

POTENTIAL GDP OF THE GREEK ECONOMY
HELLENIC FISCAL COUNCIL
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EXECUTIVE SUMMARY

The study aims to estimate potential GDP and output gap of the Greek economy. Potential GDP is, in principle, a summary indicator which illustrates the ability of an economy to achieve long-term, sustainable and non-inflationary economic growth. Similarly, the output gap is an indicator of the degree of overheating or under-utilization of productive resources in relation to potential GDP. Both constitute important tools in economics as a means to evaluate the capacity of an economy and to determine its position during the economic cycle. These are also essential components in the process of fiscal monitoring as well as in the assessment of the progress of the structural reform program. They might also be a useful guide in the construction of the cyclically adjusted budget deficit as the position of the economy in the economic cycle is needed to produce the finally adjusted measure.

Potential GDP is not directly observed. In order to estimate it, both the production function approach and the Kalman statistical filters are used. The necessary data for the estimation of potential output and output gap are expressed in annual frequency and are derived from Penn World Tables (9th edition, Feenstra 2015) and the databases of ELSTAT (National Accounts and Labor Force Surveys).

The estimates of potential GDP and output gap vary across different methods. According to production function estimates, potential GDP of the Greek economy in 2015 was 255 billion dollars (expressed in constant 2011 prices and purchasing power parities), its growth rate was -3.1% (Figure 1) and the output gap was -4.5% (Figure 2). The results derived from the use of different Kalman filter equations mostly show us that potential GDP ranged between 262 and 267 billion dollars, its growth rate was between -2.6% and -3.6% and the output gap lied somewhere between - 3.3% and - 6.2%.

Figure 1 Growth rate of potential GDP

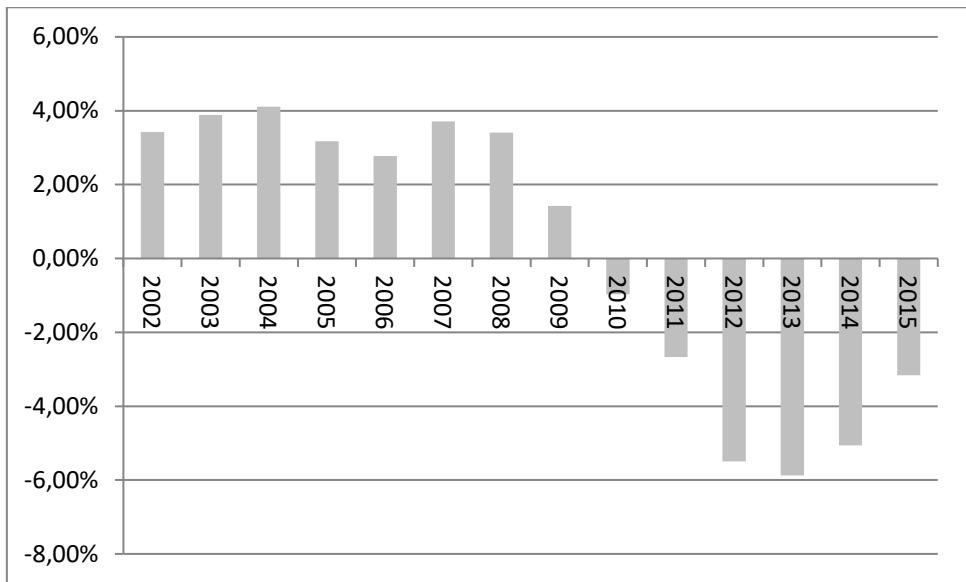
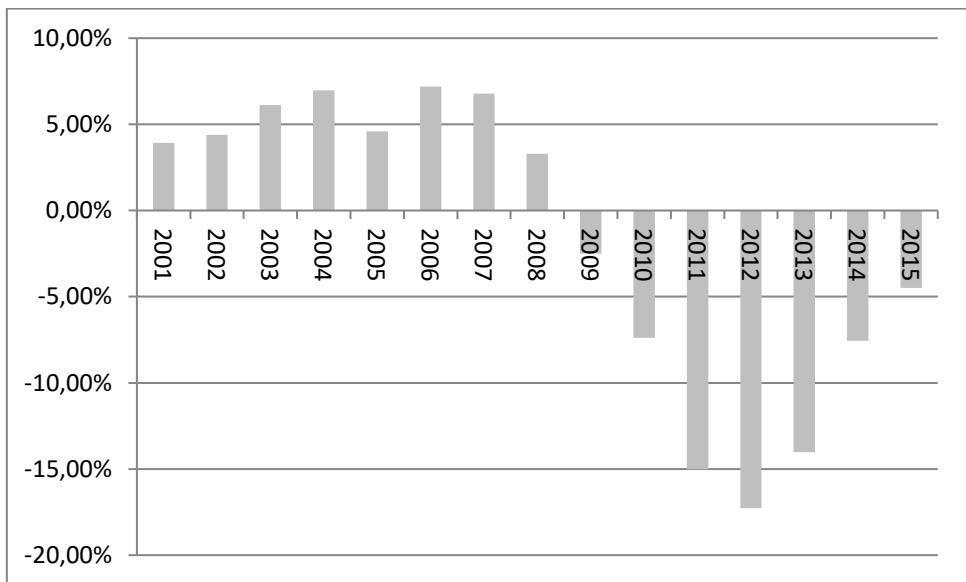


Figure 2 Output gap



This study also produces measures of potential output of the Greek economy for 2016 and 2017. Three different scenarios are adopted which take into account the forecasts of international organizations for the Greek economy for the years of 2016 and 2017 (OECD Economic Outlook 2015, European Economic Economic Forecast 2016). The baseline scenario assumes that gross fixed capital formation, as a percentage of GDP, will be 12% in 2016 and 13.5% in 2017. It also adopts that

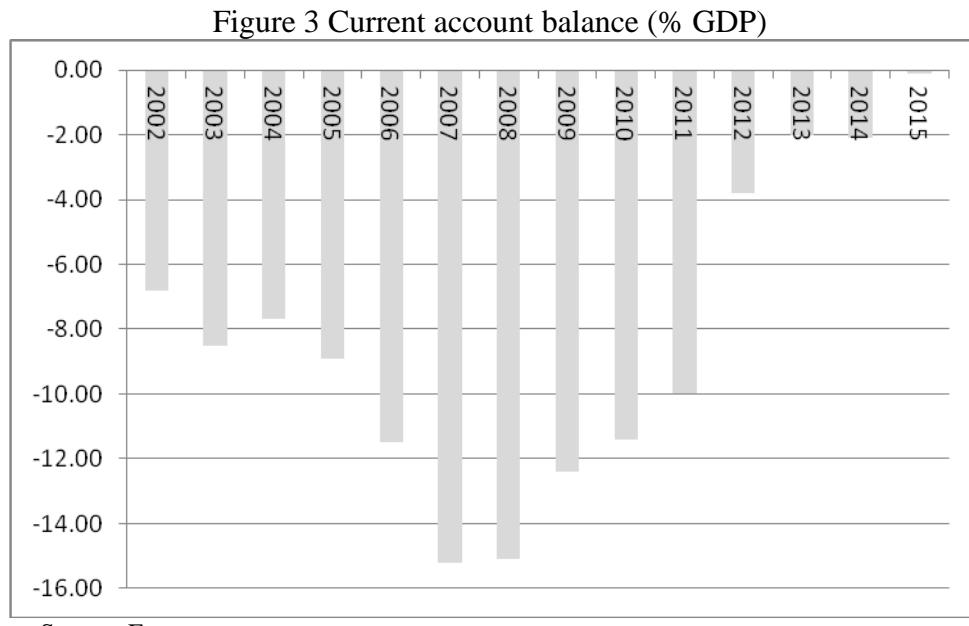
structural unemployment will be at 18.37% in 2016 and 17.62% 2017. The least optimistic scenario adopts the assumptions of the baseline scenario for 2016 as regards investment and unemployment but assumes that, during 2017, gross fixed capital formation will be at 12.5% and structural unemployment at 18%. In a similar fashion, the most optimistic scenario for 2017 assumes that aggregate investment will be at 15% and structural unemployment at 16.62%.

According to the estimates produced by all three scenarios, the growth rate of potential output in 2016 will remain negative but will decelerate to -0.4%. The output gap will be negative at -3.97% while the potential GDP will reach 253.3 billion dollars. By the most optimistic scenario, the growth rate of potential GDP will reach 1.23% in 2017, the output gap will remain negative at -2.49% and potential output will be equal to 256.5 billion dollars. The baseline scenario predicts that in the end of 2017 the growth rate of potential output will reach 0.57%, the output gap will be negative at -1.82% and potential output will reach 254.8 billion dollars. Finally, the most pessimistic scenario informs us that during 2017 the growth rate of potential output will reach 0.28%, the output gap will be -1.52% and potential output will be equal to 254 billion dollars.

The common elements that emerge from both production function and Kalman filter estimates are the unusually high and persistent positive output gaps observed during the period 2001-2008. What is also similar across all estimates is that this trend was reversed with the advent of the crisis, in 2009, with the appearance of highly negative output gaps. However persistence of such negative output gaps was not so high, with their deceleration in absolute terms having appeared during 2013-2015. Unfortunately this development did not take place due to high real GDP growth rates, but instead due to sharp decline of potential GDP over the last five years.

The highly positive and persistent output gaps which were observed during 2001-2009 are mostly due to the increase of aggregate demand in that period. A number of reasons associated with credit expansion, appearance of fiscal deficits and flow of EU funds contributed to accelerating final demand. The credit growth expansion during that era is mainly attributed to the liberalization of the banking sector in the late 90s and the appearance during that time of very low interest rates. The banking sector had access to abundant and cheap borrowing, which, in turn, was directed to the supply of credit to households and businesses. At the same period, the appearance of low interest rates led to a gradual increase of government lending, which further triggered an

increase of domestic demand and import growth, as the production capacity of the Greek economy was not capable of satisfying such increased aggregate demand. The outcome was the rise of economic activity at abnormally high levels, the increase of prices and unit labor costs and the consequent deterioration of the competitiveness of the Greek economy, as reflected by the explosion of the deficit of the current account balance, reaching -15.1% of GDP in 2008 (Figure 3).



As regards negative output gaps, these are the outcome of the sharp decline of domestic demand over the last seven years. The advent of the crisis in 2009, the unprecedented fiscal consolidation and the absence of liquidity in the real economy resulted in real GDP falling short of potential GDP and the subsequent emergence of significant production surplus. However, the negative output gaps observed during 2009-2015 are not so persistently high (in absolute terms) as those observed during 2001-2008. Aside of the recession and fall of real GDP, an equally significant deterioration of potential GDP took place with subsequent adverse effects on the potential capacity of the Greek economy to grow. Anticipated adverse effects of fiscal consolidation (no matter how really impressive were its results, as the primary fiscal deficit of -10.2% of GDP in 2009 turned into primary fiscal surplus of 0.4% of GDP within a period of only four years), combined with the lack of liquidity, has substantially undermined the future capacity of the Greek economy to grow. The

massive divestment over the whole period, combined with extensive unemployment, depreciation of labor skills (due to absence of employment opportunities) and immigration of mostly young people, which are the most educated and dynamic part of the Greek population, have substantially contributed to a reduction of potential output and sharp elimination of the production surplus of the Greek economy.

Future prospects of the Greek economy remain uncertain as regards its ability to recover and start growing again. A stable macroeconomic environment, an efficient public sector, a mix of fiscal policy which does not distort incentives and a tax system which does not create surprises are the necessary prerequisites for the Greek economy to recover, attract investments and achieve sustainable long term economic growth. The enhancement of the export sector of the Greek economy is also desirable. Such orientation would contribute not only to higher economic growth and increase of employment but also to a rapid stabilization of the current account balance and a deceleration of the external debt.