

Will, Henner

Research Report

Comments on expenditure growth in line with potential GDP growth and the "Golden Rule": An assessment of the propositions of ECOFIN and a "Golden Rule" for public investment including educational spending. Supplement to the expertise "Stability by balanced growth" for the Group of the Progressive Alliance of Socialists & Democrats in the European Parliament by Torsten Niechoj

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Comments on Expenditure Growth in line with Potential GDP Growth and the “Golden Rule”

Henner Will

**An assessment of the propositions of ECOFIN and a “Golden Rule”
for public investment including educational spending.**

**Supplement to the expertise “Stability by Balanced Growth” for the
Group of the Progressive Alliance of Socialists & Democrats in the
European Parliament by Torsten Niechoj.**

Düsseldorf, May 16th 2011

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Henner Will

Macroeconomic Policy Institute (IMK), Duesseldorf

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1 Introductory remarks

The current discussion on the reform of the Stability and Growth Pact is driven by three main legislative texts or policy issues: (1) The regulation on the strengthening of the surveillance of budgetary positions as well as the surveillance and coordination of economic policies; (2) the regulation on speeding up and clarifying the implementation of the excessive deficit procedure; and (3) the regulation on the prevention and correction of macroeconomic imbalances (for further details and discussion see Niechoj 2011).

Against this background, this comment will deal with the question of whether it makes sense economically to keep expenditure growth in line with potential instead of actual GDP in the medium-run (section 2) and whether and how public investment could be increased by using a “Golden Rule” mechanism (section 3). It will be argued that a medium-run growth path of expenditure that follows potential GDP growth may be adequate under certain conditions, especially if it focuses on current/consumptive public expenditure. Furthermore, the comment will argue in favour of the idea of a “Golden Rule” including net investment and productive expenditure for human capital formation.

2 Expenditure growth in line with potential GDP growth (question 1)

In its draft on the reform of the Stability and Growth Pact ECOFIN (2011: 10, 18) argues that if governments have achieved their medium-term budgetary objective – a budget close to balance or in surplus and below 0.5 % of GDP as a maximum deficit – their expenditures should not grow faster than potential GDP instead of actual GDP as in former drafts. That means that the share of public expenditures to potential GDP should be stabilised over time. Governments that face debt-to-GDP-ratios in excess of the 60 % debt threshold have to lower the growth of their expenditures below potential GDP growth. This seems reasonable as a medium-term target. Given correct revenue elasticity estimates, this procedure allows a smooth fiscal consolidation and stabilisation in a downturn without depressing public expenditures too much – at least as far as consumptive expenditures are concerned. However, there are problems in determining potential growth and the ECOFIN (2011) does not specify which growth rates – nominal or real – are concerned.

Following the European Commission (2005), a revenue elasticity of 1 is appropriate for the EU-25 aggregate. That means that public revenues increase on average at the same rate as GDP and that the average revenue-to-GDP-ratio is constant over the cycle. If fiscal policy targets a zero or constant structural deficit in the medium-run, expenditure growth at the same rate as potential GDP and thus average revenues is an appropriate rule. Yet, this only works if elasticities are properly estimated and if in that case countries' elasticities are sufficiently close to 1. Some countries are considered to have lower elasticities - Estonia (0.88), Latvia (0.89), Lithuania (0.9), Austria (0.94), Poland (0.91), Slovenia (0.96), Slovakia (0.88), Finland (0.92) and Sweden (0.94) -, whereas others as Italy (1.17) have quite high ones (see European Commission 2005: 5). Therefore, expenditure growth in line with potential GDP growth would not result in a balanced budget for the low-elasticity countries whereas high-elasticity countries would realise surpluses. Against this background, a very strict interpretation of the proposed rule only makes sense if country-specific elasticities are properly known and if the differences between the country-specific elasticities are reduced drastically, for example via tax harmonisation.

For governments above the 60 % debt-to-GDP limit that are currently consolidating their budgets, an expenditure path below but close to the potential GDP growth target implies a smooth decrease of the debt level. As seen in the 1990s in the USA, a modestly increasing expenditure path beneath GDP growth may enhance consolidation in times of prosperity leading to a “growth out of deficits”. Again, this only makes sense if the revenue elasticity is

near or above 1. If it is sufficiently below 1, revenue and expenditure paths may not converge even if countries comply and restrict their spending. For example, consider a situation where a country faces a 100 % debt-to-GDP ratio, growing at 0.5 % per year and realising deficits of 0.5 % of GDP. Even if expenditure is only growing at 0.4 % per year, this may be a situation where no consolidation takes place if the revenue elasticity is about 0.8. In this case, revenue growth would also be at 0.4 % per year. Revenue and expenditure paths move parallel in time without decreasing the debt-to-GDP-ratio. Even if the government *per se* fulfils the criteria, this does not lead to fiscal consolidation. The criteria do not solve a problem that may be caused by a low revenue-elasticity, e.g. due to low tax rates.

Another problem is the measurement of potential GDP. Different institutions use very different methods. The European Commission sticks to the method of Denis et al. (2006) and D'Auria et al. (2010), whereas the Swiss debt brake uses a modified version of the Hodrick-Prescott-Filter (Bruchez 2003).¹ However, estimating potential GDP is always affected by a pro-cyclical bias (Horn et al. 2007): Both filter and econometric techniques are sensitive to movements at the end of time series, that is: if the economy is in a recession and growth rates fall, potential GDP measure falls slightly, too, and vice versa in upswings. If expenditures followed the potential GDP path and the latter increased and decreased in line with the cyclical outlook, then fiscal policy would be pro-cyclical, too, thus amplifying cyclical movements in GDP. The European Commission is already aware of these problems. It has introduced a method which is less sensitive to the business cycle (D'Auria et al. 2010). Yet the problem is not solved completely. Thus, the resulting slight pro-cyclicality of the expenditure path in line with the pro-cyclicality caused by potential GDP measurement is still preferable to an expenditure growth path that never exceeds actual GDP growth. The latter regulation transfers GDP fluctuations one-to-one to the government budget, the former cushions them.

Finally, the ECOFIN (2011) draft does not deal with the question of whether nominal or real growth should be used to compute expenditure paths. The European Commission measures potential GDP at constant prices, that means adjusted by inflation. It is not clear whether this is also the case for the ECOFIN (2011) proposal for expenditure growth. But even if it aims at expenditure growth at constant prices, the resulting development of nominal expenditure will

¹ Actually, the Swiss debt brake prescribes an expenditure path similar to the plan by the ECOFIN (2011). Formally, expenditures have to follow this rule: $\text{expenditures} = (\text{potential GDP})/(\text{actual GDP}) \cdot \text{revenues}$. Assuming a revenue elasticity of 1 and rewriting the rule in growth rates: $\text{Growth}_{\text{expenditures}} = \text{Growth}_{\text{potential GDP}}$, where $\text{Growth}_{\text{revenue}} - \text{Growth}_{\text{actual GDP}} = 0$. That is: The Swiss' debt brake's target wants expenditures to grow in line with potential GDP, guaranteeing a stable expenditure-to-GDP-ratio over the cycle, exactly what the ECOFIN (2011) intends.

be sensitive to the use of different deflators. This is not a trivial question since holding the share of expenditure to GDP constant in the medium run cannot be successful - real growth rates being equal - if the deflators are different: A deflator for public expenditures that is lower than the deflator for the overall economy would lead to a nominal decrease of public expenditure as a share of GDP; if the public expenditure deflator was higher than the deflator for the overall economy, expenditure would increase as a share of GDP. If nominal growth rates were used, the nominal GDP-share of public expenditure would be constant over time, even if real growth differed. Taking nominal values is the most reasonable procedure and is advised here. Otherwise the medium-run target for an expenditure-to-potential-GDP-ratio equal to the revenue-to-potential-GDP-ratio may not be achieved due to disturbing deflator effects.

To conclude, the target of a stable medium-term expenditure-to-GDP-ratio via a restriction on expenditure growth rates can be adequate. However, this implies a fairly precise knowledge of the country-specific revenue elasticities. Governments with a higher debt-to-GDP-ratio than 60 % that implement a lower expenditure growth path than potential GDP growth can only “grow out of deficits” if their revenue elasticities are near or greater than 1. Since the proposition focuses on the medium run and explicitly allows higher expenditure growth in cases of economic downturns (ECOFIN 2011: 12), pro-cyclical and economically harmful spending cuts in the short-run can be avoided. A slight pro-cyclical bias in the medium-run is still unavoidable because the method of measuring potential GDP cannot completely exclude pro-cyclicality. Thus, a potential GDP growth target is certainly more stable over time than the actual GDP growth target. Finally, the growth rates should focus on nominal values.

3 The “Golden Rule” of public investment (questions 2 and 3)

The criteria of the Stability and Growth Pact do not distinguish between consumptive and investment-related expenditures. A Golden Rule framework of public investment requires governments to borrow only if they finance investments, and to balance consumptive or current budgets. Economic growth theory and empirical research provide justification for doing so and both Germany and the UK provide regulatory examples (see Dabán et al. 2003). However, there are some questions left concerning the depreciation of public capital stock and the consideration of human capital investments. Finally, budgets have to be split to distinguish consumptive purposes on the one hand and investment-related ones on the other hand.

From a theoretical point of view, an increase in public debt is always accompanied by an increase of assets on the public balance sheet. From an economic point of view, a government

should avoid financing current consumption by deficit spending but may do so for an increase in the capital stock (like debt-financed spending on increasing net public infrastructure). Following the so-called pay-as-you-use principle, policy makers should even do so since tomorrow's generation benefits from today's capital stock and therefore should participate in financing it (German Council of Economic Experts 2007). In other words, forcing governments to abandon public debt does not favour intergenerational equity but harms it.

Whether public investment has positive effects on growth is mostly an empirical question (see the overview in Czerny et al. 2006, Müller et al. 2007). A balanced consumptive budget and debt-financed public investments are considered as an appropriate economic tool by many economists (see the interview with Robert Solow in Müller 2009). Even opponents of public indebtedness and stabilisation policies would not deny positive growth effects by productive investment-related public spending (Barro 1990). The question of what to count as public investment is a question of statistics and convention: Assets used with a medium-run-horizon (about 2-5 years) may be considered, but it may also be convenient to take a longer time-horizon as 10 years to exclude, for example, police and fire brigade cars from investment since it may be seen as consumptive expenditure. This is a juridical and therefore political question. A pragmatic solution is the use of public investment data from national accounts, harmonised at a European level (Eurostat, AMECO-database).

Following these insights, Germany had a Golden Rule in its constitution for the last 40 years but abandoned it in 2009 in favour of the new German debt brake which does not consider economic growth, but only cyclicity. The UK still sticks to a Golden Rule. In Germany, the former Golden Rule did not distinguish between gross and net investment. Critics of the old framework argue that only net investments increase the public capital stock. Therefore replacement-investment should not be debt-financed since this is current spending which increases the public debt level and would overcharge future generations. However, there is no consensus about the depreciation rate of public capital. Even so, there are estimates. The European Commission provides data for net public capital formation, see the AMECO database. Whether this data is appropriate cannot be answered here, but if so, it could be used to include net investments in the Stability and Growth Pact by excluding them from the deficit-, debt-to-GDP-, and expenditure-growth-rate-criteria (see section 2).

Another point is the question of how to capitalise expenditures in intangible assets, e.g. human capital formation as a special form of investment. Endogenous growth theory (Uzawa 1965, Lucas 1988) states that increased human capital formation and research and

development should enhance medium- and long-run growth. From microeconomic analysis we know that education realises high returns to investment (Card 2001, Psacharopoulos and Patrinos 2002); therefore human capital formation should also be considered in a European Golden Rule as an intangible asset class.

The following is an example of a potential pragmatic solution: Staff expenditures for educating personnel may be seen as investment from an economic point of view, since all non-administrative staff like teachers in school and professors at the universities is considered to increase human capital (see propositions of Vesper 2007). All other spending on education is consumptive (for example, facility managers and replacement investment for buildings). Again net investment should be considered. Microeconomic estimates of the depreciation rate of human capital differ (see e.g. the results in Kunze 2002) and there is a need for further research. But consider for example a plausible and careful depreciation rate of 10 %.² That means that knowledge from public education lasts at least ten years and 90 % of yearly spending for non-administrative staff can be seen as net investment. Public spending on research and development may be treated analogously. To provide an exact assessment of investment-related expenditure is mainly not a theoretical question but one of the availability of data.

To summarize the main points: Public investment should be excluded from the deficit and debt criteria since it enhances growth and meets the requirements for intergenerational equity. It could be discussed whether net or gross investments are the right variables, whereby net investments are certainly easier to implement politically. Finally, productive net expenditures on human capital formation should be included as well.

4 Concluding remarks

The criteria of the Stability and Growth Pact – 3 % deficit at maximum and a 60 % debt-to-GDP-ratio, a reduction of the debt-to-GDP-ratio within 20 years, a balanced budget in the medium-term (with a maximum structural deficit of 0.5 %), and expenditure growth in line with potential GDP growth (see part 2) – are certainly appropriate for consumptive spending but not sufficient for growth-enhancing public investment. Therefore, introducing a Golden Rule is justified if Europe wants to achieve its goals in the “Lisbon Strategy” and “Europe 2020” – innovation, human capital formation and, as a result, competitiveness and economic

² The depreciation rate is higher when human capital is only used in the professional life, that is: The individual human capital depreciates within 30-40 years fully. The full depreciation would be reasonable, but is not probable, as confirmed by microeconomic studies. Expecting 10 % as depreciation is therefore quite high and would hopefully increase the acceptance of such a proposition.

growth which certainly require investments above 0.5 % of GDP of structural deficits. The current framework of the Stability and Growth Pact would either lead to too-low investments at a given current expenditure structure or to too-low funds to maintain current and static government provision of public goods at high net investments.

The easiest way to implement a Golden Rule would be to split budgets into two parts: a consumptive and an investment-related part. The budget including current expenditure could easily be restricted by the criteria mentioned – medium-run balanced zero deficits, spending in line with potential growth – and even in economic downturns the 3 % of GDP deficit criterion should be sufficient for the automatic stabilisers to float freely. The part of the budget which covers net investment-related and net educational/research expenditures can either be unrestricted (as it was in Germany), restricted by a target level of the public ‘productive-debt-to-GDP-ratio’ (as in the UK: 40 %), or restricted in a way that there is a deficit cap for infrastructural and educational/research spending (for example, 1.0 % - 5.0 % of GDP for net investment spending depending on the cyclical situation plus a permanent target rate for educational/research spending would be appropriate figures).

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Phone: +49-211-7778-331, IMK@boeckler.de, <http://www.imk-boeckler.de>

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