III. The role of the fiscal framework to foster public investment, including in light of the green and digital transitions

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Abstract: *This section discusses the role that the EU fiscal framework may play to promote public investment. It examines public investment developments in the EU since the mid-1990s and provides estimates of additional public and private investment needs up to 2030 for the green and digital transitions. The findings of a review of theoretical and empirical literature suggest that Member States public investment appears to have been adversely affected more by concerns on debt sustainability and related market pressures than by the EU fiscal rules. Still, the fiscal framework may provide stronger incentives to increase and sustain public investment, also during periods of fiscal consolidation. Considering the large additional investment needs to facilitate the green and digital transitions towards a resilient EU economy the section considers some elements that would strengthen the role of the fiscal framework in promoting public and private investment spending.*

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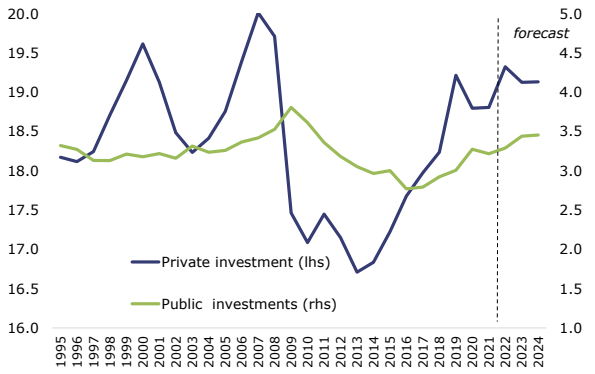
III.1. Introduction

The reform of the economic governance framework aims to contribute to making Europe more resilient by sustaining strategic investment and by reducing high public debt ratios in a realistic, gradual and sustained manner. Together with prudent fiscal strategies and structural reform, public investment contributes to sustainable growth which is key to ensuring fiscal sustainability. Public and private investment increase are also needed to enable the green and digital transition towards a resilient economy.

This section discusses the role that fiscal rules may play in facilitating or promoting investment. When examining investment developments over the past decades it focuses on national account concepts of investment, gross and net fixed capital formation (GFCF and NFCF). Moving beyond the national account definition of investment raises difficulties of defining what exactly constitutes 'investment' with positive future returns. The focus is on *public* investment ([66]). While public investment represents only a small share of total investment and the private sector is responsible for the bulk of EU investment, the public sector plays an important role.

Graph III.1: **Public and private sector investment in the EU (% of GDP)**



Source: European Commission 2022 autumn forecast.

The private corporate and household sectors' investment amounted to around 19% of GDP in 2019 (Graph III.1) compared to the public sector's 3%. Still, the government's role in total investment extends beyond the limited share of public investment including by creating the conditions under which the private investments decisions are taken. Private investment benefits from essential public investments in infrastructure and the macroeconomic conditions (crowding-in) ([67]). Crowding-in effects occur as long as increases in

([66]) For data comparability considerations, the focus is on government investment excluding investment carried out by public enterprises that are not classified in the government sector (e.g., in transportation and communication and energy). Public investment refers here to gross or net fixed capital formation of general government as defined in national accounts, which may include some public corporations when they are considered non-market and hence classified inside the general government sector.

([67]) See ECB (2018), 'Business investment in EU countries', *Occasional Paper Series*, No. 215

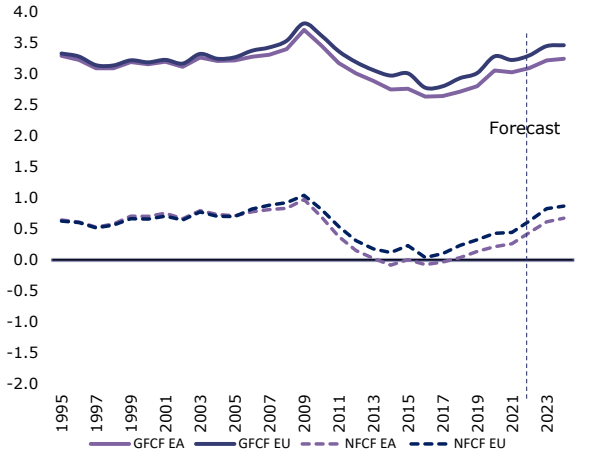
public debt do not trigger high risk premia and increase the cost of financing.

The first section focuses on investment developments and prospects in the EU and Member States since the mid-1990s, including the contribution from the Recovery and Resilience Facility (RRF). The second section presents the private and public investment needs of the twin transition and discusses the role and nature of public funding. The last section discusses how fiscal rules may affect investment.

III.2. Pre-COVID public investment levels did not contribute to raising the capital stock

In the aftermath of the Great Financial Crisis, the EU experienced a widespread and prolonged decline of public investment. Investment could scarcely keep up with depreciation levels, reflected in net investment close to zero on aggregate in the period 2010-2019 (Graph III.2).

Graph III.2: **General government: gross and net investment in the EU/EA (% of GDP)**

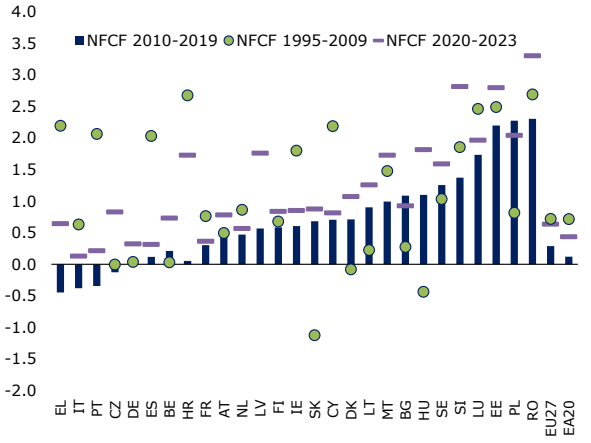


Source: European Commission 2022 autumn forecast.

If sustained, these low public investment levels would result in a gradual but substantial reduction of the public capital stock as a share of GDP in a number of Member States and in the EU/EA on aggregate.

Public investment levels were very uneven across Member States before the COVID crisis. High-debt countries often had very low or negative net investment levels in the period 2010-2019 (Graph III.3). This includes countries that needed to engage in substantial fiscal consolidation in the aftermath of the Great Financial Crisis and sovereign debt crisis under market pressure (Greece, Italy, Portugal and Spain) ([68]). Net investment levels in most of these Member States had been amongst the highest in the EU before the Great Financial Crisis. Empirical research suggests that such investment-based fiscal consolidation is not conducive to fiscal sustainability as public investment and supply-side, productivity-enhancing

Graph III.3: **General government: gross and net investment in Member States (% of GDP)**



Source: European Commission 2022 autumn forecast.

reforms are critical for medium-term growth and essential for debt reduction strategies ([69]).

Divergence across Member States is also reflected in the degree to which debt accumulation has resulted in the building up of public capital. In principle, an increase in government debt that leads to a corresponding increase in the capital stock is neutral for the net asset value of the government sector. In most low- and medium-debt Member States, the accumulation of (net) debt is largely reflected in the accumulation of public capital, although in few Member States (e.g., in FI and LU) it also reflects debt raised due to the accumulation of financial assets of non-debt nature (e.g., equity and investment fund shares). In most high-debt Member States, however, the accumulation of public debt has not been reflected in a higher capital stock indicating that deficit spending has

([68]) Some other Member States, including low-debt countries such as Czechia and Germany, have had persistently low net investment levels (also before the Great Financial Crisis).

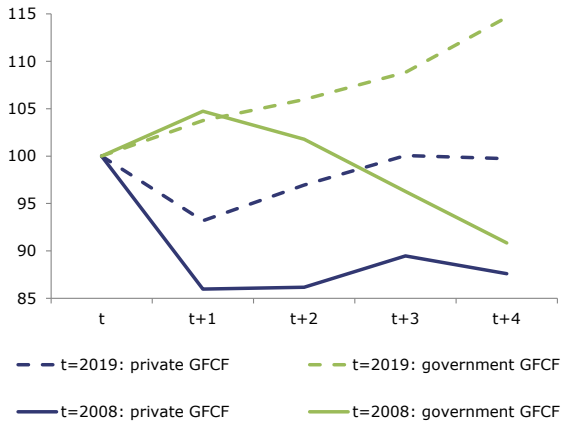
([69]) See Baldacci, E., Gupta, S., and C. Mulas-Granados (2013), 'Debt Reduction, Fiscal Adjustment, and Growth in Credit-Constrained Economies', IMF Working paper, WP/13/238.

not been channeled towards capital expenditure but financed consumption.

III.2.1. An investment boost in response to the COVID-19 crisis

The COVID-19 crisis has not structurally weighed on either private or public investment. Because of the substantial monetary and fiscal policy support, and the explicit recommendation to preserve nationally financed investment. The positive investment developments after the COVID-19 crisis should facilitate a swift and sustained recovery with better medium-term prospects (Graph III.4).

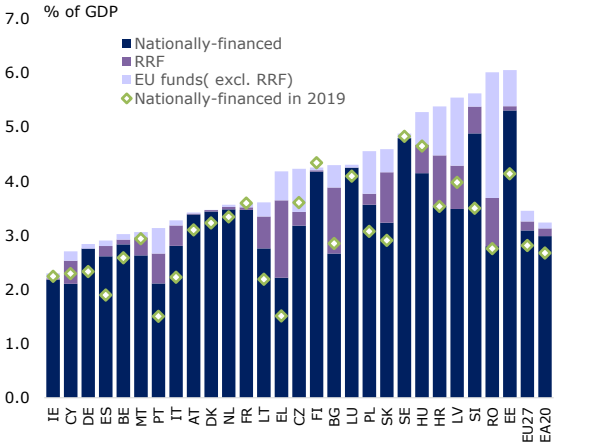
Graph III.4: **Real private and public investment in the EU in the aftermath of the great financial crisis and the COVID-19 crisis (index, t=100)**



Source: European Commission 2022 autumn forecast.

The RRF supports investment in particular in high-debt Member States and central and eastern European Member States. The EU economy experienced a strong recovery after the COVID-crisis, thanks to policy support at both EU and national level. To the extent that the investment is productive and high-quality and comes on top of sustained nationally financed investment, the RFF raises potential growth. In 2022, most Member States preserved nationally financed public investment underpinning a pick-up in overall public investment (Graph III.5). In future years, as fiscal consolidation will be needed to ensure sustainable fiscal positions, sustaining nationally financed investment will require clear prioritisation of expenditures and efforts to improve the composition and quality of public finances. Potential growth should be further supported by consistent implementation of reforms, including those that Member States have committed to in the Recovery and Resilience Plans (RRPs). However, the RRF is a temporary support instrument (up to 2026), while the investment needs of the twin transition will remain substantial in the longer term.

Graph III.5: **Public investments in the EU/EA and Member States and source of financing (2022, %of GDP)**



Source: European Commission 2022 autumn forecast.

III.3. Investment needs to meet the objectives of the twin transitions

The EU's commitment to the twin green and digital transitions, enshrined in the EU Green Deal ([70]) and the EU digital strategy, will require immediate and sustained increased investment levels. Both private and public sector financing will be needed to accommodate these needs ([71]).

([70]) The Green Deal constitutes a comprehensive policy framework supported by EU-level funding. The EU has set strong energy and climate ambitions under the Green Deal, with the headline commitment to achieve climate neutrality by 2050. The Climate Law enshrined this long-term commitment and also updated the intermediate 2030 target, increasing it from a 40% to a 55% reduction in greenhouse gas emissions compared to 1990 levels. The 'Delivering the Green Deal package' is the set of legislative proposals to update the EU climate and energy framework to reach the new targets.

([71]) The investment needs referred to in this section were estimated and published in the context of the Fit-for-55 Package (in SWD (2021) 621 final) for climate, and NextGenerationEU (in SWD(2020) 98 final) for other environmental objectives and digital, respectively. They do not include investments needed for policy developments since then.

III.3.1. Investment needs for climate and energy

Compared to the average of green investments as share of GDP for the period 2011-2020, the annual additional investments needed in this decade correspond to an increase of green investments as share of GDP of approximately 2.9 percentage points. Of this, additional climate and energy investments represent 2.1 percentage points and additional other environmental investments represent around 0.8 percentage points ([72]).

The estimated required increase in investments as a share of GDP of 2.1 percentage points for climate and energy policy objectives covers the needs to decarbonise energy use across the economy as well as the expansion of the economy over the period ([73]). It refers to energy system related investments, including transport. Part of the increase is due to the expansion of the economy over the considered timeframe. This estimate does not factor in future climate adaptation needs ([74]) such as investments dedicated to making existing assets more resilient to climate change or increased costs due to more frequent extreme weather events. Possible compensatory measures are also not covered. On the energy supply side, investments cover mainly the power grid, power plants and new fuels (such as hydrogen and synthetic fuels that will replace fossil-based fuels). On the energy demand side, it concerns investments in energy efficiency and heating systems for buildings, as well as investments in industrial processes and transport. The full cost of new vehicles owned by households for private use (which make up a significant amount of the overall costs) are included, which would be considered as consumption of durable goods in national accounts.

Following Russia's invasion in Ukraine, the EU has taken action to enhance the security of its energy supply, which adds to these investment needs. The REPowerEU plan aims at phasing out the EU's fossil fuel dependence on Russia well before 2030, through diversifying supply and accelerating investments in energy efficiency and renewable energy. These investment needs are additional to the previous projections quoted above for the 2030 climate and energy targets and accelerate the implementation of clean and more efficient technologies. The REPowerEU also proposed to raise the ambition for the renewable and energy efficiency targets by 2030 ([75]).

The additional investment needs to deliver on the other environmental objectives of the green transition (beyond climate and energy) are estimated to require an increase in the share of investment to GDP by 0.8 percentage points ([76]). This figure includes investment gaps in a number of environmental policy areas, ranging from biodiversity to circular economy and resource efficiency, as well as wastewater management and pollution prevention and control.

The investment gap to deliver on a digital transformation in the EU is estimated to be 0.9% GDP per year ([77]). The figure includes investments in digital infrastructure, digital skills and advanced technologies, but leaves out other dimensions such as digital public services. The Digital Compass Communication and the related policy programme "Path to the Digital Decade", adopted in 2022, sets out a policy framework and targets for the digital transformation of the EU to be achieved by 2030 ([78]). An update of the investment needs in view of the new ambitions for the Digital Decade is on-going.

Part of the twin transition investment needs are addressed with EU funds. The EUR 2 trillion budget from the combined NextGenerationEU

([72]) In 2015 prices, the additional public and private investment needs for the green transition in the EU are estimated at around EUR 520 billion annually up to 2030. EUR 392 billion is for climate and energy investments (SWD(2021)621 final), EUR 130 billion is for other environmental investments (SWD(2020)98 final, table 1).

([73]) These estimates refers to the MIX scenario, reflecting a mix of carbon pricing and regulatory sectoral measures presented in SWD(2021)621. The carbon pricing includes the current emission trading system, including aviation, an extension to maritime transport, as well as a new emission trading system for road transport and buildings.

([74]) Investment needs for climate adaptation in the EU are estimated to range between EUR 35 billion and 500 billion annually, the large variation reflecting different underlying assumptions and methodological approaches. See Forster, D., Laan, J., Tippmann, R., et al. (2017), 'Climate mainstreaming in the EU budget: preparing for the next MFF', *Final report*, European Commission, Directorate-General for Climate Action,

([75]) COM(2022) 230final; SWD(2022)230 final.

([76]) See footnote (72).

([77]) See SWD(2020)98 final, table 2. Based on 2018 data, the investment gap has been estimated at EUR 125 billion and comprises investment gaps in communication networks, digital skills and advanced digital technologies and capacities (including high performance computing, cloud, artificial intelligence, blockchain, and cybersecurity, among others).

([78]) COM(2021) 118 final; COM(2021) 574 final.

Recovery Plan and the EU's seven-year budget are oriented towards a greener, more digital and resilient Europe. This corresponds to 1.98% of EU GDP on average per annum ([79]). The EU has increased the climate expenditure target from 20% in the 2014-2020 budget to 30% across the 2021-2027 seven-year budget and the NextGenerationEU. This EUR 2 trillion budget includes the Recovery and Resilience Facility that makes available EUR 723.8 billion in grants and loans. Its Regulation requires that 37% of funding is allocated to measures supporting climate action, and at least 20% to measures supporting the digital transformation. With these commitments, the combined NextGenerationEU Recovery Plan and the EU's seven-year budget contribute approximately 0.36% GDP and 0.14% GDP on average per year respectively to addressing the additional investment needs for the climate and the digital transitions ([80]). In May 2022, the Commission proposed to address the REPowerEU investment needs through the Recovery and Resilience Facility. The proposal adds security of supply to the objectives of the facility and provide further funding ([81]). Private funds will, however, be required to account for the major share of investments, with EU and national budgets providing important complementary funding to support policies and investments.

III.3.2. The different role of private and public funding for the digital and green transitions

Private investment finances most of the digital transformation, as economic returns can largely be attributable to the investors. Private and public investments are considered complementary. Public policy should focus on creating enabling conditions and correcting market failures. For communication networks, complete reliance on private funding can deprive rural populations of the equal access to high-speed connectivity as their urban counterparts, with related negative impact on job opportunities and access to services. Public funding is also crucial in closing the digital skills gaps, for the digitalisation of public services, as well as for cybersecurity for public services and critical infrastructures. When it comes to the development and deployment of advanced technologies, essential for the competitiveness and technological sovereignty of the European economy, public intervention should focus on removing any undue regulatory obstacles, avoid market fragmentation, enhance access to finance for credit constrained innovative SMEs, and provide R&D support. Public funding can play a role in addressing the funding gaps in the scale-up of innovative and strategic technologies. This includes capital-intense sectors with high barriers to entry, where the EU is lagging behind and is too dependent on other regions or on a limited number of companies.

In contrast, environmental and climate policy is based on the need to reduce and internalise negative (environmental) externalities of economic activities and to promote sustainable alternatives, to address market failures. As a result, the green transition is policy driven (rather than market driven), with a major role for the public sector acting as regulator, providing incentives, funding, and the enabling framework to drive investments towards clean technologies. Generally, public finances or policy have a role to fill when there is a lack of private funding, i.e., when the activity is not seen as generating sufficient private returns, or it is considered as too risky. This can be due to various market failures, e.g., asymmetric information, public goods etc. Due to the networks features in the provision of services such as transport, water, and energy, the public sector traditionally also plays a major role in infrastructure investment in these sectors, even if this differs across Member States and sectors. Public investment and public funding play a significant role when the market does not deliver the desired results. It can provide a strong signal and steer the private financing towards activities that support the policy objectives. Finally, it is worth stressing that private financing also plays an important role in the case of the green transition and covers a large share of the investment needs, although less than for the digital transformation.

III.3.3. Indications of the share of private and public funding based on historical investment shares

There are no estimates of the split between the need for private versus public funding for the

([79]) The estimate of 1.98% of EU GDP on average per annum is obtained by taking the combined NextGenerationEU Recovery Plan and the EU's seven-year budget in current prices (EUR 2,02 trillions) divided by EU 2021 GDP in current prices and by 7 years.

([80]) These are rough estimates based on the climate and digital targets,and are subject to underestimating factors as some additional spending in the MFF/NGEU is not covered, and potential overestimation as it assumes that all funding for loans under the RRF will be committed.

([81]) COM(2022)231final

green transition. The available estimate of the investment needs only provide overall figures ([82]). Over the period 2011-2020, the share of public investment in the total investment, was about 15% ([83]) with a high degree of heterogeneity across countries. Bruegel estimates the range between 20% and 25% ([84]) for the future investment needs for the energy and climate dimensions.

On this basis, and taking the total investment needs discussed above, public investment needs for the green transition could be roughly estimated to increase by an indicative 0.4% to 0.7% of GDP on average per year over the 2021-2030 period compared to 2011-2020. This number is to be considered as a rough order of magnitude, as it does not take account of several important dimensions. First, as mentioned above, the estimated total investment needs for the green transition do not only include investment in the strict statistical sense, i.e., GFCF spending, but also some spending that would statistically be classified as consumption, e.g., private cars and household appliances. The fact that the public sector would have a role to incentivise part of these investments through subsidies and tax expenditures are not accounted for. Second, investment or expenditures related to climate adaptation are not included, nor is any compensatory/social expenditure related to the transition ([85]). Overall, the estimated range is subject to a high degree of uncertainty.

The split between public and private investment needs would in practice differ across countries and depend on several factors, including:

- The choice of policy instrument - Policy instruments to achieve greenhouse gas reductions vary in nature, and in their impact on public finances. Their incentivising effect on private investment can also differ. For instance, a subsidy to trigger private investment in electric vehicles would help reduce greenhouse gas emissions in the transport sector through private investment. Similarly, Feed-in premiums (FIPs) can be used to support renewable energy producers and Member States can support energy efficient renovations through tax credits or various financial instruments, such as public guarantee schemes and loan facilities combined with subsidies targeting vulnerable groups. However, these types of measures would have an impact on public budgets either through foregone tax revenue or increased expenditure. On the other hand, taxation on combustion engine vehicles can ensure higher prices relative to clean mobility and therefore incentivises a shift towards clean mobility, and at the same time raises revenues for public budgets. Similarly, and even more cost-efficiently, using greenhouse gas emission trading, such as through the EU Emission Trading System, can incentivise the shift to clean technologies through an efficient price set by the market while producing public revenue through auctioning.

- Economic structure and role of the state in the economy - While this article primarily focusses on general government investment as defined in national accounts, the notion of public investment may also be seen in a broader sense, encompassing investments conducted by state-owned companies (SOEs) that in many instances are classified within the corporate sector in national accounts. The share of public ownership can vary across countries and will notably depend on the share and structure of SOEs. More generally, the ownership of natural monopolies holding network infrastructure, e.g., electricity grids, will vary as these have been privatised in some Member States but not in others. How residential investments are

([82]) The total additional (public and private) investment needs for the green transition in the EU are estimated at around EUR 520 billion annually up to 2030 as described in footnote 72. The Regulation on the Governance of the Energy Union and Climate Action contains a requirement for Member States to analyse additional public finance support or resources to fill identified gaps in the implementation of National Energy and climate Plans (NECP). However, the information provided in practice in the current NECPs are not detailed enough to provide a complete and robust overview of the needs for public funding.

([83]) At Member State level, this ratio varies between 5.9% to 28.5% in 2020, with an average of 14.9%.

([84]) Darvas, Z. and G. Wolff (2021) 'A green fiscal pact: climate investment in times of budget consolidation', *Policy Contribution* 18/2021, Bruegel

([85]) Reallocations of physical and human capital across sectors and regions will be needed and imply adjustment costs, while rising energy prices will have a regressive impact. Also carbon pricing may have regressive impacts if no corrections are in place, for instance related to the use of revenues. First, Member States can take measures to protect those most at risk of energy poverty or vulnerable transport users through direct support, tax reductions on energy bills, or allowances/subsidies for the purchase of clean vehicles or energy efficiency investments. Second, some measures can implicitly affect public finances through automatic stabilisers (i.e. higher unemployment benefits), and through higher costs of living due to higher energy prices and more expensive appliances. Regions and industries in transition could create further public finance needs due to support for the restructuring of the local economy.

classified will depend on the level of public housing. It is clear that the level of public investment in this broader sense will vary from country to country, but it will certainly be significant. Using Orbis data, a study by KPMG and Bocconi University ([86]) shows that in 2015 EU governments had stakes in around 37,000 companies, corresponding to more than EUR 5 trillion of assets (amounting to 40% of GDP of that year). Stakes reflect different degrees of public ownership, from full ownership to minority share holding.

Beyond the issue of the public versus private funding of the investment needs, the government sets the (regulatory) conditions that affect the transitions and the overall economic impact. This concerns in particular reforms that address absorption capacity constraints and facilitate the necessary shifts in the labour market as well as the entry of new businesses and competition in product markets to encourage the adoption of new technologies and a more efficient use of resources.

III.4. The effects of the fiscal framework on public investment

III.4.1. Theoretical and empirical literature on the effect of fiscal rules on public investment

There is a broad range of explanations for low public investment in the EU:

(i) Member States' public investment decisions appear to have been constrained by fiscal pressure and adverse macroeconomic conditions, in particular high public debt ([87]), poor economic conditions ([88]), and especially the global financial crisis ([89]);

(ii) Increased privatisation and the emergence of Public Private Partnerships (PPP) have weighed on public investment ([90]);

(iii) The impact of demographic changes appears not to be clear cut. On the one hand, a larger proportion of elderly people can depress public investment, since elderly people appear to discount future payoffs more heavily than younger people. Similarly, there is persuasive evidence in favour of the 'social dominance' hypothesis in the sense that social expenditure growth is a strong determinant of future negative growth in public investment ([91]) ([92]). On the other hand, rising longevity could heighten the demand for long-lasting public goods, since more people live long enough to take advantage of the investments made ([93]) and investment is required to transform current savings for retirement into future (higher) consumption;

(iv) Structural factors behind lagging and sub-optimal investment reflect ineffective public investment management such as lack of investment pipelines, inadequate administrative capacity, poor governance and weak institutions.

At the same time, there has been a lively debate on the impact of fiscal rules on public investment. From a *theoretical* point of view, the relationship between fiscal rules and public investment is ambiguous. Some argue that fiscal rules have a negative impact on public investment, since they could (i) distort the relationship between investment and current expenditure ([94]) and thereby favour projects with higher short-term

([86]) See European Commission (2018), 'Public Assets: What's at Stake? An Analysis of Public Assets and their Management in the European Union', European Economy Discussion paper 89.

([87]) Bacchiocchi, E., E. Borghi and A. Missale (2011), Public investment under fiscal constraints, Fiscal Studies, 32(1), 11-42; Vuchelen, J. and S. Caekelbergh (2010), Explaining public investment in Western Europe, Applied Economics, 42(14), 1783-1796.

([88]) Mehrotra, A. and T. Välilä (2006), 'Public investment in Europe: Evolution and determinants in perspective', *Fiscal Studies*, 27(4), 443-471.

([89]) European Commission (2017), Report on Public Finances in EMU.

([90]) See e.g. model by Easterly, W. (1999), When is fiscal adjustment an illusion? World Bank Policy Research Working Paper 2109, that suggest that this is not a purely statistical effect.

([91]) Delgado-Téllez, Mar, et al. (2022), The decline in public investment: "social dominance"or too-rigid fiscal rules?, Applied Economics, 54.10: 1123-1136, analyse the determinants of social and public investment expenditure dynamics and the interrelation between them. Their results show strong support for the "social dominance hypothesis", in the sense that social expenditure growth is a strong determinant of future negative growth in public investment. They also find that the flexibility of the fiscal rules does not seem to have played a significant role, once other first-order determinants are taken on board.

([92]) Jäger, P. and T. Schmidt (2016), 'The political economy of public investment when population is aging: A panel cointegration analysis', *European Journal of Political Economy*, 43, issue C, 145-158.

([93]) Gonzalez-Eiras, M. and D. Niepelt (2012), 'Ageing, government budgets, retirement, and growth', *European Economic Review*, 56, 97-115.

([94]) Buiter, W. (1984), Measuring aspects of fiscal and financial policy, NBER Working Paper 1332.

against long-term returns ([95]) or (ii) lead to asset decumulation, e.g., due to inefficient (and excessive) privatisation ([96]). Others argue that fiscal rules have a positive impact on public investment, since they may (i) mitigate the deficit bias and create fiscal space for sustainable investment in the long run ([97]) or (ii) reduce the overspending bias in ideological and less productive investment ([98]).

III.4.2. The impact of the current EU fiscal rules on public investment

Empirically, the current fiscal rules appear to have had neither an encouraging nor a discouraging direct impact on public investment. Evidence from the early years of EMU finds no meaningful effects of EU fiscal rules on public investment ([99]). However, the short sample period makes an assessment challenging. The few available studies show that Member States tend to have been constrained in their investment decisions by the need to ensure debt sustainability and market pressure rather than by the EU fiscal rules ([100]). In fact, as indicated in the Commission Communication of 5 February 2020, the essential role of public investment to deliver public goods and to support sustainable public finances is well recognised in the EU's fiscal framework. There are provisions in the fiscal framework that have sought to protect the level of public investment during downturns and to incentivise the implementation of structural reforms, which contribute to sustainable public finances, including by raising potential growth. Overall, however, evidence shows that the current fiscal framework did not prevent a decline in the level of public investment during periods of fiscal consolidation, nor did it make public finances more growth-friendly, reflecting deliberate policy choices in the Member States ([101]). The investment clause does not appear to have had a substantial positive impact on public investment (see Section III.4.3) and the structural reform clause has had a rather limited success in promoting reforms. During periods of fiscal consolidation, it has often been more expedient to cut public investment or increase taxes rather than rationalising other expenditure items. In the downturn that followed the 2008 economic and financial crisis, under market pressure, Member States pursued fiscal adjustment by cutting public investment, often having a pro-cyclical impact. At the same time, fiscal rules coexisted with a low level of investment and failed to bring the long-lasting decline of public investment to a halt.

III.4.3. Enhancing the role economic governance framework to promote investment

While the Stability and Growth Pact (SGP) is in principle neutral – not prescriptive – regarding the composition of public revenue and expenditure, it currently includes clauses for investment and structural reforms. These provisions are limited in scope and have been used only infrequently ([102]).

There is broad consensus on the need to strengthen provision in the governance framework to address the strong need to boost investment, both private and public, to make a success of the twin transition ([103]). Paying specific attention to

([95]) Based on this line of reasoning, voters seem to be rather insensitive to cuts in public investment in times of fiscal pressure, given its limited visibility and more diffuse character (Buiter, W. (1984), Measuring aspects of fiscal and financial policy, NBER Working Paper 1332.; Blanchard, O. and F. Giavazzi, 2004): Improving the SGP through a proper accounting of public investment, CEPR Discussion Paper, 4220, February).

([96]) Easterly, W. (1999), When is fiscal adjustment an illusion? World Bank Policy Research Working Paper 2109.

([97]) Turrini, A. (2004): Public investment and the EU fiscal framework, European Economy. Economic Papers, 2002, May.

([98]) Beetsma, R. and van der Ploeg, F. (2007): The political economy of public investment, CEPR Discussion Paper DP6090, February. Galí, J. and Perotti, R. (2003), Fiscal policy and monetary integration in Europe, Economic Policy 18, 533-572; Turrini, A. (2004): Public investment and the EU fiscal

([99]) Galí, J. and Perotti, R. (2003), Fiscal policy and monetary integration in Europe, Economic Policy 18, 533-572; Turrini, A. (2004): Public investment and the EU fiscal framework, European Economy. Economic Papers, 2002, May; Perée, E. and T. Välilä (2005): Fiscal rules and public investment, Economic and Financial Report, 2005/02; Heinemann, F. (2006): Factor mobility, government debt and the decline in public investment, IEEP, 3, 11-26. Mehrotra, A. and T. Välilä (2006): Public investment in Europe: Evolution and determinants in perspective, Fiscal Studies, 27(4), 443-471.

([100]) Bacchiocchi, E., E. Borghi and A. Missale (2011), Public investment under fiscal constraints, Fiscal Studies, 32(1), 11-42. Heinemann, F. (2006): Factor mobility, government debt and the decline in public investment, IEEP, 3, 11-26.

([101]) European Commission (2022), Do negative interest rate-growth differentials and fiscal rules matter for the quality of public finances? New evidence, Report on Public Finances in EMU 2021, Institutional Paper 181, July, 59-86.

([102]) For example, the investment clause focused on the specific situation of a deep downturn and has only been used twice, while the structural reform clause has been applied five times but with limited success in promoting reforms. For further info, see Commission Communication of 23 May 2018 on "the review of the flexibility under the Stability and Growth Pact", COM(2018) 335 and Commission Communication of 5 February 2020, 'Economic governance review: Report on the application of Regulations (EU) No 1173/2011, 1174/2011, 1175/2011, 1176/2011, 1177/2011, 472/2013 and 473/2013 and on the suitability of Council Directive 2011/85/EU1', COM(2020) 55.

([103]) Calls for strengthening public investment were also supported by the challenging economic conditions and low interest rate environment prior to the 2022 increase in rates. Blanchard, O.

how the economic governance framework can promote investment is also key in view of the positive effects of investment (and growth enhancing reforms) on debt sustainability.

Some argue for golden rule type provisions that allow for debt-financing of (net) public investment. Such provisions would give a clear incentive to prioritise investment over other expenditure categories, while the limited experience so far does not allow to draw robust conclusion on their effectiveness ([104]). The scope could be different depending on whether social, economic and or environmental considerations prevail. For instance, one possibility would be to support (global) public goods, whose benefits extend largely across borders. The main example of such (global) public goods concerns investments that aim to reduce CO2 emission and address climate change. In the context, Darvas and Wolff (2021) call for a 'green' golden rule to be superimposed to the current adjustment provisions of the preventive arm of the SGP ([105]). At the same time, they also create measurement challenges and make fiscal rules more complex. They also could incentivise creative accounting, which could pose challenges in terms of statistical validation in the context of budgetary surveillance. The proliferation of calls for specific 'golden rules', e.g., to cover military expenditure, tends to confirm the concerns about the viability of the golden rule approach. There may also be a need to consider trade-offs in terms of debt sustainability of additional debt financing for golden rules where those concerns are most pronounced.

A medium-term approach to economic governance based on comprehensive plans covering investment and reform commitments may help public investment planning. Specific incentives may further contribute to safeguarding and raising investment in the plans. Adequate enforcement provisions and strong national ownership of the plans including the investment commitments should contribute to full implementation and ensure that investment is not reduced to achieve necessary fiscal adjustment. Finally, by credibly strengthening debt sustainability and sustainable growth the revised governance framework should contribute to improving the conditions for private investment as well.

Moreover, well-designed national rules and institutions may contribute to better quality of public finances with higher investment levels (see also Section IV). When. measured by the strength of national fiscal rules index or the World Bank's effectiveness of institutions' index well-designed national rules and institutions appear to reduce the negative impact of public debt on public investment ([106]). Sound institutions contribute not only to the quantity of public investment, but also to its quality. In advanced economies, about a fifth of public investment spending is lost to inefficiencies, half of which results from poor public investment practices throughout the investment cycle ([107]). Public investment management could be improved in a number of ways ([108]):

(i) Better strategic planning, that is fiscally realistic and linked to the annual budgetary process, could provide much needed stability while avoiding rushed spending decisions ([109]). By limiting underspending, targets on capital expenditure, for example, as part of a stable medium-term budgetary framework, offer a good way to both protect capital availability throughout the projects' lifetime while grounding spending decisions in the strategic plan.

(ii) Furthermore, independently reviewing project appraisals can reduce the optimism bias inherent in most projects appraisals. In terms of project implementation, good practice suggests, inter alia, the need to define responsibilities and accountabilities, need for standardised rules for

(2019), 'Public Debt and Low Interest Rates', *American Economic Review*, 109(4), 1197-1229.

([104]) See Basdevant et al 2020.

([105]) Darvas, Z. and G. Wolff (2021) 'A green fiscal pact: climate investment in times of budget consolidation', *Policy Contribution* 18/2021.

([106]) European Commission (2017), *Report on Public Finances in EMU*.

([107]) Baum A., Mogues T., and Verdier G., (2020), 'Getting the Most from Public Investment', Chapter 3 in Well Spent: How Strong Infrastructure Governance Can End Waste in Public Investment, Schwartz, G., Fouad, M., Hansen, T., and Verdier G. (eds.), International Monetary Fund, Washington, DC.

([108]) See Belu Manescu C. (2022), 'New Evidence on the Quality of Public Investment Management in the EU', European Economy Discussion paper 177, European Commission.

([109]) OECD (2017), 'Getting Infrastructure Right: a Framework for Better Governance', OECD Publishing, Paris; IMF (2018), 'Public Investment Management Assessment – Review and Update', International Monetary Fund, Washington, DC; Kim J.H., Fallov J. A., and Groom S, (2020), 'Public investment management reference guide', International Development in Practice. Washington, DC: World Bank. doi:10.1596/978-1-4648-1529-4. License: Creative Commons Attribution CC BY 3.0 IGO (eds.).

project adjustment and efficient procurement systems.

(iii) Finally, the entire system can benefit from regularly carrying out ex-post reviews of implemented projects, whose lessons could feedback into future rules for project design. While patchy, existing evidence in the EU suggests that room for improvement exists in most countries, to varying degrees, and that much can be learned from each other.

Complementing the EU governance framework and fiscal rules with strengthened national budgetary processes could in particular better incorporate the impact of climate change and climate policies. For example, green budgeting, mainstreaming and debt sustainability assessments would contribute to a better-informed decision-making. More generally, specific attention could be paid to the composition and quality of public finances, the adequacy and efficiency of investments to support the twin transition and public investment bottlenecks in the context of the broader economic governance framework. Such enhanced analysis and monitoring could strengthen incentives for reorienting spending towards climate investment.

III.2. Conclusions

While the economic literature does not suggest that EU fiscal rules have had an overall negative nor positive effect on public investment, there is broad consensus that the revision of the fiscal framework should contribute to strengthening investment spending. Golden rule type provisions may give incentives to prioritise investment over other expenditure categories, but in practice create measurement and definition challenges and make fiscal rules more complex and subject to creative accounting.

A medium-term approach to economic governance in which surveillance is based on comprehensive plans covering fiscal, reform and investment commitments may be a more effective way forward, especially when complemented with additional provisions and incentives for raising investment.