

Towards a golden rule of public investment in Europe¹

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1 Introduction

As the euro area economy is still far away from full recovery and inflation continues to be extremely low, the insight of both the public and policy makers as to the necessity of a macroeconomic policy change has increased, recently. The calls for a more expansionary fiscal stance, above all for a boost to public – or publically supported – investment have become louder, with the Investment for Europe Plan (Juncker-Plan) as the most prominent official policy reaction. Even before that plan there were some initiatives – as the introduction of the so called “investment clause” under the Stability and Growth Pact (SGP) – to support and protect public investment. However, quite obviously, those past initiatives have failed, as public investment in the euro area has decreased substantially since the onset of the crisis. In the so called periphery countries public investment expenditures have dramatically shrunk as a result of the austerity policies imposed on those member states.

Obviously, a different approach to fiscal policy and to supporting public investment is needed. One natural candidate for such an approach would be the so-called golden rule of public investment. The rule is widely accepted in the traditional public finance literature and would allow financing net public investment by government deficits thus promoting intergenerational fairness as well as economic growth. Public investment increases the public and/or social capital stock and creates growth to the benefit of future generations. Future generations contribute to financing those investments via the debt service. Failure to allow for debt financing will lead to a disproportionate burden for the present generation via higher taxes or expenditure cuts and therefore most probably to underinvestment which is exactly what has happened in Europe under the austerity policies.

¹ This article is based on a more comprehensive study written for the Austrian Chamber of Labour (Truger, 2015a).

The EU Commission has to date strongly resisted the introduction of such a golden rule, because supposedly it would not fit into the fiscal framework of the reinforced SGP and the fiscal compact and put fiscal sustainability at risk (European Commission, 2004, p. 132 and 2012, p. 25). This, however, is somewhat ironic: Even the conservative German council of economic experts, as high ranking body of policy advice, not exactly known for an inclination towards loose budgets, had included the golden rule in its proposal for a German debt brake (SVR, 2007). Hence, the original blueprint for the German debt brake – and therefore also for the Fiscal Compact on the European level – included, in fact, a golden rule for public investment.

Therefore, the present article states the case for a golden rule and presents a concrete proposal for its introduction in the EU in order to strengthen and protect public investment and to increase growth in the short as well as in the long run while at the same time not sacrificing fiscal sustainability. Section 2 will give a brief account of the development of public investment over the last 15 years and show that austerity in the wake of the euro crisis has, in fact, led to disproportionately large cuts in public investment. Section 3 will present an attempt at operationalizing the theoretical concept of the golden rule. The basic theoretical idea and the short as well as long run growth effects of traditional public investment will be presented. Definitions of public investment different from the standard one from the national accounts will be discussed. Section 4 will then turn to the question of implementing the golden investment rule in the present European fiscal policy framework. The golden rule of public investment and a European Investment Program – similar to the 2008 European Recovery Programme – could be combined to boost and safeguard public investment and support the recovery. Section 5 briefly concludes.

2 Austerity and the neglect of public investment

Fiscal policy in most developed economies has been dominated by consolidation measures after the strong increase in government debt as a result of the global financial and economic crisis in recent years. Fiscal restriction was particularly strong in the euro area because of the strict fiscal framework of the SGP and the additional policy reactions after the onset of the euro crisis. Above all the so called periphery countries (Greece, Ireland, Portugal and Spain) whose government bonds had come under speculative attacks from the financial markets were forced into austerity policies under the relevant rescue programs and/or by the European Commission/Council strictly enforcing and even reinforcing the tight framework of the SGP (Truger, 2013). The change in the general government structural primary budget balance (SPB) over time is a standard measure of the fiscal stance, i.e. the discretionary changes in fiscal policy. According to the standard EU Commission esti-

mates (European Commission, 2015a) the fiscal effort in the euro area as a whole was in the dimension of 3% of GDP within the three years from 2010 to 2013. In the periphery as an aggregate it was as large as almost 10% of GDP within the four years from 2009 to 2013. However, the European Commission has already admitted that those estimates based on the change in the structural (primary) budget balance tend to underestimate the true discretionary consolidation efforts and has developed complementary indicators to assess fiscal effort (European Commission, 2013, pp. 101–132 as well as Carnot and de Castro, 2015). Using the results by Carnot and de Castro (2015: 10) it must be concluded that the estimate of fiscal effort based on the SPB underestimates discretionary fiscal effort for Portugal by 20%, for Ireland by 45%, for Spain by almost 75% and for Greece by almost 90%. In this case, the true fiscal effort in the periphery as a whole from 2009 to 2013 would be 16% of GDP instead of “only” 10% as indicated by the SPB (see similarly Darvas et al. 2014, pp. 10–15).

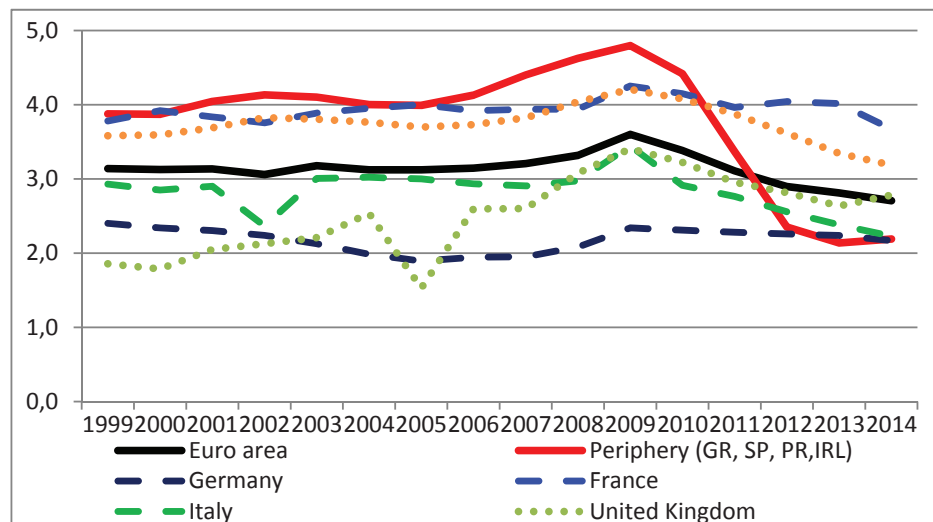
The strong fiscal pressure in the euro area led to particularly strong cuts in public investment. Unlike many other spending categories public investment is not mandatory and – in the absence of institutions like the golden rule – politically relatively easy to cut. In fact, this is exactly what happened in the countries under severe budgetary pressures: In the periphery government gross fixed capital formation (=public investment) declined from slightly below 10% of total government expenditure to only 4.5% in 2013, whereas in most other countries it remained relatively stable. Darvas et al. (2014, p. 15–27) present a more detailed account of the composition of expenditure side consolidation measures from 2009 to 2013. Obviously, capital expenditure was the most widespread and largest component of consolidation measures, but compensation of employees and other current primary spending – as well as in some cases social spending – were also substantially affected.²

The development of gross public investment in relation to GDP clearly shows the decline (chart 1): It almost halved from more than 4% before the crisis to only 2.2% of GDP since 2013 in the European periphery. Net public investment, i.e. gross investment minus depreciation, decreased from about 2% of GDP to a negative –0.6% of GDP – the net public capital stock in the periphery was shrinking. For the euro area as a whole and for Germany net public investment was zero in 2013 (chart 2).

² See Darvas et al. (2014) for an analysis of austerity’s effect on poverty and social hardship.

Chart 1: General government gross fixed capital formation (ESA 2010) in the euro area, the European periphery and selected countries 1999–2014

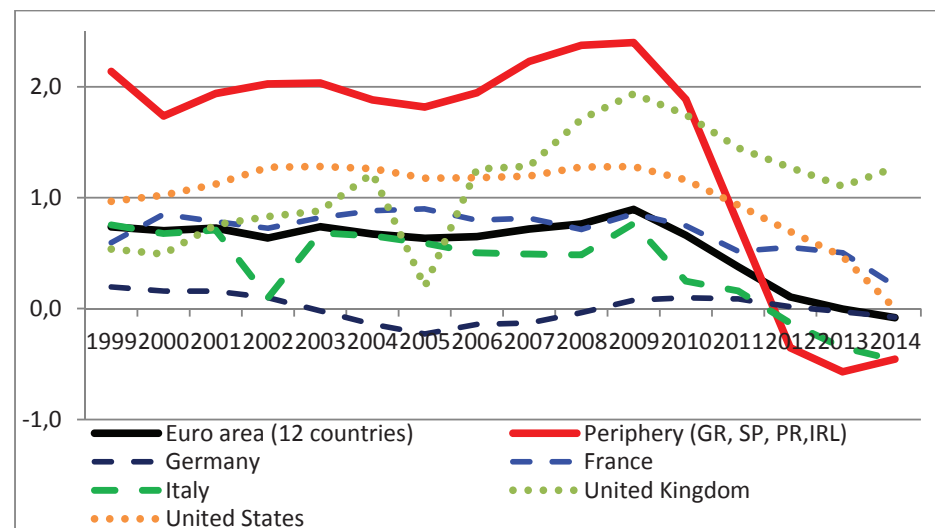
% of GDP



Source: European Commission (2015a); author's calculations.

Chart 2: General government net fixed capital formation (ESA 2010) in the euro area, the European periphery and selected countries from 1999 to 2014

% of GDP



Source: European Commission (2015a); author's calculations.

Therefore, there can be no doubt, that austerity policies in the euro area have negatively affected public investment in a disproportionately strong manner.

3 The “golden rule”: towards an operationalization

3.1 The pay-as-you-use-principle and intergenerational equity

The golden rule has been a widely accepted traditional public finance concept for the handling of government deficits for decades (Musgrave, 1939 and 1959, pp. 556–575). It strives for an intertemporal realization of the pay-as-you-use principle in the case that present government spending provides future benefits. It allows financing such spending (=net public investment) by government deficits thus promoting intergenerational equity. Net public investment increases the public and/or social capital stock and provides benefits for future generations. Therefore, it is justified that future generations contribute to financing those investments via the debt service. Future generations inherit the burden of public debt, but in exchange they receive a corresponding public and/or social capital stock. Failure to allow for debt financing of future generations’ benefits will lead to a disproportionate burden for the present generation through higher taxes or lower spending creating incentives for the underprovision of public investment to the detriment of future generations. This general incentive problem may become exacerbated in times of fiscal consolidation when cutting public investment may seem the politically easiest way of reducing the budget deficit. As demonstrated in section 2, this danger has, in fact, materialized in the current crisis. Independently of the current crisis, there is evidence that fiscal contractions were a key factor responsible for the decline in public investment in earlier decades (Välilä et al., 2005; Turrini, 2004, pp. 9–26).

Although the general idea behind the golden rule is most plausible and easy to understand its operationalization is difficult. The most difficult problem is to find a workable and economically sensible definition of the term “public investment” that allows for government deficits. Theoretically, any government action that creates benefits – in the widest sense – for more than one period may qualify for this. However, the literature usually focuses on concrete future material economic benefits in terms of higher productivity and growth. The question for an individual potential investment project then becomes whether it creates enough public and/or social capital so that its returns are higher than or at least equal to its costs in terms of interest payments and possibly additional costs. Ideally, if the returns are high enough debt sustainability would automatically be satisfied as the additional growth would decrease or at least stabilize the debt to GDP ratio (IMF, 2014, p. 110). The optimal approach of defining public investment that qualifies for deficit finance would then be to include all public spending projects that create sufficient returns in terms of higher future productivity and growth. Obviously, such a classification process would be extremely costly and unfeasible in practice. Therefore, the central

question on a macroeconomic level is, whether general categories of public spending can be identified that are usually associated with sufficiently higher growth and productivity. Of course, such a pragmatic approach necessarily risks including types of public spending that should not be qualified as investment as well as excluding types of public spending that should correctly be classified as investment.

However, despite the difficult questions from a theoretical point of view that strives for optimality, the concept of the golden rule has many advocates in academia starting with Richard A. Musgrave (1939 and 1959), one of the founding fathers of modern public finance. In the context of the fiscal policy debate in the EU many economists have criticized the EU fiscal framework of the SGP for its lack of a golden rule of public investment and correspondingly proposed to introduce such a rule into the framework (e.g. Fitoussi and Creel, 2002, 63–65; Blanchard and Giavazzi, 2004; Barbiero and Darvas, 2014; Dervis and Saraceno, 2014). And, last but not least the German council of economic experts had delivered a proposal that was to become more or less the blueprint for the German debt brake, which explicitly expressed the need to include the golden rule as important element of the fiscal rule (SVR, 2007).

The critical question for the justification of the golden investment rule then is whether public investment is productive, i.e. whether it increases productivity and growth. The natural starting point for the analysis is the debate about the growth effects of traditional public investment, i.e. mainly traditional infrastructure investment as classified in the national accounts, as it has received the most attention in the literature.

3.2 (Traditional) public investment and growth in the long run

The central question of the long-run growth effects of public investment has received much attention in the literature (for an overview see Romp and de Haan, 2005; Melo et al., 2013; Bom and Ligthart, 2014). From a theoretical point of view it is most plausible that public investment, especially if it focuses on “core” infrastructure like transport facilities (roads, railways, ports, airports), communication systems as well as power generation and other utilities should be productive and growth enhancing. The public infrastructure stock in this sense is simply indispensable for most productive processes: Without water and energy supply, without transport capacities most production processes would simply be unthinkable. It is, therefore, plausible to think of public infrastructure as an input factor that is complementary to private capital and labor inducing additional private investment and labor supply.

However, at least two qualifications should be made. First, for additional public infrastructure to be productive it should not be abundant. Although the quantity and quality of infrastructure is difficult to measure, on the basis of the World Economic Forum’s Competitiveness report the IMF (2014, 79–81) concludes that the overall

quality of infrastructure and that of roads has clearly (slightly) decreased from 2006 to 2012 in Germany (France) and that it is lagging behind in Italy. This is at least a hint that there is room for improvement. It is also a hint that net public investment must not necessarily be into completely new infrastructure projects, but that maintenance investment may also have an important role to play. Second, although positive growth effects from core infrastructure investment are most plausible from a theoretical point of view, not all of public investment as defined in the national accounts is into core infrastructure. In fact, a substantial part of public investment is investment into equipment as well as public buildings, e.g. for administration, education and hospitals. For such investment a direct positive contribution to private production processes may be more difficult to establish. However, for those countries for which data on both the public capital stock as a whole as well as specifically on public infrastructure is available, the correlation between the two is strong, so that overall public investment may serve as a proxy for infrastructure investment (IMF, 2014, p. 80).

Empirically, as usual in Economics, the effects are contested in the literature. The famous study by Aschauer (1989) using a production function approach found a very high elasticity of output with respect to the public capital stock. This would have meant an extremely high return on public investment, indeed, much higher than imaginable for private investment. In the following debate many different definitions of public (infrastructure) capital were used, different estimation techniques and variations of Aschauer's original approach were introduced. Furthermore, apart from Aschauer's original production function approach also the cost-function approach, times series analysis as well as cross section estimations were applied. Although, the results differed very much and some studies found no or even negative effects of public investment on growth, the general conclusion is that there is a positive growth effect, but that it is much smaller than originally claimed by Aschauer (Romp and de Haan, 2005; Melo et al., 2013).

Table 1: Implied marginal returns to public investment

	All public capital		Core public capital	
	Regional	National	Regional	National
%				
Short-term	17.4	10.2	24.0	16.8
Long-term	28.0	20.8	34.6	27.4

Source: IMF (2014, p. 86); Bom and Ligthart (2014, pp. 907–908); author's calculations.

Bom and Ligthart (2014) conducted meta-regressions including 68 studies with 578 estimates for the public capital-growth nexus and confirm this basic conclusion

for the period 1983 to 2008. According to their results, the average output elasticity of public capital is 0.082. Conditional elasticities vary depending on whether they refer to the short or the long run, to all public capital or core infrastructure and to regional or national investment. They are higher for core infrastructure, for regional investment and for the long run. Table 1 shows the implied marginal returns which are in the range between 10% (short run, national, all public capital) to 34.6% (long run, regional, core infrastructure). Whereas the latter marginal return is large enough to justify deficit-financed public investment even under pessimistic assumptions about the user cost of capital (real interest rate plus depreciation rate), the former would have to rely on more favorable conditions. However, the implied long term marginal returns even in the case of all public capital for national and regional investment with 20.8% and 28% are considerably high. All in all, therefore, one may safely assume traditional public investment to have considerably positive growth effects.

3.3 (Traditional) public investment and growth in the short run

In addition to the more long-run supply-side effects the more short-run demand-side effects of public investment must also be addressed. The analysis proceeds in two steps. In the first step the question of fiscal policy effectiveness as such, irrespective of the particular instrument, must be clarified, before in the second step the comparative effectiveness of the different instruments, i.e. different expenditure or revenue side categories can be addressed.

As to fiscal policy effectiveness the traditional pre-crisis empirical studies usually found positive multipliers. As suggested by the standard Keynesian textbook models and the Haavelmo-Theorem expenditure multipliers were typically substantially larger than revenue side ones (see e.g. the overviews by Hemming et al., 2002; Arestis and Sawyer, 2003; Bouthevillain et al., 2009). Many of the more recent studies confirm the earlier multiplier estimates and in many cases even go substantially beyond them (Gechert, 2015 and Gechert and Rannenberg, 2014). As to the question of the relative size of the public investment multiplier, the pre-crisis literature as a rule of thumb found it to be (slightly) above one and therefore slightly larger than for other spending categories so that public investment in addition to its long term economic advantages could be seen as the most effective short-run fiscal policy instrument. Some of the recent studies even come up with much larger (relative) estimates of the investment multiplier. Auerbach and Gorodnichenko (2012) obtain values larger than two with a maximum estimate of larger than four whereas the estimates for government consumption spending are “only” at about 1.4.

Based on this result, Barbiero and Darvas (2014, p. 8–9) conclude that a more growth-friendly consolidation in the euro area would have been possible if public investment spending had been preserved at the cost of cutting current spending.

However, this conclusion does not seem fully convincing: While it is plausible to preserve public investment it is not clear whether cutting government consumption is the relevant and sensible alternative: First, although the multiplier estimate for consumption spending referred to is smaller than the investment multiplier, it is still substantially larger than one so that the damage of austerity policies would still have been very large even under the more “growth-friendly” strategy. Second, judgment should be based on a broad overview of different studies. Gechert (2015) and Gechert and Rannenberg (2014) conducted meta-regressions including 104, respectively 98 empirical multiplier studies controlling for different study characteristics. They also generally find higher investment multipliers as compared to their consumption counterparts (around 1.6 vs. 1), but the difference is certainly not as large as in the Auerbach and Gorodnichenko (2012) paper. Third, in the case that fiscal restriction is unavoidable, the whole set of available instruments should be taken into account. This leads to the conclusion that on average cutting government spending is unnecessarily painful, because the average estimates of the revenue side multiplier are much lower than those for the consumption or overall government spending multiplier. On average Gechert (2015) and Gechert and Rannenberg (2014) also find systematically smaller multipliers for government transfers.

This can, however, not serve as an argument for cutting social transfers for consolidation purposes: Apart from the highly problematic social impact, there is evidence that the transfer multiplier is particularly high during recessions (Gechert and Rannenberg, 2014). Therefore, a much more growth-friendly consolidation could be achieved via tax increases, which – from a standard Keynesian perspective – should mainly focus on high incomes and wealth. An even more growth-friendly consolidation could be achieved by spending part of the additional revenue from suitable tax increases on increased public investment or other expenditures.

All in all, therefore, the empirical literature on short-run effects of fiscal policy strongly supports protecting public investment from consolidation pressures and using it to stimulate the economy. However, the substantial demand-side effects of other spending categories, particularly government consumption, should also not be neglected.

3.4 Towards an economically plausible operationalization of public investment

Some thoughts are necessary on whether the traditional concept of investment in the national accounts is fully adequate or whether some modifications seem necessary. One important thing to notice in this context is, that the definition of (public) investment has changed in the recent general revision of the system of national accounts and the transition from the old system ESA 1995 to ESA 2010 (Dunn et al., 2014). In general the transition to ESA 2010 and the accompanying further changes have led

to an increase in gross public investment with marked differences between the countries. For net investment on average the changes are small as the increases in gross investment have almost completely been compensated by correspondingly higher depreciation.

A first change has to do with spending on research and development. Whereas before the revision, mostly tangible assets (construction and equipment) and a small fraction of intangible assets were counted as investment, after the revision also spending on research and development is included. From an economic point of view this seems justified as it is highly plausible that public R&D spending in research institutions or universities or also as grants given to the business sector may be productive, although there is no clear evidence as to the growth effects, yet. In addition, public R&D spending suffered under the strong fiscal contraction (Veugeleers, 2014). This change should be the most important quantitatively in explaining the increase in gross investment for many countries.

A second change is highly problematic: Military spending on weapons systems is now counted as fixed investment, the reason being that “the new system recognises their productive potential for the external security of a country, over several years.” (Dunn et al., 2014, p. 10). However, this classification can be criticized on ethical grounds: Weapons systems are potentially destructive and if really used they destroy productive capital instead of increasing it. Indeed, that was precisely the reason, why they were previously recorded as immediately consumed under ESA 1995. Furthermore, it is highly questionable whether the fiscal framework should actively encourage military spending and a potential arms race. The ethical questions apart, spending on weapons systems can hardly be considered as a particularly growth enhancing expenditure category. Theoretically, it is not clear how the marginal contribution of military investment to national security should be measured. Indeed, military investment was explicitly excluded from many studies on the long term growth effects of public investment. Aschauer’s original contribution did not find military spending to be important for economic productivity (Aschauer, 1989).

A third change occurred in the delimitation of the government and the private sector. The classification has become stricter in most cases in the sense that some companies/non-profit organizations closely related to the public sector had to be reclassified from the private to the government sector. This statistical enlargement of the government sector may partly remove one shortcoming of the investment definition in the national accounts: Investment grants paid by the public sector to private companies are not classified as investment expenditure. In the case that a formerly private company which receives investment grants increasing its investment expenditures is reclassified to be part of the public sector, the additional investment spending will now be counted as government investment. However, if a public investment grant is spent on investment by a recipient company then from an economic point of view it should generally not make a difference whether the

company is classified as public or private. Therefore, for purposes of the golden rule, investment grants paid from the public to the private sector should be classified as public investment.

Of course, there may be other expenditure categories that may be equally or even more beneficial. A natural candidate is public spending on education or health care which in the existing system of national accounts is classified as current expenditure. It has been argued that privileging traditional, mostly physical investment in infrastructure and equipment and neglecting those other forms of investment in an economic sense may distort the optimal allocation of resources with potentially unclear implications for efficiency, growth and welfare (Turrini, 2004, pp. 29–30). However, in the presence of strong evidence for considerably positive growth effects of traditional public investment it would seem overcautious to forego the advantages of the golden rule. Indeed, a stepwise approach is much more convincing. The economic case for including other types of spending into the golden rule should be checked. If inclusion seems rational but at the current stage difficult to implement for statistical or other reasons, then the golden rule should as a first step be applied to traditional investment. As soon as the open questions with respect to other expenditure categories are solved, their implementation can follow as a second step.

Should other potentially growth enhancing types of government spending be classified as investment? In principle they should, as long as it can be shown that the growth effect to be expected is at least as large as that of traditional public investment. The natural candidate for this would be education expenditure. Education as investment in human capital is crucial within endogenous growth theory (Lucas, 1988) and empirical research suggests that the private as well as social rate of return of education can be assumed to be very high (Psacharopoulos and Patrinos, 2004; Card, 2001). Although it is difficult to reliably compare the estimated rate of return for different types of expenditure, it would at least be plausible to include public education expenditures under the golden rule. This is also the general conclusion drawn by most advocates of the golden rule.

However, at the present stage it is difficult to implement this in a convincing way. First, an exact definition of the relevant education expenditure would have to be given which is not straightforward. Second, in order to be consistent with the golden rule, net education investment would have to be measured, i.e. depreciation would have to be deducted. According to the SVR (2007, pp. 80–81) based on Ewerhart (2002 and 2003) depreciation of the German human capital stock, relevant for such a calculation, would be in the order of magnitude of 95% of total education spending. This particular result stems from the demographic development in Germany and must not necessarily be a very plausible way of quantifying depreciation of human capital investment. But it shows that there are some difficult conceptual issues that would have to be resolved before education expenditure could be properly included into the golden rule.

There are other expenditure categories that might be considered as investment under the golden rule. Indeed, from a supply-side perspective some types of social spending may well be highly productive, because they increase labor supply and production: Health expenditures, if effective, will contribute to a more stable and larger workforce. Spending on child care can substantially increase parents' labor force participation (Bauernschuster and Schlotter, 2015). And the same may be said for spending on social work and integration. All of this could lead to higher labor force participation and therefore contribute to higher growth and, at the same time, to one of the main Europe 2020 goals. However, it is not easy to find adequate definitions and estimating depreciation in order to arrive at net investment may be even more difficult.

The fact that at the current stage there are difficulties, however, does not mean that an economically rational and workable definition of potentially relevant other investment expenditures does not exist, at all. It only means, that for the first stage of introducing the golden rule one should better rely on the traditional definition of public investment from the national accounts.

4 Implementing the golden rule in the European fiscal framework

4.1 A pragmatic proposal for a European golden investment rule

As a pragmatic first step towards the golden rule it should apply for government fixed capital formation as defined in the national accounts with small modifications: Military spending on weapons systems should not count as investment whereas public investment grants to firms or non-profit organizations should be counted. The rule should apply to net investment, i.e. depreciation should be deducted for the rule to measure properly increases in the net public capital stock.

The golden rule could then be applied within the current fiscal framework of the SGP and the fiscal compact by deducting net public investment as defined above from member states' relevant deficit measures, i.e. from the government deficit under the corrective arm and the structural deficit under the preventive arm of the pact and the fiscal compact. In effect, this means that the threshold for an excessive deficit as well as the medium term budgetary objective would be increased by the amount of net public investment. In order to prevent a conflict between the golden rule of public investment and the goal of stabilizing public debt below 60% of GDP,

an upper limit for deductible net investment spending could be set at 1% or 1.5% of GDP.³

Conceptual advantages apart, the focus on net investment has the further advantage of providing a strong incentive for those governments that are currently providing negative net public investment, i.e. whose public capital stock is decreasing, because compared to the status quo their fiscal constraints would otherwise tighten. Although this is a welcome incentive in the medium term, countries should in the short term be given some time to adjust their net investment.

The European Commission and member states should over the medium term actively promote ways of improving the statistical measurement of public investment and of improving the government accounts, in particular as concerns the calculation of depreciation. Furthermore, research and debate should also be directed towards identifying other expenditure categories that could qualify as public investment and where applicable, towards how to include them under the golden investment rule.

4.2 Solid implementation of the golden rule in the medium term

One essential question is whether the introduction of the golden rule proposed here would be compatible with current EU law or whether a change of Council regulations or the Treaty would be necessary. With respect to the old Treaty, Blanchard and Giavazzi (2004, p. 15) argued that the old Art. 104.3 would have allowed implementing the golden rule without any treaty changes by changing the corresponding Council regulations, because it stated that in the report to be prepared by the Commission it should also be taken into account whether the government deficit exceeded government investment expenditure. However, since 2008 Art 2 (3) of Protocol No. 12 about the excessive deficit procedure annexed to the Treaty states that investment is to be understood as gross investment. Therefore, a permanent interpretation as net investment would probably be difficult to justify. In the end, this is a juridical question that is difficult to answer from an economist's point of view. The change of the Council regulation deemed necessary, however, would still require unanimous consent within the Council.

For some time, however, the introduction of the golden rule for public investment could probably be approximated even without any changes in the current institutional framework, if the European Commission and the European Council were

³ The limit might not be set as a threshold above which all net investment will be fully relevant for the public deficit but rather as a limit to the percentage of net investment that is deductible from the deficit measures in order to provide incentives for public investment as a whole and prevent the category as a whole from cuts. This may gain relevance if a gross definition of public investment would have to be used for the golden rule or if additional expenditure categories would be classified as public investment.

willing to more actively use the interpretational leeway within this framework (see table 2 for an overview of measures). Actually, the clarification as to the interpretation of the Pact that the Commission has just given can already be seen as illustrating steps in that direction (European Commission, 2015b).

At least, additional net investment could be justified if it came in the form of a temporary investment program, analogous to the way the Commission interprets contributions to the EFSI. Additionally or alternatively, it may be possible to treat an investment program as structural reform that temporarily allows for deviations from MTO or the adjustment path towards it. As to the “investment clause” it should be possible to implement it as a “small-scale golden rule” under these conditions. Reference to adverse cyclical conditions might help to increase leeway even further, although this could create the danger of a stop-and-go investment policy, if cyclical conditions improve as can be expected under an investment program. Finally, recourse to the exceptional clause of a severe downturn in the euro area or the EU could be made in order to justify slowing down the consolidation path and allowing for additional investment spending. All of this could further be supported if realistically high multiplier values were used in assessing the budgetary impact of additional investment, which may not be significantly negative or even positive. Reconsideration of the EU Commission’s method of cyclical adjustment – e.g. to be more in line with the OECD method and results – may create further leeway as it might increase the cyclical part of the budget deficit thus reducing the structural deficit (Truger, 2015b).

Some or all of the mentioned interpretational leeway could be used to push up public investment on the level that would be consistent with a golden rule in the medium term. However, the permanent recourse to exceptional circumstances which would be necessary to permit permanent use of the rule for public investment in general would most probably overstretch the interpretational leeway inherent in the current framework. Therefore, in order to solidly implement the golden rule on the EU level a permanent change in the institutional fiscal framework would be adequate and most probably also necessary from a legal perspective.

Such a change could be adopted as primary law in the form of an “Investment Protocol” that would be annexed to the Treaty under the simplified revisions procedure of Art. 48 of the Lisbon treaty (table 2). On the member states’ level further legal changes would be required if following the fiscal compact, there were other legal provisions put in place that would prevent a reinterpretation of the budget balance as net of net spending on public investment.⁴

⁴ See Burret and Schnellenbach (2014) for an overview of the state of implementation of the fiscal compact in the different signatory member states.

4.3 A European investment program and an expansionary overall fiscal stance to spark off the recovery

The implementation of the golden rule of investment would probably take some time until the necessary political and legal steps could be completed. It should therefore mainly be seen as a fiscal policy framework focused on safeguarding public investment in the medium term, and not so much as a readily available instrument for providing the – urgently needed – boost to the European economy in the short run. Because the Juncker Plan will not be able to provide this boost in the short run – and most probably not even in the long run – the golden rule would have to be complemented by other forms of short-term fiscal stimulus.

As argued in the previous section the leeway inherent in the current institutional framework is sufficiently large to permit such a stimulus. Probably the most convincing way to do this would be to use the provision concerning a severe downturn in the euro area or the EU to justify a temporary deviation from the consolidation path, thus allowing for a substantial European Investment Program (see table 2). The European Commission has explicitly made a comparison with the 2008 European Economic Recovery Plan (European Commission, 2008) to give an example of the potential use of this provision (European Commission, 2015b, p. 17). As a condition for the use of this provision it “should remain limited to exceptional, carefully circumscribed situations to minimize the risk of moral hazard.” (European Commission, 2015b, p. 17). Actually, one may well argue that the euro area is right now in such an exceptional situation after years of recession and stagnation and low inflation while monetary policy is at the lower bound.

Such a European Investment Program should provide an annual stimulus of at least 1% of GDP for two or three years. One option for the direction of the program would be to use it in order to start phasing in traditional net public investment up to the desired level after the final implementation of the golden rule. Alternatively or additionally such a program could also be used to allow for investment needs beyond the narrow national accounts definition to contribute to public investment in a broader sense.⁵ Such a direction would meet concerns that the golden rule alone would only promote traditional tangible investment and neglect other important forms of investment in the economic sense of the word. This could be investment in education, including child care, but it could more generally focus on spending with a view to achieving the currently neglected Europe 2020 goals such as social inclusion or other areas that have strongly suffered from austerity over the last years. Last but not least the fiscal stimulus provided should not be thwarted by cutting

⁵ Aiginger (2014) has made a similar proposal which he called the “silver rule” proposal. Whereas the golden rule allows permanent debt financing of all net investment, the silver rule allows temporary debt financing of additional investment.

other public expenditure. Instead, the leeway within the current institutions should be actively used to provide a substantial fiscal stimulus to the European Economy.

Table 2: 10 opportunities to strengthen investment and facilitate an expansionary overall fiscal policy stance in Europe

Goals	Measures
Short term (use interpretational leeway within present framework to come close to the golden rule of public investment)	
Strengthening investment + Expansionary overall fiscal policy stance	1. More active use of the “investment clause”
	2. Allow for temporary investment programs (analogous to EFSI)
	3. Interpret temporary investment programs as structural reforms
	4. Incorporate realistic investment multiplier in budgetary analysis ex ante
	5. Use leeway in economically bad times
	6. Implement better methods of cyclical adjustment
	7. Temporarily higher spending with a view to Europe 2020 goals
	8. Use exception for severe downturn in EU or euro area
Medium term (solid implementation of the golden rule of public investment)	
EU implementation	9. Investment protocol as annex to the Treaty (simplified revisions procedure Art. 48)
National implementation	10. Change national legislation to allow deduction of net public investment from deficit where necessary

Source: Author's compilation.

5 Conclusion

Most parts of the euro area have seen seven years of deep economic crisis. Public investment which should have stabilized the economies and kept up their long-term growth potential has instead dramatically shrunk in the crisis-ridden countries of the periphery. The EU needs to address these problems. The previous strategy of tightening the fiscal constraints of the SGP has driven many member states into crisis and disempowered national fiscal policy as a macroeconomic policy instrument. Unfortunately, in the current situation, with depressed aggregate demand, deflationary tendencies and monetary policy at the lower bound, national fiscal pol-

icy is the only instrument left that could bring about a sustained recovery. The EU Commission shies away from this conclusion and tries to evade anything that might change the present institutional framework for fiscal policy.

In contrast, the golden rule of public investment proposed in this article would be one important element of the necessary institutional reform. A pragmatic version focusing on net public investment as defined in the national accounts minus military expenditures plus investment grants for the private sector could quickly be implemented. This would at once protect public investment from cuts and provide leeway for investment to recover. Over time the rule could be technically and statistically refined and potentially include other – more intangible types – of investment like education expenditures.

As political implementation would probably take some time, the golden rule would have to be complemented by expansionary fiscal policy to provide the urgently needed boost to the European economy in the short term. This could be done by a short term European Investment Program similar to the 2008 European Economic Recovery Program during the Great Recession. Such a program could also allow for investment needs beyond the narrow national accounts definition to contribute to public investment in a broader sense, e.g. for expenditure related to the currently neglected Europe 2020 goals such as social inclusion.

References

- Aiginger, K. (2014) A silver bullet for restarting growth in Europe, EurActiv.com PLC, www.euractiv.com/sections/euro-finance/silver-bullet-restarting-growth-europe-310912.
- Arestis, P., Sawyer, M. (2003) Reinventing fiscal policy, *Journal of Post Keynesian Economics*, 26 (1), 3–25.
- Aschauer, D. A. (1989) Is Public Expenditure Productive? *Journal of Monetary Economics*, 23: 177–200.
- Auerbach, A. J., Gorodnichenko, Y. (2012) Fiscal Multipliers in Recession and Expansion. in: Alesina, A., Giavazzi, F. (eds), *Fiscal Policy after the Financial Crisis*, Chicago: University of Chicago Press (forthcoming).
- Barbiero, F., Darvas, Z. (2014) In Sickness and in Health: Protecting and Supporting Public Investment in Europe, Bruegel Policy Contribution 02/2014.
- Bauernschuster, S., Schlotter, M. (2015) Public child care and mothers' labor supply – Evidence from two quasi-experiments, *Journal of Public Economics* 123 (1): 1–16.
- Blanchard, O., Giavazzi, F. (2004) Improving the SGP through a proper accounting of public investment', CEPR Discussion Papers 4220.

- Bom, P., Ligthart, J. (2014) What Have We Learned From Three Decades of Research on the Productivity of Public Capital?, *Journal of Economic Surveys* 28 (5): 889–916.
- Bouthevillain. C. et al. (2009) Pros and cons of various fiscal measures to stimulate the economy, Banco de España, *Economic Bulletin*, July 2009, 123–144.
- Burret, H., Schnellenbach, J. (2014) Implementation of the Fiscal Compact in the Euro Area Member States, Working Paper 8/2013, updated January 2014, Wiesbaden: Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung.
- Card, D. (2001) Estimating the Return to Schooling: Progress on Some Persistent Econometric Problems, *Econometrica*, 69 (5): 1127–1160.
- Carnot, N., de Castro, F. (2015) The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect, European Commission, *Economic Papers* no. 543, Brussels.
- Darvas, Z., Huettl, P., de Sousa, C., Terzi, A., Tschekassin, O. (2014) Austerity and Poverty in the European Union, Study for the Committee on Employment and Social Affairs of the European Parliament, Brussels.
- Dervis, K., Saraceno, F. (2014) An Investment New Deal for Europe, Brookings up front, 3 September, www.brookings.edu/blogs/up-front/posts/2014/09/03-euro-pean-central-bank-dervis.
- Dunn, M., Akritidis, L., Biedman, L. (2014) The impact of ESA 2010 on key indicators of the national accounts in Europe, *Eurostat Review on National Accounts and Macroeconomic Indicators*, 2/2014: 7–27.
- European Commission (2004) Public Finances in EMU 2004, *European Economy* No. 3, Brussels: European Commission, Directorate-General for Economic and Financial Affairs.
- European Commission (2008) Communication from the Commission from to the European Council: A European Economic Recovery Plan, Brussels, 26.11.2008 COM(2008) 800 final.
- European Commission (2012) Blueprint for deep and genuine Economic and Monetary Union – the launching a European debate, COM(2012) 777 final/2.
- European Commission (2013) Report on Public Finances in the EMU, *European Economy* No. 4, Brussels: European Commission, Directorate-General for Economic and Financial Affairs.
- European Commission (2015a) Annual macro-economic database (Ameco), February 2015.
- European Commission (2015b) Communication from the Commission to the European Parliament, the Council, the European Central Bank, the Economic and Social Committee, the Committee of the Regions and the European Investment Bank; Making the best use of the flexibility within the existing rules of the Stability and Growth Pact, Strasbourg, 13.1.2015 COM(2015) 12 final.

- Ewerhart, G. (2002) Bildungsinvestitionen, brutto und netto – Eine makroökonomische Perspektive, in: Hartard, S. and C. Stahmer Magische Dreiecke – Berichte für eine nachhaltige Gesellschaft, Bd. 3: Sozio-ökonomische Berichtssysteme, Marburg: Metropolis: 217–246.
- Ewerhart, G. (2003) Ausreichende Bildungsinvestitionen in Deutschland? Bildungsinvestitionen und Bildungsvermögen in Deutschland 1992–1999, Beiträge zur Arbeitsmarkt- und Berufsforschung, Nr. 266, Nürnberg: Institut für Arbeitsmarkt- und Berufsforschung.
- Fitoussi, J. P., Creel, J. (2002) How to reform the European Central Bank?, London: Centre for European Reform.
- Gechert, S. (2015) What fiscal policy is most effective? A meta-regression analysis, Oxford. Economic Papers 67 (3): 553–580.
- Gechert, S., Rannenberg, A. (2014) Are Fiscal Multipliers Regime-Dependent? A Meta Regression Analysis, IMK Working Paper No. 139, September, Düsseldorf: IMK in der Hans-Böckler-Stiftung.
- Girouard, N., C. André (2005) Measuring Cyclically-Adjusted Budget Balances for OECD Countries, OECD Working Paper no. 434, Paris.
- Guajardo, J., Leigh, D., Pescatori, A. (2011) Expansionary Austerity: New International Evidence, International Monetary Fund, Working Paper WP/11/158, Washington D.C.
- Hemming, R., Kell, M. and Mahfouz, S. (2002) The Effectiveness of Fiscal Policy in Stimulating Economic Activity: A Review of the Literature, International Monetary Fund Working Paper No. 02/208, Washington D.C.
- IMF (2014) World Economic Outlook October 2014. Washington D.C.: International Monetary Fund.
- Lucas, R. (1988): On the mechanics of economic development, Journal of Monetary Economics, Vol.22 (1): 3–42.
- Melo, P., Graham, D., Brage-Ardao, R. (2013) The productivity of transport infrastructure investment: A meta-analysis of empirical evidence, Regional Science and Urban Economics, 43: 695–706.
- Musgrave, R. A., (1939) The nature of budgetary balance and the case for a capital-budget, American Economic Review, 29, 260–271.
- Musgrave R. A. (1959) The Theory of Public Finance. A Study in Public Economy, New York et al.: McGraw-Hill.
- Psacharopoulos, G. and Patrinos, H. A. (2004) Returns to Investment in Education. A Further Update, Education Economics, 12 (2): 111–134.
- Romp, W., De Haan, J. (2005) Public Capital and Economic Growth: A Critical Survey, EIB Papers, 10: 40–71.

- SVR (Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung/ German Council of Economic Experts) (2007) Staatsverschuldung wirksam begrenzen, Expertise im Auftrag des Bundesministers für Wirtschaft und Technologie, Wiesbaden.
- Truger, A. (2013) Austerity in the euro area: the sad state of economic policy in Germany and the EU, in: *European Journal of Economics and Economic Policies*, Intervention 2/2013: 158–174.
- Truger, A. (2015a) Implementing the Golden Rule for Public Investment in Europe – Safeguarding Public Investment and Supporting the Recovery, Working Paper-Reihe der AK Wien/Materialien zu Wirtschaft und Gesellschaft 138.
- Truger, A. (2015b) Austerity, cyclical adjustment and the remaining leeway for expansionary fiscal policies within the current EU fiscal framework, IPE Working Paper No. 50, Institute for International Political Economy Berlin.
- Turrini, A. (2004) Public investment and the EU fiscal framework, *European Economy – Economic Papers* 202, Directorate General Economic and Monetary Affairs, European Commission.
- Välilä, T., Mehrotra, A. (2005) Evolution and Determinants of Public Investment In Europe, *EIB Papers*, 10: 18–39.
- Veugeleers, R. (2014) Undercutting the future? European research spending in times of consolidation, *Bruegel Policy Contribution* 06/2014.