

# A PUBLIC INVESTMENT STIMULUS IN SURPLUS COUNTRIES AND ITS SPILLOVERS IN THE EA

Jan in't Veld\*

The Euro Area recommendations endorsed by the European Council in 2016 called for a differentiation of the fiscal effort by individual Member States, taking into account spillovers across Euro Area countries. This article shows model-based simulations of an increase in public investment in Germany and the Netherlands and their spillovers to the rest of the Euro Area. While spillovers in a monetary union may be small when monetary policy reacts by raising interest rates, when rates are kept constant and the stimulus is accommodated, spillovers can be sizeable. An increase in (productive) spending in Germany and the Netherlands can boost GDP in these countries and also have significant positive spillovers on the rest of EA GDP, while the effects on current accounts are likely to be small. Effects can be even larger when investment is directed to the most productive projects. With low borrowing costs at present, the increase in government debt for surplus countries will be modest, while there could be an improvement in debt ratios in the rest of the Euro Area.

Keywords: Fiscal policy, Monetary policy accommodation, Euro Area

JEL Classifications: E62, F41, F45

## I. Introduction

The 2016 Euro Area Recommendation called for “a differentiation of the fiscal effort by individual Member States, taking into account spillovers across Euro Area countries”, and country specific recommendations for Germany called specifically for “a sustained upward trend in public investment, especially in infrastructure, education, research and innovation”. The latter was also recommended as a priority for the Netherlands. In November 2016, the European Commission went a step further in its Communication on Euro Area fiscal policy, and set out the case for a significantly more positive fiscal stance for the Euro Area, arguing that every member state should take into account the objective of the Euro Area as a whole in the definition of its own national fiscal stance. Specifically, it encouraged Member States with fiscal space to carry out a more expansionary fiscal policy (European Commission, 2016).

In discussions on the appropriate economic policy of the Euro Area, the impact of government investment on GDP, its spillovers across other Euro Area countries and its impact on current account imbalances are much debated issues. Would an increase in government investment in countries with persistent and large current account surpluses also have positive spillover effects on other Euro Area countries? And could such a stimulus help to

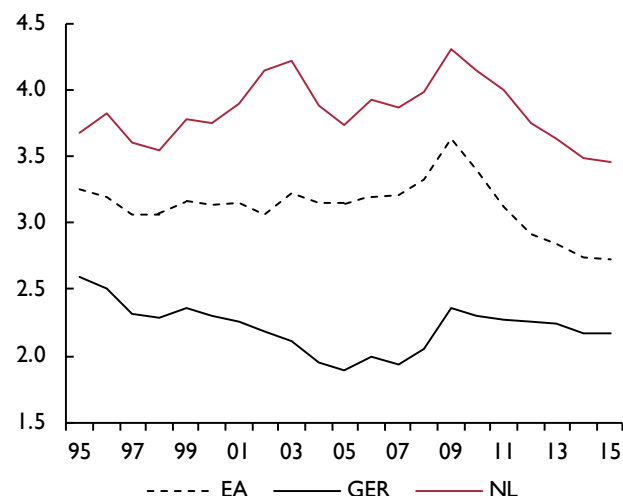
reduce these large persistent current account surpluses? This article analyses the domestic and spillover effects of public investment with QUEST model simulations. For technical reasons related to model size the focus is on Germany and the Netherlands, but the analysis could be extended to other surplus countries and conclusions would generally hold.

Public investment has been on a declining trend in both Germany and the Netherlands since 2009. In Germany the public investment share in GDP has been below the EA average since 1995, and it has fallen from 2.4 in 2009 to 2.1 in 2015 (see figure 1). While the public investment share in the Netherlands is higher than the EA average, it has been reduced from 4.3 in 2009 to 3.4 in 2015. As both countries have debt-to-GDP ratios well below the EA average, and can benefit from record low interest rates at the moment, a case can be made for an increase in public investment. Both countries have also large current account surpluses and the question is how such an increase in government investment would impact on these surpluses. This article examines the domestic and spillover effects of such an investment stimulus in the QUEST model. It is found that it can boost domestic demand in these surplus countries and help to reduce their current account surpluses, and have positive GDP

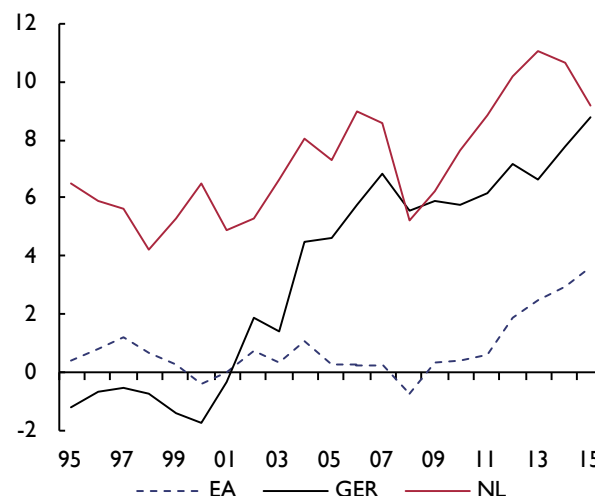
\*DG Economic and Financial Affairs, European Commission. E-mail: jan.intveld@ec.europa.eu. The views expressed in this paper are those of the author and should not be attributed to the European Commission. This paper is an updated version of in't Veld (2016).

Figure I. Germany and the Netherlands

## Government investment (% of GDP)



## Current account (% of GDP)



Source: AMECO.

spillover effects on other EA member states, but the impact on other EA member states' current accounts is shown to be small.

The following section starts with a brief, non-exhaustive overview of other model simulations of an increase in public investment in Germany. All these studies show positive output effects and non-negligible spillovers. Section 3 then describes model simulations with the QUEST model under alternative assumptions. The simulations are for a 1 per cent of GDP increase in public investment, jointly in Germany and the Netherlands together. When monetary policy is not accommodating, the spillover effects are negligible, but when monetary policy does not respond to the stimulus in the first two years, the GDP spillovers are sizeable. Effects can be even larger when investment is directed to the most productive projects and when low borrowing costs for Germany and the Netherlands are taken into account, the increase in government debt for surplus countries will be relatively modest, while there could be an improvement in debt ratios in the rest of the Euro Area.

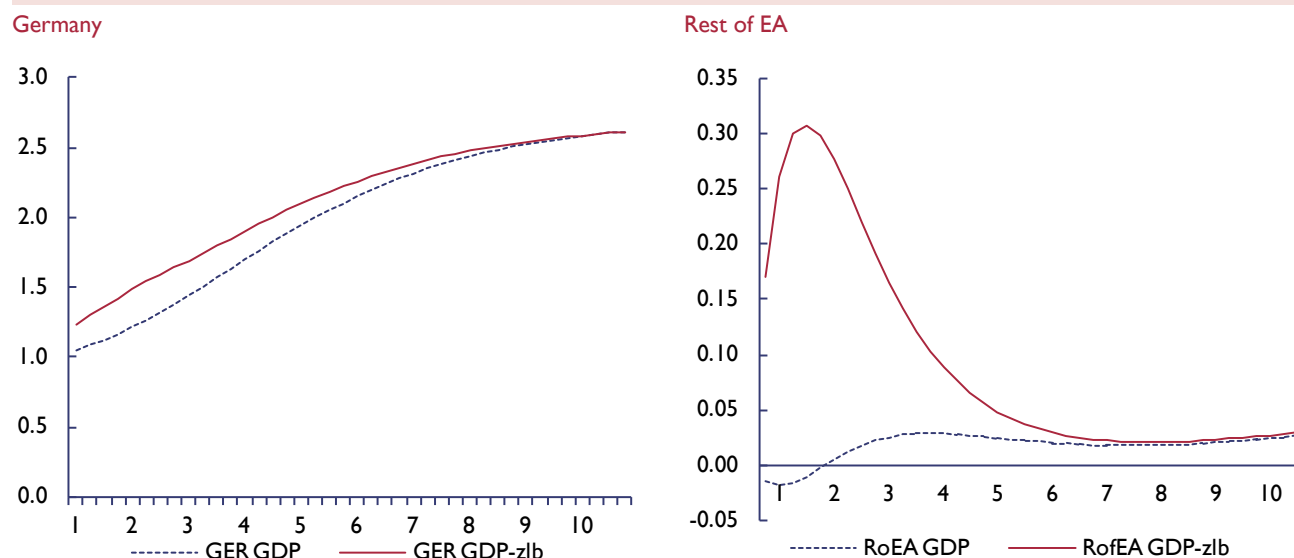
## 2. Overview of other existing studies

This section first briefly reviews some other studies of increased public investment in Germany. The summary is selective and non-exhaustive, and focusses on model-based analyses. All these studies show higher public investment raises GDP, and also that spillovers to other EA Member States can be non-negligible.

In't Veld (2013) assesses the costs of simultaneous consolidations in periphery and core countries in the 2011–13 period and finds spillovers from consolidations in core countries worsened the economic situation in the periphery. A temporary increase in public investment in both Germany and the rest of core EA (an aggregate of The Netherlands, Belgium, Austria, Finland and the Baltics) raises GDP by between 0.8 and 1 in these countries when interest rates are held constant under the zero lower bound. This boost imports from other EA trading partners and raises GDP in these countries by between 0.2–0.3 per cent. It also leads to some rebalancing. Current account surpluses are reduced by between 0.3–0.4 pps, but the improvement in current accounts in the periphery is relatively modest, at most 0.1 pp.

Using a multi-region version of GIME, Elekdag and Muir (2014) look at the effects of a two-year boost to government investment in Germany of 1 per cent of GDP. They show the importance of the monetary policy channel. Under normal conditions there can be negative spillovers, as the monetary stance will tighten given higher inflation rates, leading to higher real interest rates across the monetary union. This will depress domestic demand and will also be associated with an appreciation, thereby depressing EA exports (*ibid.*, p. 15). However, at the zero lower bound with constant policy rates, higher inflation rates are characterised by lower real interest rates, boosting domestic demand in Germany and the rest of the EA, and leading to a depreciation,

Figure 2. Government investment shocks in Kollmann et al. (2015)



Note: Impulse responses of GDP to a 1 per cent of GDP increase in government investment. Dashed line is scenario with normal monetary policy reaction, red line with interest rates unchanged for two years.

further increasing net exports. Under an accommodative monetary policy, when the ECB does not react with a monetary tightening, increased public investment has sizeable positive spillovers to the rest of the Euro Area of between 0.2 and 0.3 per cent. The current account of Germany deteriorates by 0.55 pp, while those in the rest of the EA improve by between 0.05 and 0.1 pps.

Kollmann, Ratto, Roeger, in't Veld, and Vogel (2015) estimate a three-country DSGE model to analyse the drivers of Germany's current account surplus. They conclude that the surplus reflects a succession of distinct shocks, the most important being positive shocks to the German saving rate and to the rest of the world's demand for German exports, as well as labour market reforms and other positive German aggregate supply shocks. They link the savings shock to increased awareness about future demographic developments and pension generosity. The response to a positive shock to government investment of 1 per cent of GDP in this model is an increase in German GDP, but a small initial decline in GDP in the rest of the Euro Area as higher interest rates reduce domestic demand in these countries. Crucially, this finding of negative GDP spillovers hinges on the monetary policy response. When monetary policy is constrained by the zero lower bound, and interest rates are not raised, the GDP spillover is positive and output rises in the rest of the Euro Area already on impact (see figure 2).<sup>1</sup>

ECB (2016) reports simulations with the Eagle model of a 1 per cent of GDP increase in public investment in Germany for five years, leading to an average increase in GDP of 1.5 per cent in the first two years and with a 0.5 per cent spillover to the rest of the Euro Area GDP when interest rates are kept constant for two years. In contrast, an endogenous monetary policy reaction reduces the domestic effect to 1 per cent and neutralises the positive spillover effect.

Two German institutions, relying on macroeconomic models, show lower output and spillover effects for public investment. The German Ministry of Economic Affairs examines spillovers of increased government investment using Oxford Economics' Global Econometric Model (*Bundesministerium für Wirtschaft und Energie*, 2015). In the benchmark scenario, monetary policy reacts to the three-year fiscal stimulus, and public investment is assumed to be non-productive, and as a result German GDP increases by only 0.6 per cent in the first year, gradually receding in following years, and GDP spillovers to the rest of the EA are only slightly positive in the first year (0.08) and negative in following years. When monetary policy is accommodating, and when public investment is assumed to be productive, German GDP increases by 1 per cent in the first year, and spillovers are positive throughout, around 0.12, while the current account in the rest of the EA improves by 0.1 pps.

Deutsche Bundesbank (2016) shows that in model simulations with the NiGEM model, the monetary policy assumption also plays a crucial role. With a normal interest rate response, GDP spillovers are smaller than when interest rates are kept constant for two years. With constant interest rates in NiGEM, a two-year increase in public investment of 1 per cent of GDP raises GDP in Germany by 0.5 per cent, while Euro Area spillovers are between 0.1–0.3 per cent. Although the size of the output effect is smaller in this model than in other models,<sup>2</sup> the relative spillover effects are actually of a similar order of magnitude to those reported in other models. One difference between NiGEM and the structural macro models used by the Commission, ECB and IMF, is that the latter explicitly model imports of intermediate goods. Ignoring this could lead to overestimation of import leakage of a fiscal stimulus. Although NiGEM proxies intermediate imports by including exports in its import demand equations, this may not capture the full extent of intermediate imports and be a factor that could explain generally lower multipliers in NiGEM than in other models. However, that should then imply larger current account effects and larger spillovers than in other models. Another difference is that in NiGEM public investment is modelled as capital deepening, but not as productivity enhancing, and the multipliers for government investment are similar to those of government consumption, especially as the stimulus is only temporary for two years. A direct comparison between the different models in terms of output elasticities of public capital is therefore not possible. One specific point that is made in the Bundesbank Report's box is that the results depend on the assumed import share. It could be argued that for government consumption, which is typically largely the public sector wage bill, the specific import share is smaller than the average import share of domestic demand assumed in the NiGEM model. That would reduce the 'import leakage' of the stimulus through government consumption, i.e. raise the domestic GDP effects but lower the spillovers.<sup>3</sup>

All in all, most of these studies point to the same conclusion, that at the current juncture, with policy rates constrained at their zero floor, positive GDP spillovers can be sizeable.<sup>4</sup>

### 3. Joint stimulus in Germany and the Netherlands

This section updates earlier QUEST model simulations and shows stylised scenarios of an increase in public investment in Germany and the Netherlands under different assumptions. QUEST is the global

macroeconomic model of the Directorate-General of Economic and Financial Affairs in the European Commission used for macroeconomic policy analysis and research. It is a structural macromodel in the New-Keynesian tradition with rigorous microeconomic foundations derived from utility and profit optimisation and including frictions in goods, labour and financial markets.<sup>5</sup> The scenarios are purely illustrative, and normalised to an increase of 1 per cent of baseline domestic GDP, lasting for ten years, and then gradually returning back to baseline. The model set-up used here consists of five Euro Area member states, Germany, France, Italy, Spain and the Netherlands, as well as one block for the rest of the EA.

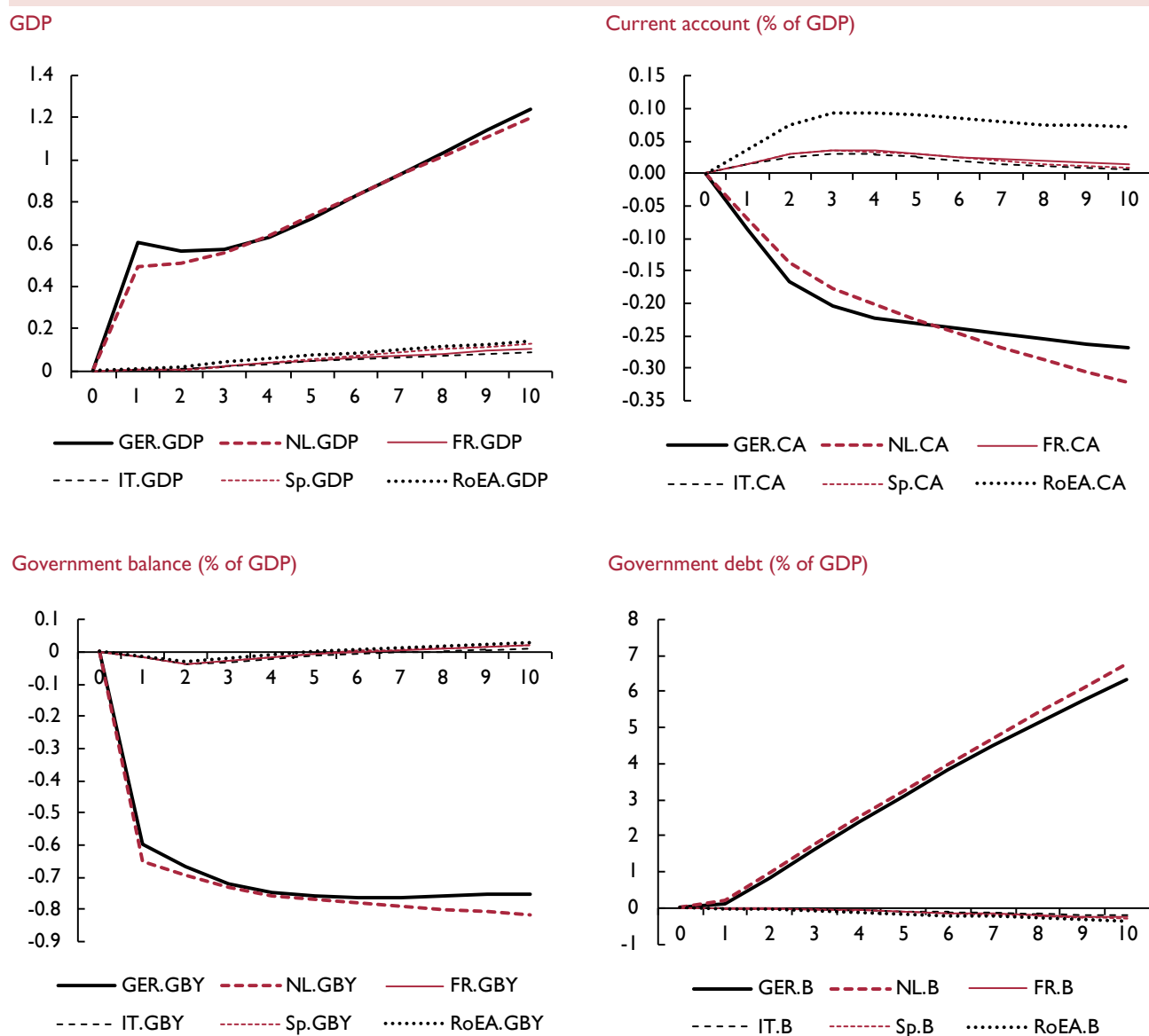
Higher public investment leads to positive GDP effects. Public investment enters directly in the GDP definition in the national accounts. In addition there can be crowding-in of private consumption and investment when monetary policy is accommodating. Public capital is modelled as productivity enhancing, and in the medium run (potential) output increases. The crucial parameter for this is the output elasticity of public capital, and a sensitivity analysis is shown below.

Four scenarios are considered. First, a pre-crisis situation in which monetary policy is not constrained and reacts to the increase in spending by raising the policy rate in line with a standard Taylor rule. Second, the current situation with monetary policy constrained by the zero lower bound, and where the stimulus can be accommodated by the ECB. In the third scenario the assumed productivity of public capital is raised to illustrate the positive effects in case of higher efficiency of spending. The fourth and final scenario additionally takes into account the lower borrowing costs that the surplus countries now face.

#### 3.1 No monetary accommodation

In the first scenario, monetary policy responds to the increase in public investment by raising interest rates. This corresponds to the situation before the crisis when monetary policy was not constrained by the zero lower bound. When interest rates are raised in line with a standard Taylor rule, nominal rates increase by more than inflation, and the corresponding increase in real interest rates depresses domestic demand. The impact multiplier is also lower – 0.6 for Germany, 0.5 for the Netherlands – because both are open economies with high import leakage. But GDP effects are increasing over time as public investment is productivity enhancing, and GDP is about 1.2 per cent higher after ten years (figure 3). The deterioration in the government balance

Figure 3. Investment stimulus in surplus countries with no monetary accommodation



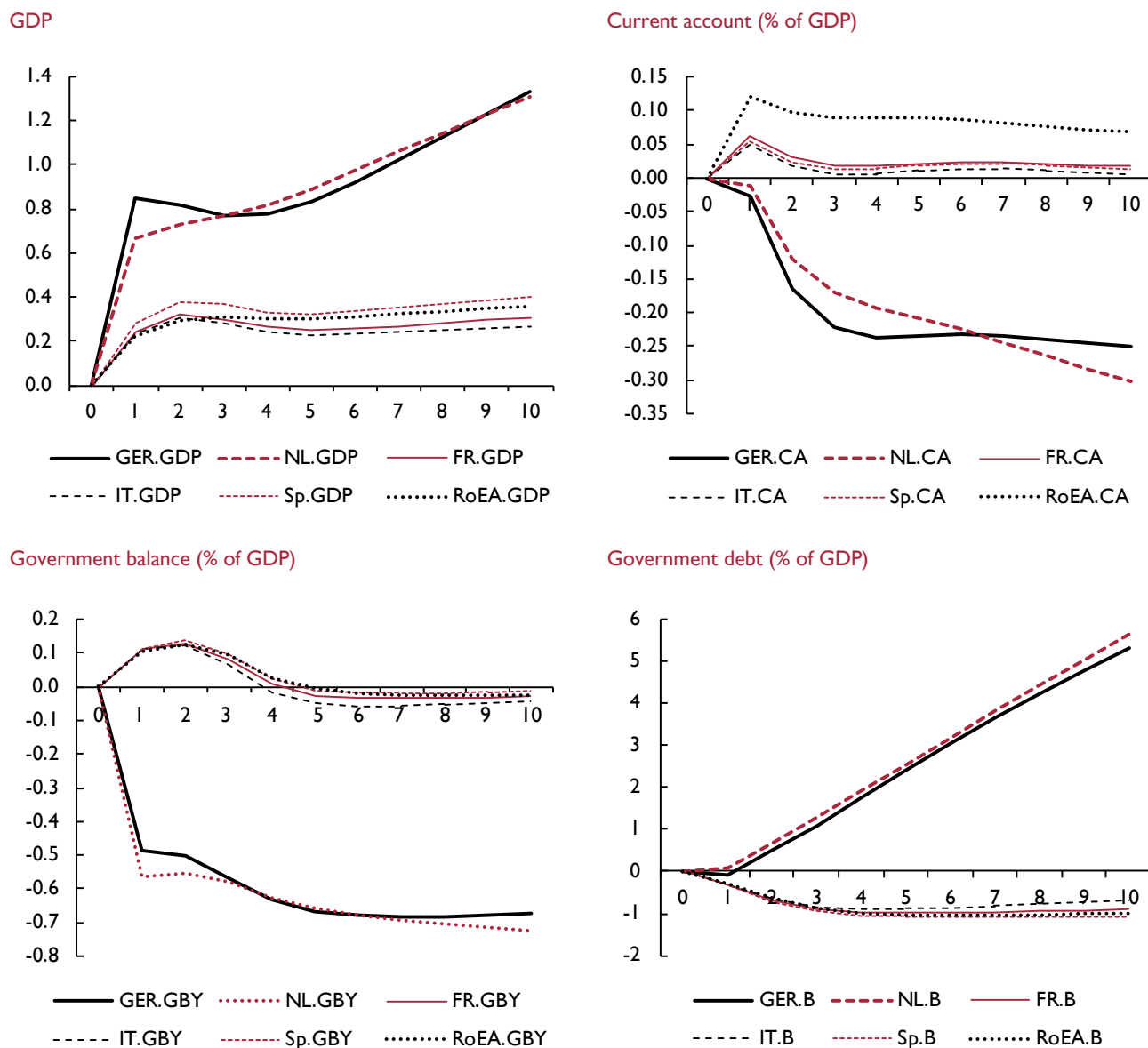
Note: Increase in public investment in GER and NL of 1 per cent of GDP, under normal monetary policy rule.

is initially around 0.6 pps as automatic stabilisers reduce the impact on the government balance, but the deficit gradually increases as interest payments rise. Government debt increases gradually and is around 6 pps higher after a decade.<sup>6</sup> The current account surpluses of Germany and the Netherlands fall by 0.2–0.3 pps.

The rest of the Euro Area benefits from the public investment stimulus in Germany and the Netherlands

through higher exports, but this is partly offset by the negative impact of higher real interest rates on domestic demand. In addition, the fiscal stimulus is associated with an appreciation of the euro and this reduces the boost to net exports in the rest of the Euro Area. All in all, in the first years the interest rate effect on domestic demand and the appreciation of the euro offset the direct trade demand effect and the GDP spillovers to the rest of the EA are close to zero. In later years they gradually become positive.

Figure 4. Investment stimulus in surplus countries with monetary accommodation



Note: Increase in public investment in GER and NL of 1 per cent of GDP, constant policy rates for two years.

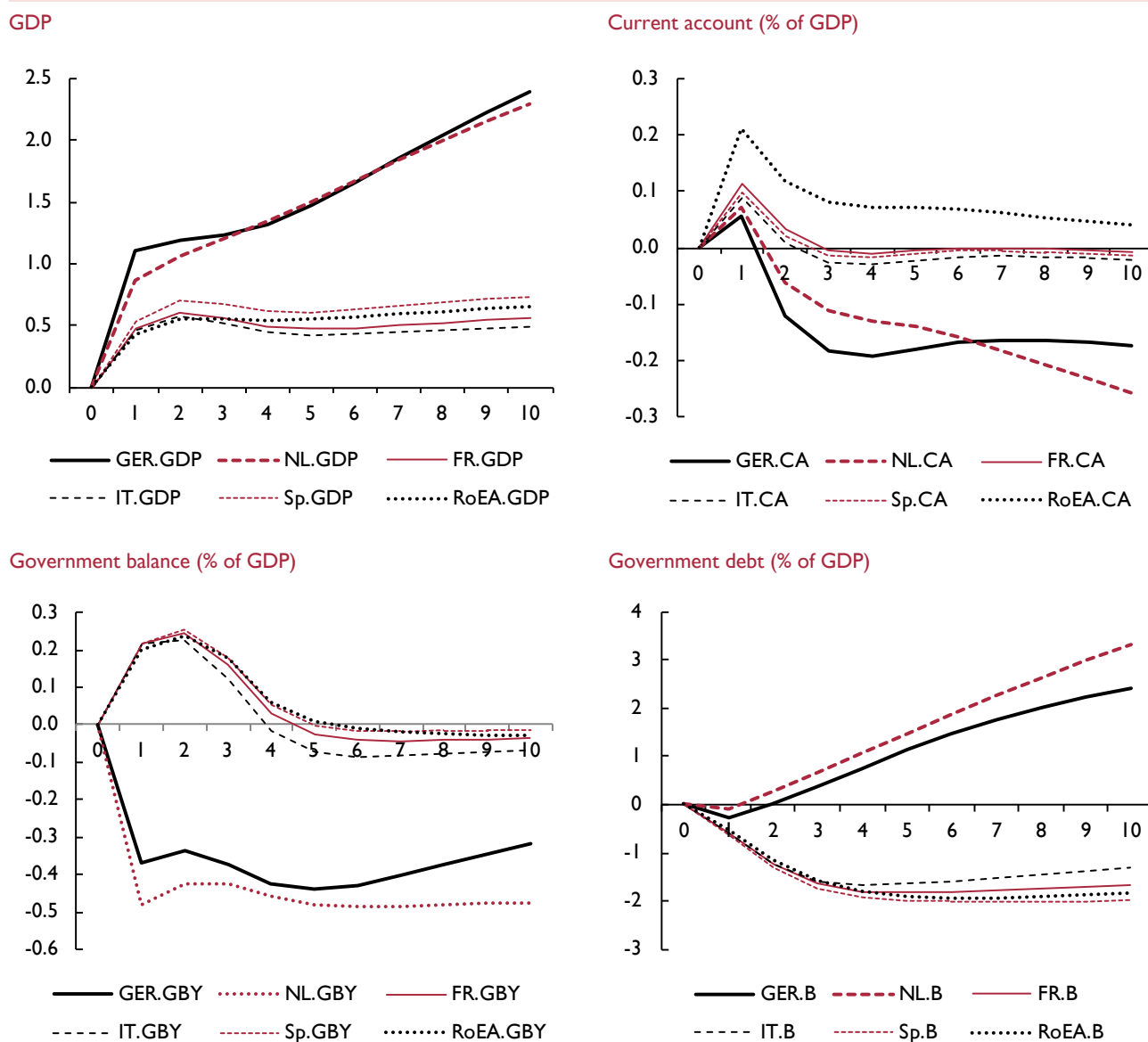
### 3.2 Accommodative monetary policy

When monetary policy accommodates the fiscal stimulus, the results are more favourable. Figure 4 shows the scenario when there is no interest rate response in the first two years of the stimulus. After that period, the policy rate gradually moves again towards a standard Taylor rule. As this is productive spending, accommodation by monetary authorities may not be an unreasonable assumption to make, but certainly at the current juncture, monetary policy is constrained at the

zero lower bound and monetary policy can accommodate the fiscal stimulus.

Figure 4 shows the macroeconomic effects in this case. The increase in public investment raises GDP on impact by 0.85 per cent in Germany and 0.7 per cent in the Netherlands.<sup>7</sup> Again, GDP effects are increasing over time as public investment is productivity enhancing, and GDP is about 1.3 per cent higher after ten years. The increase in the public deficit is initially around 0.5

Figure 5. Investment stimulus in surplus countries with monetary accommodation, high efficiency



Note: Increase in public investment in GER and NL of 1 per cent of GDP, constant policy rates for two years, assuming higher long-run output elasticity of public capital (0.17).

pps as automatic stabilisers reduce the impact on the government balance, but the deficit gradually increases as interest payments rise. Government debt increases gradually and is around 5 pps higher after a decade.

The demand expansion in these two countries generates sizeable spillovers to the rest of the EA, through a direct trade effect and now with constant interest rates a small euro depreciation. GDP in France, Italy, Spain and the rest of the EA is around 0.3 per cent higher. Current

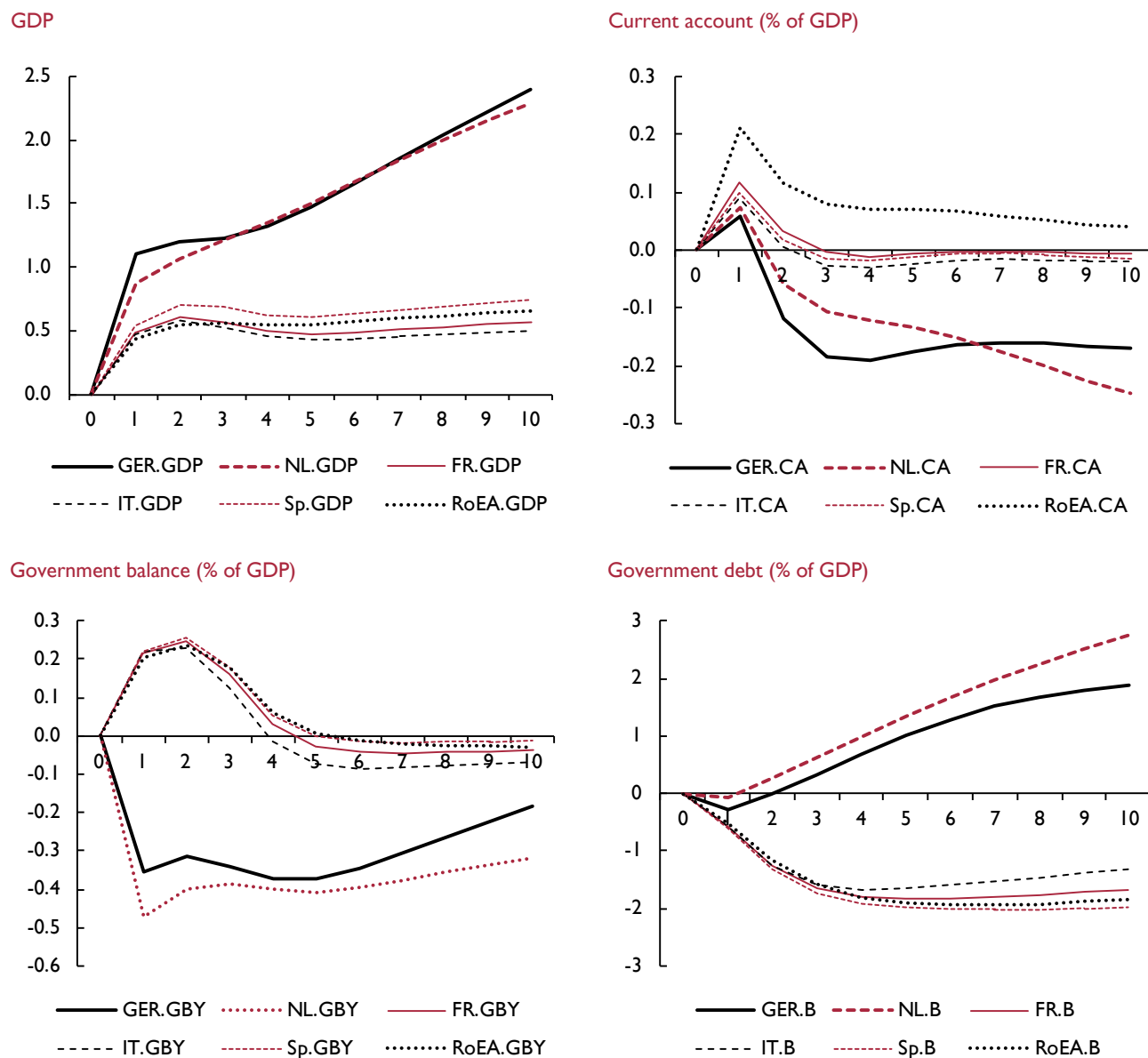
accounts of Germany and the Netherlands fall by 0.25 pps, marginally less than in the first scenario due to the depreciation of the euro. The increase in current accounts in other member states is however small, not much more than 0.05 pp, slightly higher for the rest of the EA (Belgium, Austria, Finland and others) (figure 4).

### 3.3 Higher efficiency of public investment

The long-run GDP effect of higher public investment depends crucially on the assumed long-run output



Figure 6. Investment stimulus in surplus countries with monetary accommodation, high efficiency, low borrowing costs



Note: Increase in public investment in GER and NL of 1 per cent of GDP, constant policy rates for two years, assuming higher long-run output elasticity of public capital (0.17), and lower borrowing costs in GER and NL (1 per cent).

elasticity of public capital, which determines by how much a higher stock of public capital raises the marginal productivity of the other inputs in production, i.e. private capital and labour. Estimates for this elasticity from the empirical literature vary widely. In the model this output elasticity is set to a level such that the marginal product of public capital equals that of private capital ( $\alpha_G = 0.09$ ). Although some authors use a lower value of e.g. 0.05 (Leeper *et al.*, 2010) our assumption is at

the lower end of the range used in macro models. For comparison, in the IMF WEO of October 2014, the elasticity of core infrastructure is set at 0.17, based on a meta-analysis by Bom and Ligthart (2014). Even in advanced economies in which measures of the quantity of infrastructure appear high relative to those in the rest of the Euro Area, as is the case for the Netherlands, there are deficiencies in the quality of the existing infrastructure stock. It is also important to stress that



the increase simulated here would merely reverse steep cuts in government investment in recent years, many of which have led to backlogs in deferred maintenance on the existing infrastructure shock, and are thus unlikely to have below average rates of return.

To show the importance of this technical assumption, the third scenario shown in figure 5 assumes a higher value for this parameter of 0.17, in line with the mean estimate found in the literature. Monetary policy is again assumed to accommodate the stimulus. This raises the GDP effects in the countries undertaking the stimulus, with an increase in GDP of 2.4 per cent after ten years. It also leads to larger spillovers to the rest of the Euro Area, boosting GDP by around 0.5 per cent. The larger productivity gains for Germany and the Netherlands however reduce the fall in their current accounts in the medium term as the competitiveness gains partly offset the demand effect. The impact on public finances is more favourable, as higher growth boosts tax returns and as a result the government balance deteriorates by less. The increase in government debt is now only 2.5 to 3 pps after ten years, while debt ratios in the rest of the Euro Area are actually falling by 2 pps due to the positive GDP spillovers.

### 3.4 Lower borrowing costs

As mentioned above, the implications for public finances may be more favourable than depicted in the previous scenarios as governments can borrow now at interest rates well below the 4 per cent steady state interest rate assumed in the model baseline. Government bond yields for Germany and the Netherlands have fallen dramatically since the beginning of the crisis, and are now close to zero for 10-year bonds, and below 1 per cent for 30-year bonds. This means these countries can lock-in into record low rates, which, assuming a long term-inflation target of 2 per cent, imply negative real interest rates. In this final scenario, shown in figure 6, the government interest rate for Germany and the Netherlands is reduced from 4 per cent to 1 per cent, while maintaining the other assumptions above of no interest rate reaction in the first two years, and a higher efficiency of public investment. The main impact is on the development of government debt which now accumulates to less than 2 pps above baseline after ten years for Germany and to 2.8 pps for the Netherlands.<sup>8</sup> The GDP effect is actually marginally lower now, as lower interest payments to savers holding government bonds leads to a downward adjustment in their consumption. GDP spillovers to the rest of the Euro Area are around 0.5 per cent, but the adjustment in current accounts remains small. Government debt ratios in the rest of the Euro Area improve due to higher

growth. While the current account rebalancing in the Euro Area is relatively small, the debt rebalancing is in fact more significant.

## 4. Concluding remarks

Model simulations shown here support the view that a debt-financed increase in government investment in Germany and the Netherlands will at the current juncture, with monetary policy constrained by the zero interest rate floor, have positive GDP spillovers to other trading partners. An increase in government investment can provide a boost to (potential) output, while at the current interest rates the (real) costs are extremely low. While more deficit spending could exacerbate confidence problems in countries in which the medium-term sustainability of public finances is in doubt, this is unlikely to be the case in Germany and the Netherlands. These countries face record low government bond rates, which can now be locked-in, and this provides an opportunity to bring forward public infrastructure projects which should, even when debt-financed, have a higher rate of return than present borrowing costs.

The simulations shown here confirm the positive GDP spillovers. The monetary policy assumption here plays a crucial role. Spillovers could be small in the short run when monetary policy reacts normally, but when nominal interest rates are constrained at the zero interest rate floor the GDP spillover effects can be sizeable. Domestic and spillover effects can be even larger when the new investment is directed to the most productive projects, while with current low borrowing costs for the surplus countries the increase in government debt will be modest. In fact government debt ratios in the rest of the Euro Area could fall.

However, it is also evident that the impact on current accounts is likely to be modest. A realistic increase in government investment can lead to a reduction in current account surpluses, but one cannot expect a, say, 1 per cent of GDP level increase in domestic demand to make a larger dent in current account surpluses than we see in these model simulations, as these have been the result of below trend domestic demand growth for many years. Likewise the impact of a stimulus in surplus countries on current accounts in other individual Euro Area countries is positive but small.

## NOTES

- 1 One other difference in the Kollmann *et al.* model is that a tax rule is operating that stabilises the debt-to-GDP ratio, and the accompanying increase in taxes reduces private consumption. As a result of this partial tax financing, the trade balance effects

- are gradually reversed. In other QUEST simulations, this tax rule is switched off for twenty years and the stimulus is debt financed over that period.
- 2 OECD (2016) also reports for NiGEM lower multipliers than in their other models, both after one year and in the long run (Fig. 2.12–13).
  - 3 This is confirmed in Carreras *et al.* (2016). The relevant import shares in QUEST model simulations in the following sections are those specific for gross fixed capital formation. As input-output tables do not distinguish between private and public investment, import shares are assumed to be equal.
  - 4 Blanchard, Erceg and Linde (2015) consider a more general increase in public spending and focus on how a fiscal expansion in the core can boost growth in the periphery. Core in this setup is a larger group that consists of roughly two-thirds of the EA. They show that a fiscal expansion by the core economies of the Euro Area would have a large and positive impact on periphery GDP assuming that policy rates remain low for a prolonged period. An expansion of core government spending equal to 1 per cent of Euro Area GDP would boost periphery GDP around 1 per cent in a liquidity trap lasting three years, about half as large as the effect on core GDP. IMF (2014) focusses on infrastructure investment and argues the time is right for an infrastructure push as borrowing costs are low and demand is weak in advanced economies. Importantly, in the GIMF model simulations shown, projects could, even when debt-financed, have large output effects without increasing the debt-to-GDP ratio, if clearly identified infrastructure needs are met through efficient investment.
  - 5 For a detailed description of the QUEST model, see Burgert *et al.* (2017, *forthcoming*). More information and links can be found on: [http://ec.europa.eu/economy\\_finance/research/macroeconomic\\_models\\_en.htm](http://ec.europa.eu/economy_finance/research/macroeconomic_models_en.htm)
  - 6 The simulation may in fact overestimate the debt accumulation as government interest rates are currently significantly lower than the 4 per cent assumed in the model baseline (see next scenario). In the long run, the debt-to-GDP ratio is stabilised in the model back to baseline levels through higher taxes. With a higher public capital stock the positive productivity effects are permanent.
  - 7 The larger GDP effects compared to the first scenario are due to the following factors. Nominal interest rates are in this second scenario not raised, but this was a relatively small increase (not much more than 10 bps). But at the zlb the stimulus is more inflationary and real interest rates decline, boosting private consumption and investment. In addition, the stimulus is now associated with a depreciation of the euro stimulating net exports. The latter also leads to larger spillovers.
  - 8 Note that for Germany and the Netherlands, with an impact multiplier around one, the stimulus is not self-financing in the short run, unlike in IMF (2014), where for a stimulus in all advanced economies the impact multiplier is above two, and the debt-to-GDP ratios decline on impact. But in case of a permanent increase in public investment, the stimulus can become self-financing in QUEST in the long run if investment is efficient (i.e the debt ratio falls below baseline in the long run).

## REFERENCES

- Blanchard, O., Erceg, C. and Linde, J. (2015), 'Jump starting the Euro Area recovery: would a rise in core fiscal spending help the periphery?', NBER Working Paper 21426.
- Bom, P. and Ligthart, J. (2014), 'What have we learned from three decades of research on the productivity of public capital?', *Journal of Economic Surveys*, 28(5), pp. 889–916.
- Bundesministerium für Wirtschaft und Energie (BMW) (2015), 'Auswirkungen höherer öffentlicher Investitionen in Deutschland auf die Wirtschaft des Euroraums', *Monatsbericht*, 7-2015.
- Carreras O., Kirby, S., Liadze, I. and Piggot, R. (2016), 'Fiscal policy spillovers', NIESR Discussion Paper No. 468.
- Deutsche Bundesbank (2016), 'The international spillover effects of an expansion of public investment in Germany', Monthly Report August 2016.
- European Central Bank (2016), 'Public investment in Europe', *ECB Economic Bulletin*, 2/16, pp. 75–88.
- European Commission (2016), 'Towards a positive fiscal stance for the Euro Area' (COM(2016) 727), [https://ec.europa.eu/info/publications/2017-european-semester-communication-fiscal-stance\\_en](https://ec.europa.eu/info/publications/2017-european-semester-communication-fiscal-stance_en).
- Elektdag S. and Muir, D. (2014), 'Das Public Kapital: how much would higher German public investment help Germany and the Euro Area?', IMF Working Paper 14/227.
- IMF (2014), 'Is it time for an infrastructure push? The macroeconomic effects of public investment', Chapter 3 in *World Economic Outlook*, October.
- In't Veld, J. (2013), 'Fiscal consolidations and spillovers in the Euro Area periphery and core', *ECFIN Economic Papers* 506.
- (2016), 'Public investment stimulus in surplus countries and their Euro Area spillovers', *ECFIN Economic Briefs* 16, Brussels.
- Kollmann, R., Ratto, M., Roeger, W., in't Veld, J. and Vogel, L. (2015), 'What drives the German current account? And how does it affect other EU member states?', *Economic Policy*, 30, pp. 47–93.
- Leeper, E.M., Walker, T.B. and Yang, S.-C. S. (2010), 'Government investment and fiscal stimulus', *Journal of Monetary Economics*, Elsevier, 57(8), pp. 1000–12, November.
- OECD (2016), *Economic Outlook*, Volume 2016, Issue 2.