), which suggests that RRF funds are at least partly used to finance existing investment projects, see Corti et al. (2022).

schemes such as a private-public partnership that includes private financing. While such a partnership may be justified when it makes it possible to diversify risk, provide access to special expertise, or ensure well-defined incentive structures during either the construction or the use of the real capital, this decision should not be driven by incentives to evade budget rules.

POLICY CONCLUSIONS

Manageable and credible fiscal rules have to be simple and therefore involve trade-offs. On the one hand, there is a risk that current rules may imply that public investments—and in particular maintenance—are underprioritized in the political process, but on the other hand do fiscal rules building on specific (Golden) rules of which expenditures can be debt-financed raise difficult accounting issues and may lead to less focus on other forms of investment in the broad interpretation of the concept. Detailed rules that are sufficiently rich to capture all relevant aspects are inevitably very complicated, which raises its own issues in terms of implementation and compliance.

Fiscal frameworks and rules are not a question of fine-tuning of policies but provide guidelines for the political decision process. A pragmatic approach is thus needed, and the risk of “investment biases” can be reduced by a continuous monitoring of public investments in fiscal reporting and by fiscal watchdogs, including more consistent benefit-cost assessments of the projects. This also includes monitoring whether maintenance (reinvestment) gaps evolve and result in a depreciation of the capital stock and larger future investment needs. Expenditure targets can also be split into consumption and investment targets as guidelines. For the latter, separate and detailed reporting can serve to signal whether public investments are under-prioritized. The problem of creative accounting can be minimized via third-party assessments made by fiscal watchdogs.

In the present situation there may be an extraordinary need for public investment, as discussed in the introduction. EU countries are in different positions with respect to the scope for debt-financing—if found justified for specific projects—and debt-financing is possible for some countries and problematic for others due to high initial debt levels. It is neither obvious

that the latter problem has its origin in an absence of rules on public investment nor that this problem is removed by introducing sophisticated fiscal rules for public investment. To overcome this hurdle there is no alternative to credible reforms.

REFERENCES

- Alesina, A. and A. Passalacqua (2017), “The Political Economy of Government Debt”, in J. Taylor and H. Uhlig, eds., *Handbook of Macroeconomics*, Vol. 2, North Holland, Amsterdam, 2599-2651.
- Andersen, T. M. (2019), “Intergenerational Conflict and Public Sector Size and Structure: A Rationale for Debt Limits”, *European Journal of Political Economy* 57, 70-88.
- Andersen, T. M. and J. Bhattacharya (2020), “Intergenerational Debt Dynamics Without Tears”, *Review of Economic Dynamics* 35, 192-219.
- Ball, L. and N. G. Mankiw (1995), *What Do Budget Deficits Do?*, Proceedings - Economic Policy Symposium - Jackson Hole, Federal Reserve Bank of Kansas City, 95-119.
- Blanchard, O. J. and F. Giavazzi (2004), “Improving the SGP through a Proper Accounting of Public Investment”, *CEPR Discussion Papers* 4220.
- Blesse, S., F. Dorn and M. Lay (2023a), “Do Fiscal Rules Undermine Public Investments? A Review of Empirical Evidence”, *ifo Working Paper*, No. 393, <https://www.ifo.de/publikationen/2023/working-paper/do-fiscal-rules-undermine-public-investments-review-empirical>
- Blesse, S., F. Dorn and M. Lay (2023b), *A Targeted Golden Rule for Public Investments? A Comparative Analysis of Possible Accounting Methods in the Context of the Review of the Stability and Growth Pact*, European Parliament, Economic Governance and EMU Scrutiny Unit (EGOV).
- Calmfors, L. and S. Wren-Lewis (2011), “What Should Fiscal Councils Do?”, *Economic Policy* 26, 649-695.
- Calvo, G. A. and M. Obstfeld (1988), “Optimal Time-Consistent Fiscal Policy with Finite Lifetime”, *Econometrica* 56, 411-432.
- Corti, F., D. Gros, T. Ruiz, A. Liscari, T. Kiss-Galfalvi, D. Gstrein, E. Herold, M. Dolls and C. Fuest (2022), “The European Added Value of the Recovery and Resilience Facility: An Assessment of the Austrian, Belgian and German Plans”, *EconPol Policy Report* 39.
- European Commission (2023), *Commission Proposes New Economic Governance Rules Fit for the Future*, 26 April, https://ec.europa.eu/commission/presscorner/detail/en/ip_23_2393.
- Heinemann, F., M. D. Moessinger and M. Yeter (2018), “Do Fiscal Rules Constrain Fiscal Policy? A Meta-Regression Analysis”, *European Journal of Political Economy* 51, 69-92.
- Hendren, N. and B. Sprung-Keyser (2020), “A Unified Welfare Analysis of Government Policies”, *Quarterly Journal of Economics* 135, 1209-1318.
- IMF (2015), *Making Public Investment More Efficient*, Staff Report, <https://www.imf.org/external/np/pp/eng/2015/061115.pdf>.
- Manescu, C. B. (2021), “Public Investment Management in the EU: Key Features & Practices”, *European Commission Discussion Paper* 154.
- Musgrave, R. A. (1939), “The Nature of Budgetary Balance and the Case for the Capital Budget”, *American Economic Review* 29, 260-271.
- Mintz, J. M. and M. Smart (2006), *Incentives for Public Investment under Fiscal Rules*, World Bank, Washington DC.
- Persson, T. and G. Tabellini (2000), *Political Economics - Explaining Economic Policy*, MIT Press, Cambridge.
- Pigou, A. C. (1928), *A Study in Public Finance*, Macmillan, London.
- Reuter, W. H. (2015), “National Numerical Fiscal Rules: Not Complied With, But Still Effective?”, *European Journal of Political Economy* 39, 67-81.