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# IN SICKNESS AND IN HEALTH: PROTECTING AND SUPPORTING PUBLIC INVESTMENT IN EUROPE

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## Highlights

- The long-term decline in gross public investment in European Union countries mirrors the trend in other advanced economies, but recent developments have been different: public investment has increased elsewhere, but in the EU it has declined and even collapsed in the most vulnerable countries, exaggerating the output fall.
- The provisions in the EU fiscal framework to support public investment are very weak. The recently inserted 'investment clause' is almost no help. In the short term, exclusion of national co-funding of EU-supported investments from the fiscal indicators considered in the Stability and Growth Pact would be sensible.
- In the medium term, the EU fiscal framework should be extended with an asymmetric 'golden rule' to further protect public investment in bad times, while limiting adverse incentives in good times. During a downturn, a European investment programme is needed and the European Semester should encourage greater investment by member states with healthy public finances and low public investment rates. Reform and harmonisation of budgeting, accounting, transparency and project assessment is also needed to improve the quality of public investment.

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## DEVELOPMENTS IN PUBLIC INVESTMENT

Unfortunately, comprehensive data on public investment is not available. The most widely used indicator, gross fixed capital formation, is a very imprecise measure of public investment, because it is largely a gross measure (ie it includes capital depreciation) and does not include investment by state-owned enterprise (SOEs) (see Appendix 1 for details). However, we must use this indicator because no other indicator is available for assessing long-term trends.

### *Long-term trends*

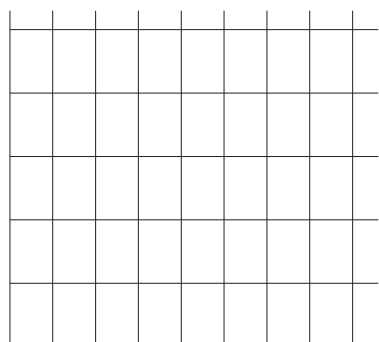
Panel A of Figure 1 indicates that public investment in the main advanced countries has been characterised by a long-term downward trend since the early 1970s, while in the four cohesion countries of the EU15 (Greece, Ireland, Spain and Portugal) and in the 12 member states that joined the EU between 2004 and 2007 (EU12) there was a gradual increase from 1995 up to 2008/2009. Since then, most countries have moved from expansive fiscal policies to very tight policies, with fiscal programmes heavily focusing on public investment.

As for the non-cohesion EU15 countries (a group we call EU Core), general government gross fixed capital formation has dropped from about 4.5 percent of GDP in 1970 to less than 2.5 percent. A minor decline is also evident for the United States, for which gross fixed capital formation has out-

performed that of the EU Core since 1996. Switzerland and Canada have somewhat higher public investment ratios than the EU-Core countries, while Japan used to have much higher investment rates, despite the major decline since 1995.

This long-term decline has not been offset by private gross fixed capital formation. In Panel B of Figure 1 it is evident that private-sector investment also declined between 1970 to 2013 in EU-Core countries, and also in Japan, Switzerland and to a lesser extent in Canada. In the four EU15 cohesion countries, there was also a gradual decline from 1970, but this lasted only until the mid-1990s, when a major investment boom started, which lasted until the global financial and economic crisis.

A number of hypotheses on the determinants of the slowdown in public investment have been proposed. One seminal contribution is Mehrotra and Vålilä (2006), who present a critical discussion of the determinants of the slowdown and provide evidence with a panel co-integration model for 1970-2003 for EU member states. One of their main findings is a negative effect on public investment of discretionary fiscal consolidation and of high public debt. The cost of debt financing and the effort required to join EU economic and monetary union do not seem to be significant, in contrast to many arguments on the negative effect of the introduction of Maastricht requirements on public investment. Yet gross fixed capital formation also declined in Switzerland and Canada until the mid-



2000s, despite their healthy public sectors, which might bring into question the importance of fiscal consolidation episodes. Mehrotra and Vällilä (2006) also argue that it is unlikely that any political drive toward a smaller economic role for the state can account for the decline in public investment, because the share of tax revenue to GDP has not become less significant in recent decades. Straub and Tchakarov (2007) add that in parallel with the decline in public investment, public consumption in the EU15 has increased. They also note that public-private partnerships are a relatively recent phenomenon that have become significant only in a few EU countries, and cannot therefore explain the long-term decline in public investment.

Overall, we conclude that the long-term decline in EU government gross fixed capital formation is broadly in line with developments in other advanced economies. However, the developments during the global and euro-area financial and economic crises were strikingly different.

### Recent developments

Government investment has been a primary target for fiscal consolidation. Panel A of Figure 1 indicates that the share of public gross fixed capital formation in GDP declined from 4 percent in 2009 to 1.5 percent in 2013, on average, in Greece, Ire-

land, Spain and Portugal. At the same time, private gross fixed capital formation also collapsed in these countries, from more than 25 percent of GDP in 2007 to less than 15 percent in 2013. There was also a sizeable fall in public gross fixed capital formation in the 12 EU member states that joined the bloc between 2004 and 2007 (the EU12), and a minor decline in EU-Core countries. These developments are in contrast to Canada, Japan and the United States, where public gross fixed capital formation has increased in recent years.

Table 1 looks at the composition of the change in public expenditure from 2009 to 2013, net of bank recapitalisation by the public sector. For all EU country groups, capital expenditure (defined here as gross fixed capital formation and capital transfers excluding bank recapitalisation) fell more than other primary expenditure categories between 2009 and 2013 in nominal terms<sup>3</sup>. There was a particular collapse in the four EU15 cohesion countries (51 percent) and in Italy (24 percent). In the other EU-Core countries, capital expenditure slightly declined (by 1 percent) between 2009 and 2013 in nominal terms, while all primary expenditures increased by 9 percent. These developments in the EU were in contrast to developments in the United States and Switzerland, where capital expenditure increased more rapidly than other primary expenditure (such

**Table 1: Fiscal adjustment strategies by main expenditure categories, % change from 2009 to 2013 (in current prices)**

	GR, IE, PT, ES	Italy	10 other EU15	EU12	United States	Switzerland
Total expenditure	-9	1	9	9	9	11
Interest expenditure	48	15	15	27	89	-6
Primary expenditure	-12	-1	9	8	4	11
Compensation of employees	-13	-4	7	3	3	10
Current transfers	1	7	12	11	12	11
Other current primary expenditure	-19	-6	8	15	-13	13
Capital expenditure	-51	-24	-1	-7	20	14

Source: Bruegel using the November 2013 AMECO. Notes: EU12 refers to the member states that joined the EU between 2004-2007. EU15 refers to member states before 2004. GR, IE, PT, ES = Greece, Ireland, Portugal, Spain. The aggregates involving countries with different currencies were calculated using constant exchange rates and therefore exchange rate fluctuations do not affect the values shown. Capital expenditure is the sum of gross fixed capital formation and capital transfers (see Appendix 1 for the definitions). Capital transfers also include public sector support to bank recapitalisation. Since we do not have detailed data on bank support, for countries in which the 2009 value of capital transfers was more than 10 percent larger than in 2006 and 2007, we used the average of 2006-07 capital transfers for 2009, instead of the 2009 actual capital transfers. We made such a correction for: Belgium, Cyprus, Finland, Greece, Ireland, Latvia, Malta, Netherlands, Poland, Portugal, Slovakia, United Kingdom and United States. We also corrected the 2013 capital transfers data for Slovenia (unusually high transfer), Slovakia (negative transfer), Netherlands (unusually low transfer) and Greece (unusually high transfer): for Slovenia, Slovakia and the Netherlands we used 2012 data, while for Greece we used 2014 forecast (because 2012 data was also unusually high due to recapitalisation).

4. 'Economic affairs' has  
nine sub-components: 1

But what are the provisions in the EU's fiscal framework that should shield productive investment when member states implement their budgetary policies? We list three aspects plus the supporting role of the EU budget.

First, the Stability and Growth Pact (SGP) was strengthened by the recent reforms, making the EU fiscal rules more stringent. In particular, the so-called Six-Pack<sup>8</sup> operationalised the public debt limit of 60% of GDP and the excessive deficit procedure (EDP) which sets a maximum of 3% of GDP for the public deficit and a maximum of 0.5% of GDP for the public investment deficit.

8. The Six-Pack consists of five regulations and one directive, which entered into force in December 2011 for all EU countries. See [http://ec.europa.eu/economy\\_finance/articles/governance/2012-03-14\\_six\\_pack\\_en.htm](http://ec.europa.eu/economy_finance/articles/governance/2012-03-14_six_pack_en.htm).

9. In November 2013, European Commission (2013) reported that four countries have applied for the investment clause, namely Bulgaria, Italy, Slovakia and Romania, of which Italy (because it breached the debt reduction rule) and Slovakia (because it did not correct the excessive deficit in a lasting way) did not qualify, while the assessment for Bulgaria and Romania is ongoing.

ing role of the EU budget, which aims to facilitate better use of EU funds by: (i) reprogramming funds towards the end of the end of the programme period, and (ii) the reduction of national co-financing through a temporary increase of co-financing rates up to 95 percent for assistance for member states with the greatest difficulties (Greece, Hungary, Ireland, Latvia and Portugal). Figure 2 shows that EU-supported investment (including the national co-financing) was a very high share of public investment in most member states that joined the EU in 2004-2007, while the share is about one-half in Portugal and one-third in Greece. In other EU15 member states, including Spain and especially Ireland, the share is small.

How significant can these provisions be in preserving public investment? Not very, in our view. Most EU countries were under the excessive deficit procedure during the fiscal adjustments of recent years and therefore would have not been able to benefit even from the modest investment clause, had that been introduced earlier. In the preventive arm, the treatment of public investment can have only limited effect. One reason for this is that the 3 percent budget deficit threshold and the debt reduction rule have to be respected for getting a temporary deviation from the MTO, but as Darvas (2013a) argued, it will be a major challenge for Italy and Spain to meet the debt reduction rule. Moreover, another condition for getting temporary deviation from the MTO is that the investment should be co-funded by the EU, but for Spain, Italy and Ireland, the share of EU-funded projects in total public investment was rather

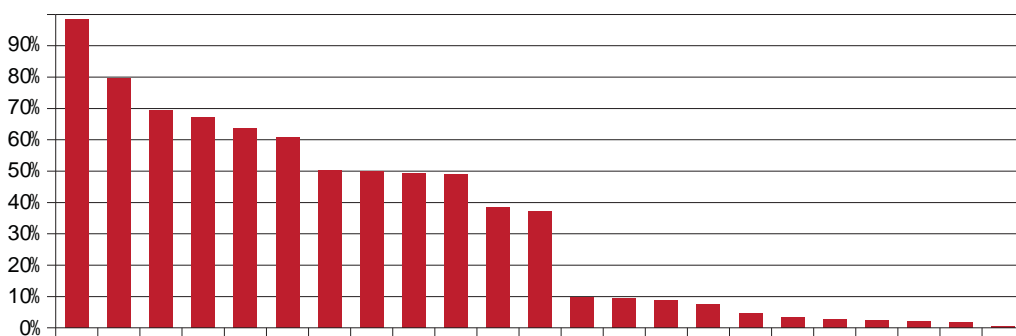
small during 2009-11 (Figure 2) and this is unlikely to change in the future.

Therefore, we conclude that the EU's fiscal framework is not really conducive to preserving public investment during economic slumps.

### AN ASYMMETRIC GOLDEN RULE FOR EUROPE?

The dismal record with public investment during the crisis and the inability of the EU's fiscal framework to preserve such investment should raise once again the issue of the incorporation of an appropriate 'golden rule' in the EU fiscal framework. A golden rule would mean a fiscal rule that excludes capital expenditure from the computation of budget deficit requirements. The European Parliament (2013) proposal, which was not acted on by the Commission, would be a light form of the golden rule, which would exclude investment co-funded by the EU from the Stability and Growth Pact (SGP) deficit requirement (see the previous section). Beyond this proposal, the question of a more comprehensive golden rule exempting 'all' or 'most' public investment should also be considered. Consideration of it should include whether such a rule should be symmetric over the business cycle or if it should be asymmetric in the sense of having different provisions for economic expansions and recessions.

A golden rule would have a strong rationale; see for example Blanchard and Giavazzi (2004), who advocated the exclusion of net public investment from the deficit considered in the SGP and the











respected, is of almost no help. Therefore, something more decisive has to be done.

Unfortunately, the European Parliament's October 2013 call to exclude, permanently and unconditionally, all national co-funding of EU-supported investments from the fiscal indicators considered in the Stability and Growth Pact, has not been acted on so far. In the short term, given the difficulties in making a more significant modification to the EU fiscal framework, this proposal would be a sensible way to support investment, even though it would have rather limited impact: in Spain, Cyprus, Italy and Ireland (four older EU member states with high public debt ratios) the share of EU-supported investment is rather low, while in Greece, Portugal and the newer member states national co-financing is typically small. Yet even some help is better than none.

But in the medium term, more ambitious support for public investment should be considered. A kind of asymmetric golden rule, which would exclude a measure of net public investment from the fiscal indicators of the SGP at least during recessions, would be a sensible option. Such a rule would have strong rationale, because it would lead to more a growth-friendly composition of fiscal consolidation, thereby limiting the fall in output and employment in the short term, and offering better growth prospects for the medium/long-term. The rule may also be asymmetric during the business cycle and work differently in good and bad times. In good times, it should be formulated in a way to prevent perverse incentives, such as an excessive preference of physical infrastructure over other growth-related expenditure. In bad times, the

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APPENDIX 1: WHAT IS PUBLIC INVESTMENT? SOME DEFINITIONS AND CLARIFICATIONS

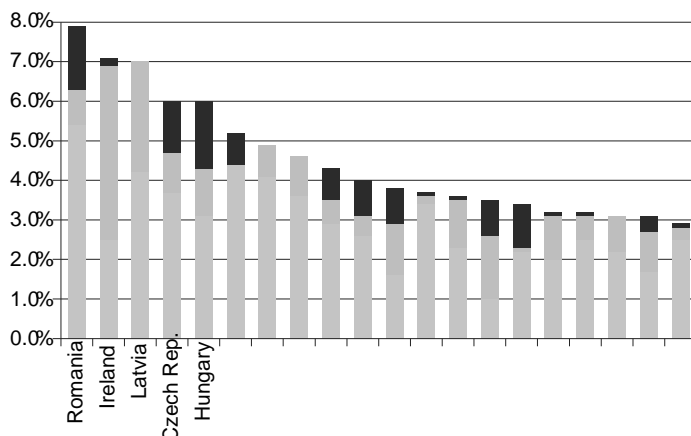
Conceptually, investment directly financed from the budgets of public sector entities should be considered as public investment, but it is extremely difficult to measure it and all available indicators are imprecise. Here we consider the following indicators:

- Gross fixed capital formation of the general government;
- General government gross capital expenditure;
- Net fixed capital formation of the general government;
- Public-private partnerships (PPPs);
- Investment by state-owned enterprises (SOEs) and privatisation of SOEs.

The most widely-used indicator of public investment is gross fixed capital formation (GFCF) of the general government. This deals with produced tangible and intangible non-financial assets (eg dwellings, machinery, cultivated assets, software, major improvements to existing assets, land reclamation, etc). Financial assets, such as the ownership of companies, are excluded. It is important to notice that state-owned enterprises (SOEs) that are treated as 'market operators', such as railway companies or power-grid companies, are classified in the corporate sector and not as part of the general government, and therefore government GFCF potentially excludes a large part of infrastructure investment.

An alternative measure of gross public investment is the sum of gross fixed capital formation and government capital transfers. But a drawback of this measure is that capital transfers also include government subsidies to private investments that are not a component of public investments. In Figure 3 we compare gross fixed capital formation plus capital transfers (ie capital expenditure), and distinguish within the capital transfers the share of 'investment grants' that in principle should net out the effect of other capital transfers that do not entail creation of fixed capital.

Figure 3: Gross fixed capital formation, investment grants and other elements of capital transfers (percent of GDP), 2011



Source: Eurostat database, Government national accounts. Note that data on capital transfers and investment grants is not available for the EU member states not included in the figure.

Certainly, net capital formation would be a better indicator of investment than gross capital formation, since usage and time depreciates the capital stock. A positive gross investment may actually imply disinvestment (ie decline of the capital stock), if gross investment does not reach the value of depreciation. GFCF of the general government is a gross measure in the sense that it does not consider depreciation, yet it also has a net component in the sense that the value of the acquisition of new investments is netted against sales or other disposals of existing capital goods.

ation, the differences between gross and net investment can be quite significant, as Figure 4 shows. In a number of countries (Italy, Belgium, Germany, Austria, Portugal, Spain, Czech Republic, Slovakia and Greece) gross investment in 2012 was below capital depreciation and therefore the net public capital stock has declined. Unfortunately, it is even more difficult to measure capital depreciation than gross investment and therefore net capital formation is a less reliable indicator.

Figure 4: Gross and net public investment (capital formation), % of GDP, 2013

Source: AMECO database. Note: 2012 data for the US, 2010 data for Canada. Net fixed capital formation is available at current prices and then expressed as a share of GDP.

Public-private partnerships (PPPs) further complicate the measurement of public investment. PPPs are an innovative financing mechanism of infrastructure investments. Until 2004, the treatment of PPPs in national accounts was not uniform across Europe, in the absence of EU-wide guidelines. The novelty of the instrument and the different treatment by EU member states is also reflected in the absence of systematic data on PPPs. The European PPP Expertise Centre (EPEC)<sup>18</sup> regularly monitors European PPPs; according to EPEC, the aggregate value of PPP transactions that reached financial close on the European market in the first half of 2013 amounted to €9 billion, which is a rather small amount





