

THE GREEK CRISIS: OUTLOOK AND AN ALTERNATIVE ECONOMIC POLICY

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6.1. Introduction

For the last seven years the Greek economy has been entrapped in a dramatic crisis in depth, intensity and duration. The scale of the disruption the crisis has left behind is exceptional in the economic history of the country and is clearly visible in every aspect of the economic, social and political life. The aim of this survey is to present and critically evaluate the consequences of the creditors' crisis resolution strategy and to propose the basic pillars of an alternative economic policy that could help Greece exit the crisis. This issue gains in importance, particularly at the current juncture, in the light of three interrelated factors. First, the implementation of the third bail-out programme that has extended the regime of austerity in the country at least up to 2018. Second, the transition of the economy to a phase of stagnation, which Greek and EU authorities expect to end after the successful completion of the second review of the programme, the implementation of the short-run debt relief measures⁴ and the ensuing inclusion of Greece in the ECB's quantitative easing (QE) programme. Third, the vibrant debate currently spurred among all participants in the Greek programme on the long-term sustainability of the country's public debt and future fiscal targets.

The thrust of our argument is that the very architecture of the macroeconomic adjustment programmes implemented in Greece since 2010 is incompatible

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 4. On the array of short-term measures recently decided for relieving Greece's public debt see Eurogroup (2016).

with the country's consumption-led growth model. Thus, any attempt to address Greece's sovereign debt crisis and lacking competitiveness by means of a frontloaded mix of fiscal discipline and internal devaluation is destined to fail, aggravating the country's financial instability, productive deficiencies and social distress. In view of that, any real prospect for Greece to escape from the crisis and return to market financing in the coming months is highly uncertain. Greece is rather in urgent need of pursuing an alternative policy strategy that would target investment and employment creation as a means of restoring economic growth and financial stability.

The remainder of this report is organised as follows:⁵ Section 2 exposes the fiscal conditions in Greece and underlines the failure of the creditors' fiscal plan to resolve Greece's sovereign solvency problem. Section 3 focuses on the failure of the internal devaluation strategy to foster employment and export competitiveness in the country. Section 4 briefly reports the impact of the creditors' policy agenda on the financial stability of the Greek private sector. Section 5 pays attention to the impact of the two adjustment programmes on the Greek labour market and industrial relations, as well as on poverty and living conditions. Section 6 presents the main pillars of an alternative policy proposal that has been elaborated by the Labour Institute of the Greek General Confederation of Labour (INE GSEE).

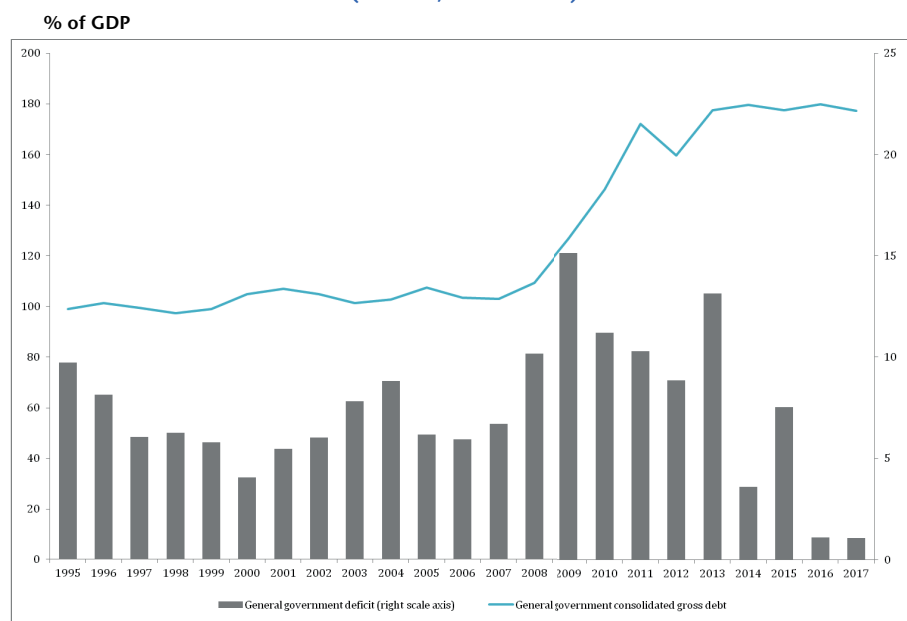
6.2. Fiscal austerity and sovereign debt crisis

Seven years after the outbreak of the sovereign debt crisis, the Greek economy continues to be stuck in a debt trap with the near-term fiscal outlook remaining gloomy and uncertain. The main reason for this is twofold: a) creditors' overemphasis on fiscal austerity that has proven incapable of improving the country's solvency, credibility and creditworthiness, thereby feeding market perceptions of a possible debt default; and b) the imposition of a pro-cyclical fiscal tightening amid deflationary conditions that has caused negative growth effects, thus further raising the country's credit risk. Against this backdrop and irrespective of the extent of the forthcoming debt restructuring measures, the route of the Greek economy over the coming years will primarily depend on its growth performance and thereby its ability to generate on a sustainable basis a primary budget surplus to service its debt payments.

5. This report heavily relies on a series of studies and reports edited by INE GSEE. See, for instance, INE GSEE (2015), INE GSEE (2016a) and INE GSEE (2016b).

Figure 1 provides a clear indication of the currently fragile financial position of the Greek public sector, tracing the evolution of the gross public debt and budget balance ratios to GDP from 1995 to 2017. It becomes clear that following a long period of fiscal imprudence and excessive deficits, since 2010 Greece has engaged in an extremely ambitious fiscal consolidation plan. The government budget deficit has declined from 15.1% of GDP in 2009 to 1.1% in 2016,⁶ while in structural terms the improvement of the fiscal balance in the period 2010-2016 has reached 13.6 percentage points, the largest seen across the EU. This extraordinary fiscal consolidation performance over the past years has been greatly facilitated by the package of harsh austerity measures embarked upon by the Greek authorities since 2010 in the context of the three Memoranda of Understanding (MoU). Nonetheless, the cost of this staggering fiscal adjustment in terms of social services provision, public investment and employment has been tremendous. According to the European Commission,

Figure 1. Gross public debt and public budget deficit (Greece, 1995-2017)



Note: Forecast values for 2017.

Source: AMECO.

6. Note that the size of the deficit in 2013 and 2015 is overestimated due to the recapitalisation of the Greek banking sector.

between 2009 and 2015 the number of persons employed in the public sector has dropped by roughly 26%.⁷ Moreover, compared to 2009 social transfers in kind and social benefits other than social transfers in kind have fallen in 2016 by 40.7% and 14.6% respectively, while the corresponding drop in public investment spending in nominal terms has surpassed 48%.⁸

However, fiscal austerity has been unsuccessful in reducing the gross debt-to-GDP ratio. More specifically, the ratio has reached a peak over the adjustment period, increasing from around 126.7% in 2009 to 179.7% in 2016, despite the large debt ‘haircut’ agreed in early 2012. Additionally, according to the latest estimates, the debt burden is set to remain essentially stable in 2017, breaching 177% of GDP. This is a fairly disappointing track record, given creditors’ initial anticipations on the allegedly expansionary results of fiscal consolidation, and therefore on the usefulness of a front-loaded austerity plan for ensuring sound public finances and long-run fiscal sustainability. The fact that the ratio of public debt-to-GDP has remained for too long at unacceptable record high levels poses a direct challenge to the very credibility of the macroeconomic adjustment programmes, which have failed to improve risk sentiment in financial markets and create prospects for a return to market financing in the foreseeable future. The main drivers behind the over-indebtedness of the Greek public sector have been the massive bailout loans granted to the country to avoid default and the recessionary effects of the fiscal adjustment programmes implemented thereafter.⁹

A closer look at the major factors that have influenced the trajectory of the public debt-to-GDP ratio over the past few years helps explain Greece’s negative debt profile. As shown in Table 1, during the first phase of macroeconomic adjustment (2010-2013) the austerity-led contraction of real GDP along with extraordinary high interest payments and sizeable primary budget deficits have set the tone for the serious debt overhang episode in the country and the ensuing solvency crisis. Nevertheless, the year 2014 has been a turning point in the process with the achievement of a positive primary balance that has yet been insufficient to arrest debt dynamics. With the arrival in power of the new, SYRIZA-ANEL, government, Greece’s fiscal position has worsened substantially amid escalating macro-financial instability emerged by the lengthy negotiations

7. See EC (2016a).

8. See AMECO database.

9. See ETUI (2016) for a comprehensive analysis on the failure of austerity policies to restore fiscal sustainability in Europe.

over the completion of the second programme and fierce speculations over a likely Grexit. Moreover, despite the achievement of a primary surplus of 2.3% of GDP, many of the debt-increasing parameters have remained in full force in 2016 and put strain on the country's public finances. The debt-to-GDP ratio is finally set to return on a downward path in 2017 in response to the over-ambitious growth assumptions and the projection of a primary surplus of 2.2%. However, debt sustainability has not been restored and it is not expected to be so in the near future under the existing austerity regime and the debt payment profile of the country. In fact, the IMF itself has repeatedly questioned Greek debt sustainability given the country's gross financing needs (GFN) schedule and inability to generate a primary surplus greater than 1.5% over the medium-term (see IMF, 2016a).

Table 1. Greece's gross public debt dynamics (2010-2017)

	2010	2011	2012	2013	2014	2015	2016	2017
Public debt ratio	146.2	172.1	159.6	177.4	179.7	177.4	179.7	177.2
Change in the public debt ratio: (1)+(2)+(3)	19.5	25.8	-12.5	17.9	2.3	-2.3	2.3	-2.5
1. Primary balance	5.3	3.0	3.7	9.1	-0.4	3.9	-2.3	-2.2
2. Snow-ball effect: (i)+(ii)	12.3	20.7	19.3	13.3	6.7	5.9	2.7	-3.7
i. Interest payments	5.9	7.3	5.1	4.0	4.0	3.6	3.4	3.3
ii. Impact of the nominal increase of GDP	6.5	13.4	14.2	9.3	2.7	2.3	-0.6	-7.0
3. Stock-flow adjustment	1.9	2.1	-35.6	-4.6	-4.0	-12.1	1.9	3.4
Real GDP growth	-5.5	-9.1	-7.3	-3.2	0.4	-0.2	0.3	2.7
Annual % change in GDP deflator	0.7	0.8	-0.4	-2.4	-1.8	-1.0	0.0	1.3

Note: Forecast values 2017.

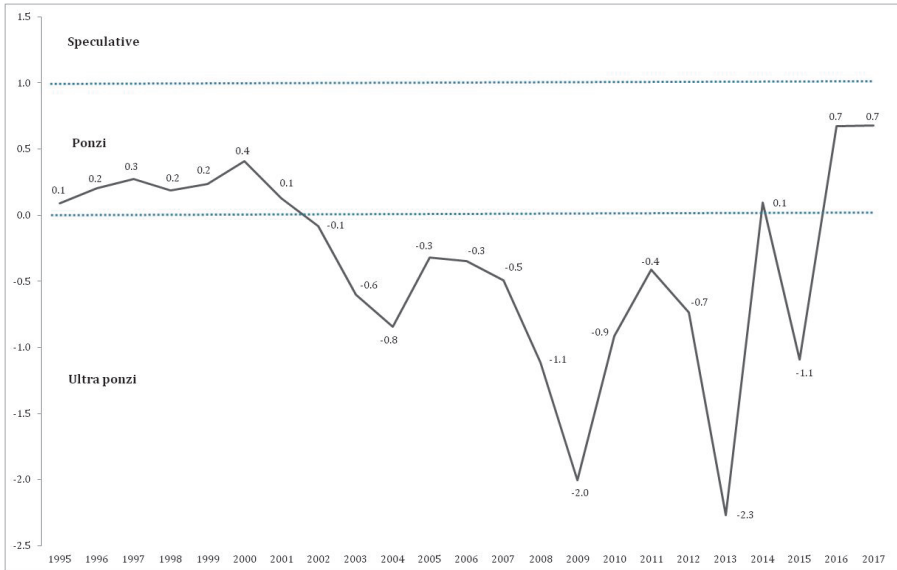
Source: AMECO (authors' calculations)

The failure of austerity to improve the financial credibility of the Greek public sector is confirmed by Figure 2 that shows the variation of the solvency index of the Greek public sector over the period 1995-2017.¹⁰

Figure 2 provides evidence that for the period 1995-2001 the financial structure of the Greek public sector has been fragile, situated in a Ponzi regime. From 2002 to 2009, the index has registered a sudden plunge, moving into the ultra-

10. For the construction of the solvency index see Argitis (2012), Michopoulou (2014) and Argitis and Nikolaidi (2014a). According to this index sovereign solvency depends on the government's capacity to generate primary surpluses in order to meet a large part, if not all, of its interest payment commitments. The public sector is considered to be: (a) in a solvent *speculative* regime, when the annual primary surplus exceeds the annual interest expenses on the outstanding debt; (b) in a fragile *Ponzi* regime, when the primary surplus is less than the annual interest payment obligations. In this case the country's solvency risk critically depends on its growth performance; and (c) in an insolvent *ultra-Ponzi* regime, when it runs a primary budget deficit.

Figure 2. Solvency index for the Greek public sector (1995-2017)



Note: Forecast values for 2017.

Source: AMECO (authors' calculations).

Ponzi regime. This shift exposes the exceptionally fragile financial position in the years just before the eruption of the global financial crisis. Moreover, over the first six years (2010-2015) of extreme austerity the Greek public sector has for the most part remained ultra-Ponzi, exhibiting high credit and solvency risk. Only in 2014, following a substantial fiscal tightening, the solvency index has reached its highest value in response to the achievement of a primary surplus. Yet, this improvement has been short-lived, as the financial structure of the Greek government worsened again in 2015, turning back to the ultra-Ponzi regime. For 2016 the index has jumped to the Ponzi position as a result of improved fiscal performance, while the projection for 2017 looks similar. Despite this improvement, Greece's credit risk is set to remain elevated, with its public sector financial position situated at the fragile Ponzi regime.

The profound reason for this is the depressing effects of austerity on internal demand that constantly drags down economic growth and hence the ability of the public sector to build an adequate primary surplus on a sustainable basis. This adverse effect also explains why Greece's impending participation in the ECB's QE programme may not solve the country's solvency problem, despite its positive contribution to relaxing the public sector's grave liquidity constraints in

bond markets. Note also that Greece's imminent growth and sustainability prospects are today subject to two considerable downward risks. The first refers to the deflationary impact expected this year from the enactment of an extra 2.4 billion euros worth (1.4% of GDP) package of austerity measures, mostly on the revenue side. The second risk is related to the uncertainty about the successful conclusion of the second review of the programme, which is currently held in abeyance, due, among other reasons, to the unreasonable demands of creditors for: a) further labour market deregulation, including increasing the collective dismissal ceiling from 5% to 10% and enshrining the employers' option of locking-out; and b) more austerity measures, such as the reduction of the tax income threshold and pensions, required for Greece to safeguard large primary surpluses during and after the end of the current programme.¹¹ Undoubtedly, implementing these demands is about to re-inflate recessionary dynamics in Greece, thus putting at stake economic recovery and debt sustainability prospects.

This danger becomes even more tangible in the light of the heavy toll already taken by austerity on ordinary people's living standards. In fact, as depicted in Table 2, the ratio of households' income tax and social security contributions to gross disposable income has considerably increased between 2010 and 2015, particularly for low-income households. The same also holds for the ratio of wealth tax to gross income, thus pointing out the disproportionate tax-burden borne by poorer households in the period of austerity. This evidence simply suggests that a further reduction of the income tax threshold is very likely, that will aggravate inequality in Greece, further depressing private consumption and domestic demand. Such implications will be even stronger bearing in mind the data presented in Figure 3 that exposes the key role of pensions in Greece in alleviating income inequality. As depicted, in 2015 pensions have contributed to lowering the Gini index by 24.2 percentage points, in fact being the only effective tool of social protection in the country. This role becomes even more critical, taking into account that, as a result of the record high levels of joblessness in the country, an increasing number of households nowadays depend on the family's pensions to make the ends meet.

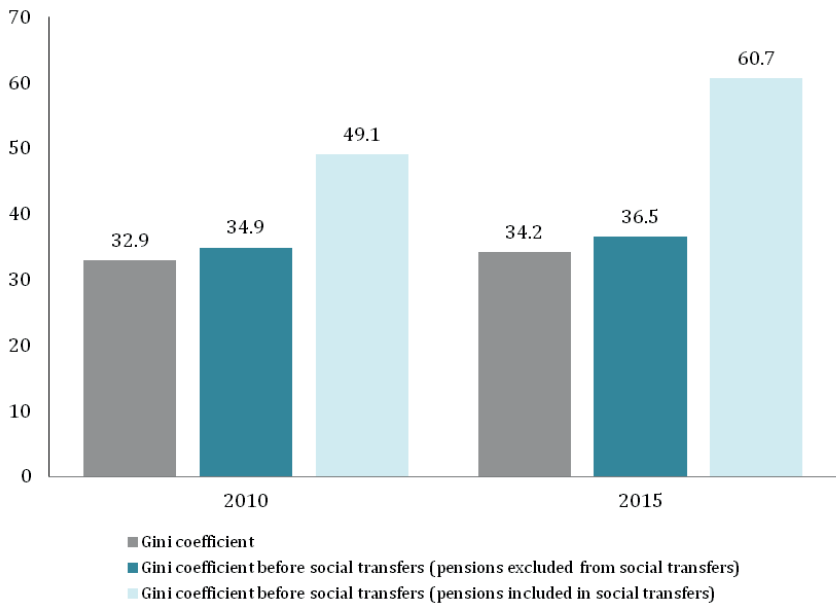
11. Such fiscal targets ostensibly revolve around need of re-establishing Greece's long-run debt sustainability, thereby allowing the IMF to contribute funds to the current bail-out programme and paving the way for the inclusion of the country in the ECB's QE.

Table 2. Households' tax burden in Greece (2010 and 2015)

	Income tax & social security contributions/ total gross income		Wealth tax/total gross income	
	2010	2015	2010	2015
Low-income households	6.13%	9.08%	0.14%	6.04%
High-income households	28.41%	30.04%	0.12%	2.46%

Source: ELSTAT (authors' calculations).

Figure 3. Gini coefficient after and before social transfers in Greece (2010 and 2015)



Source: Eurostat.

All in all, austerity has not succeeded in consolidating sound and sustainable fiscal conditions in Greece and helping public authorities regain access to private bond markets. What it has succeeded in doing instead is to have plunged the Greek economy into a disastrous spiral of debt-deflation and recession¹² that consistently constrains the country's debt servicing capacity and

12. See also Gechert and Rannenberg (2015) for the contractive effects of fiscal austerity on GDP during the period of macroeconomic adjustment.

prolongs excessive macroeconomic and financial instability. This is plausible, since the creditors' strategy seems to completely neglect the adverse financial effects of austerity and strict fiscal discipline. In fact, the strong commitment to a policy of aggressive budget consolidation, rather than operating as a device for restoring growth, employment and debt sustainability, has instigated a deep liquidity crisis in the economy that systematically contracts domestic demand and employment. The creditors' fiscal consolidation programme is, therefore, self-defeating in that it creates no prospects for positive growth rates and sustainable primary surpluses in an environment of social and political stability.

6.3. The failure of the internal devaluation strategy

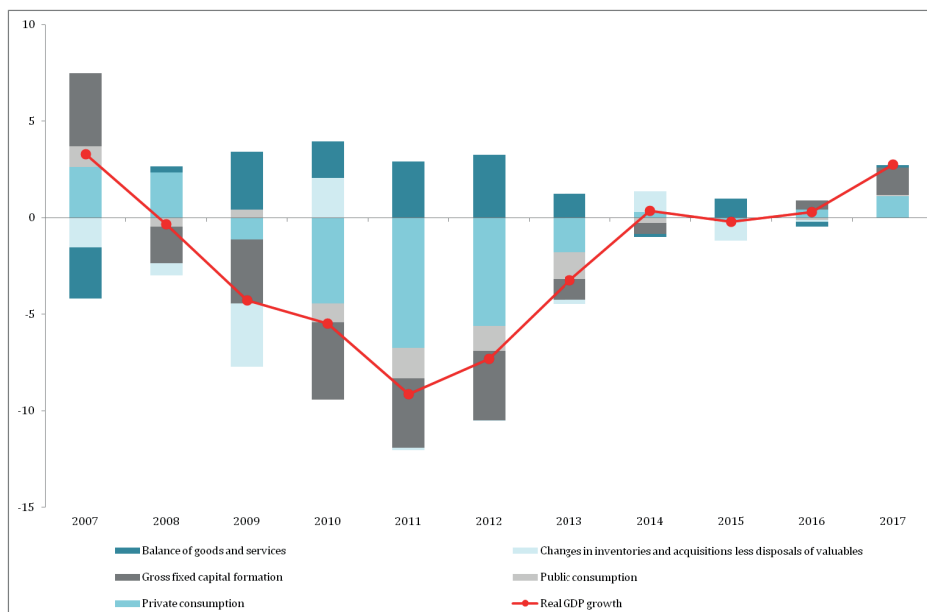
Internal devaluation was, and still remains, at the epicentre of the creditors' strategy to boost price competitiveness and gear the Greek economy towards a path of export-led growth.¹³ Achieving high level sustainable growth is also perceived as a necessary condition in order for the economy to alleviate the recessionary effects of austerity and for the public sector to generate steadily an adequate primary surplus required to restore its sovereign solvency. Yet, the ingredients of the creditors' remedy, namely a combination of reducing the minimum wage, de-collectivising wage bargaining and lowering non-wage costs, have proven profoundly mistaken. The major reason for this is that this strategy has failed to consider the Greek economy's heavy reliance on domestic demand.¹⁴

In fact, it was only in 2014 that Greece had some signs of economic growth, with real GDP slightly expanding by 0.4% for the first time since the outbreak of the crisis, before falling again in 2015 and virtually stagnating in 2016. Note that, although the recessionary dynamics in Greece have begun to ebb away over the last three years, the cumulative loss of real GDP over the period 2010-2016 has reached nearly 25%. The main reason for this has been the collapse of internal demand (see Figure 4). Specifically, over the period under consideration the free fall of private consumption has cumulatively contributed by -18% to the change of GDP, with investment (-12.4%) and public consumption (-5.6%) following suit. Meanwhile, any positive growth contribution of the trade balance (9.8%) has arisen largely thanks to the pronounced drop in

13. See Theodoropoulou (2014) for the philosophy underlying the creditors' internal devaluation strategy and for the relevant policy measures prescribed by Memoranda.

14. On that issue see also Theodoropoulou (2016).

Figure 4. Contributions to the change of real GDP (Greece, 2007-2017)



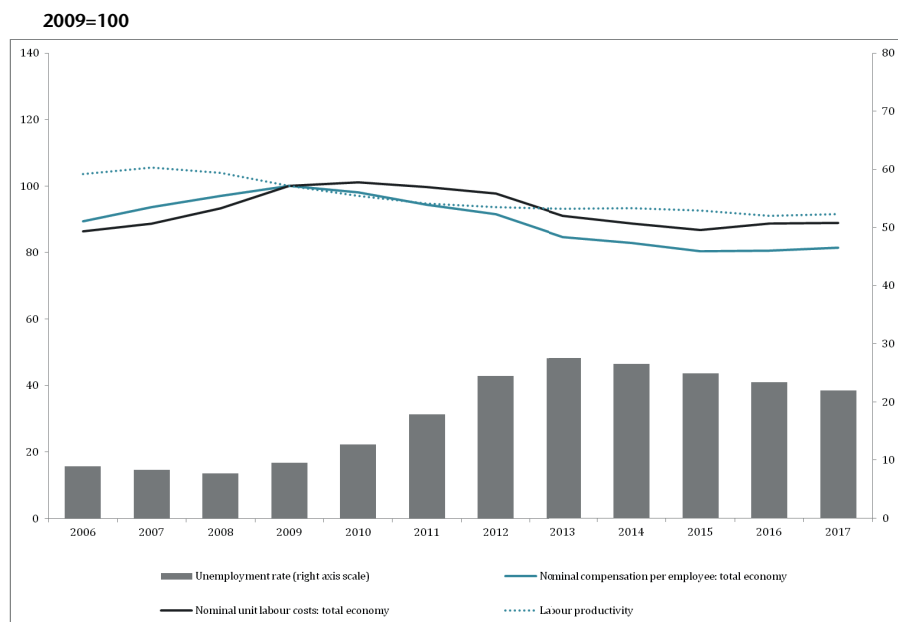
Note: Forecast values for 2017.

Source: AMECO (authors' calculations).

imports. For 2017, GDP growth is expected to rebound remarkably on the back of a dynamic recovery of investment and private consumption. Alas, such a prediction is exposed to substantial downward risks, taking into account the high level of uncertainty currently sparked in the economy due to the protracted negotiations for the completion of the second review, the anticipation of new harsh fiscal measures and the very fragile financial position of institutional sectors provoked by austerity and internal devaluation. The unexpected contraction of real GDP in the fourth quarter of 2016 by 1.1% compared to the same quarter of 2015 seems to confirm our doubt for the imminent growth prospects in Greece.

A key factor behind depressed demand and protracted economic slump over the last years has been certain developments in labour markets. During the macro adjustment period, a trend of aggressive wage compression has taken place, leading average nominal compensation per employee to plummet by over 19% relative to the 2009 level (Figure 5).¹⁵ This outcome has been mainly triggered by the range of administrative and legislative measures taken towards greater labour market flexibility and wage cost reduction as part of the credi-

Figure 5. Compensation of employees, unit labour cost and unemployment rate (Greece, 2006-2017)



Note: Forecast values for 2017.

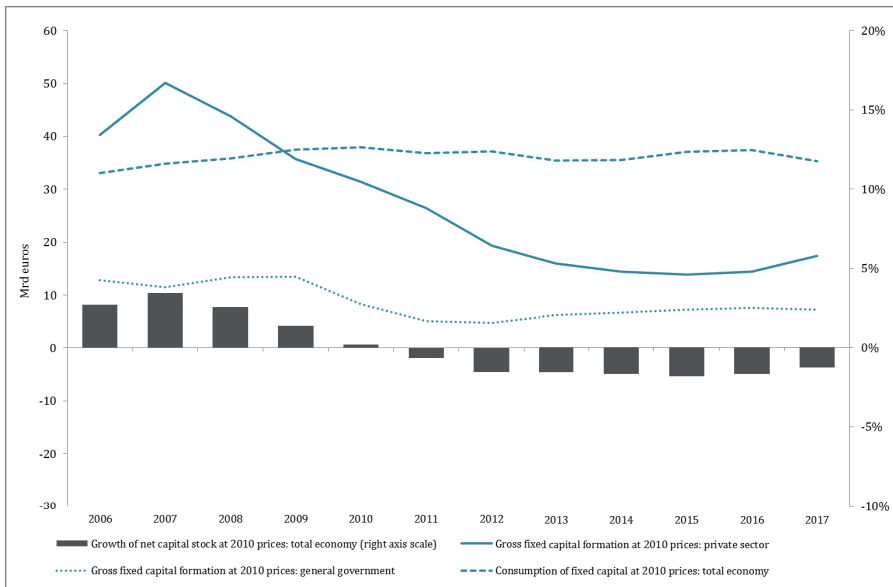
Source: AMECO (authors' calculations).

tors' internal devaluation strategy. Significant wage-reducing effects had also been produced by deep public spending cuts, as well as by the explosive rise of unemployment that further eroded trade unions' bargaining power in an environment of labour market deregulation. Meanwhile, the contraction of nominal labour compensation has been accompanied by stagnant growth of labour productivity, following the steep fall of productivity recorded in the first phase of the Greek crisis (2008-2010). The combined outcome has been a sharp downward adjustment in unit labour costs for the aggregate economy, especially in the period 2011-2015 when unemployment surged to over 25%. Note also that, while unit labour cost has slightly edged up in 2016, this development has been primarily attributed to the fall of productivity rather than to a robust increase in labour compensation. Finally, for 2017 the path of unit labour cost is projected to remain virtually unchanged.

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15. Onaran and Obst (2016) document evidence on the existence of a wage-led growth regime across EU-15 member states (including Greece) and underscore the deflationary effects of the currently dominant policy paradigm.

However, labour cost restraint and increased labour market flexibility have failed to spur investment and competitiveness. What has instead occurred is that the consumption of private capital has gathered momentum, indicating the cut-back or closure of private firms and the consequent destruction of fixed capital assets (see Figure 6). This process has deepened the weakness of the Greek economy and greatly contributed to the declining performance of virtually all branches of economic activity. Specifically, in the period between the fourth quarter of 2010 and the fourth quarter of 2016 all key branches, other than real estate activities and agriculture, forestry and fisheries, have witnessed a pronounced drop in real gross value added. The steepest fall has occurred in construction (35.6%) followed by professional, scientific and technical activities (31%) and information and communication (26.7%). Real gross added value in manufacturing, a key sector with substantial productivity potential, has also declined by 10.2%. Needless to say, the gap between the consumption of fixed capital and private gross fixed capital formation traced in Figure 6 clearly reflects these developments and indicates the negative contribution of investment to GDP growth. The closure of this gap requires huge investment in fixed capital and this is of paramount importance in order for the private sector to contribute to the transition of the economy from a vicious circle of deflation and crisis to the virtuous circle of growth and job creation.

Figure 6. Investment and capital accumulation (Greece, 2006-2017)

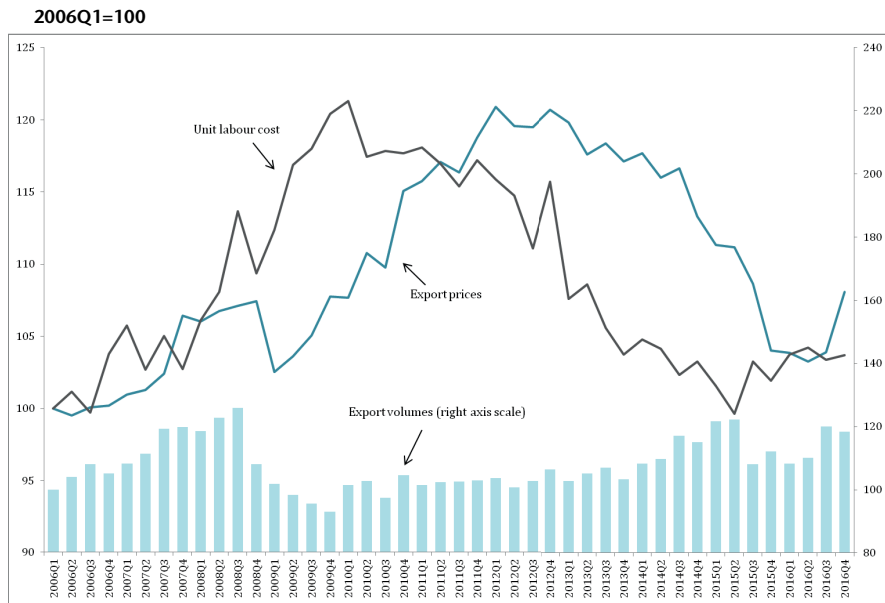


Note: Forecast values for 2017.

Source: AMECO.

On top of that, internal devaluation has proven incapable of propping up Greece’s export performance. In fact, while the Greek economy has slid into a deflationary phase from the start of 2012 and unit labour cost has dropped substantially over the adjustment period, export prices of Greek goods and services, at least up to the fourth quarter of 2012, have remained on a strong upward trajectory (see Figure 7). Subsequently, the price competitiveness of Greek exports has improved substantially, but this development has not resulted in any notable rebound in export growth that could substantiate an export-led transformation of the Greek economy. Greece’s exports of goods and services have on average expanded at a particularly modest rate between 2012 and 2016, hardly outstripping 2.3% per year, despite the strong growth of the country’s tourism industry from 2013 on.

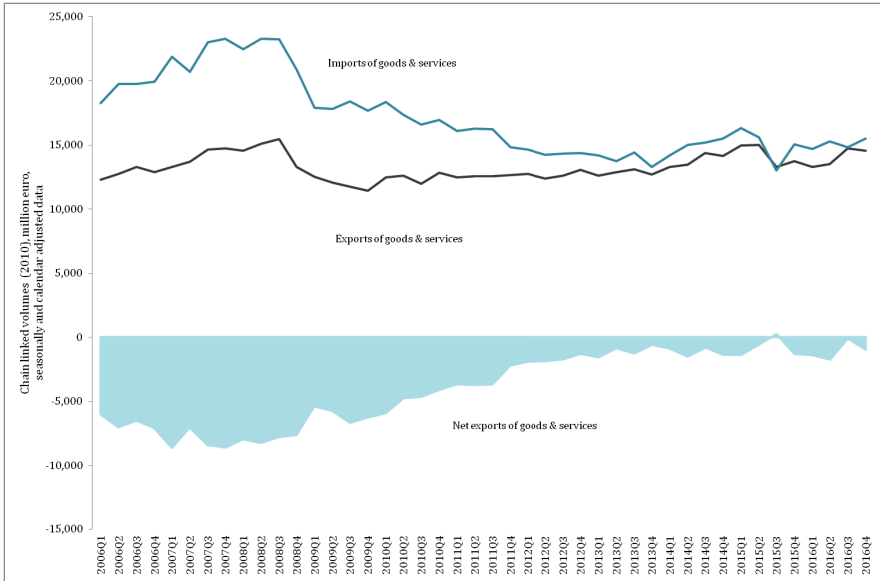
Figure 7. Unit labour cost, export prices and export volumes of goods and services (2006Q1-2016Q4)



Source: Eurostat, OECD (authors’ calculations).

It becomes apparent that the most prominent contributor to the correction of the country’s persistent current account deficits has been the dramatic decline in imports (Figure 8). From the second quarter of 2010 until the second quarter of 2016, imports of goods and services have contracted by 12% mainly due to shrinking domestic demand. Nevertheless, it is worth noting that the volume of

Figure 8. Exports, imports and net exports of goods and services (Greece, 2006Q1-2016Q4)



Source: Eurostat.

imports mildly recovered from the first quarter of 2014 on the back of slightly improved demand conditions, before dropping again abruptly in the second and third quarter of 2015 due to the imposition of capital controls and the ensuing drop in consumption and investment spending. Subsequently, slightly stronger private consumption fueled import growth in the last few quarters, which along with subdued export performance, inflated again the Greek trade deficit, thus weighting on economic growth. This sensitivity of Greece's trade balance to the movements of domestic demand underlines the country's productive deficiencies and highlights the critical role of public investment as a tool for fostering both macroeconomic stability and structural competitiveness.

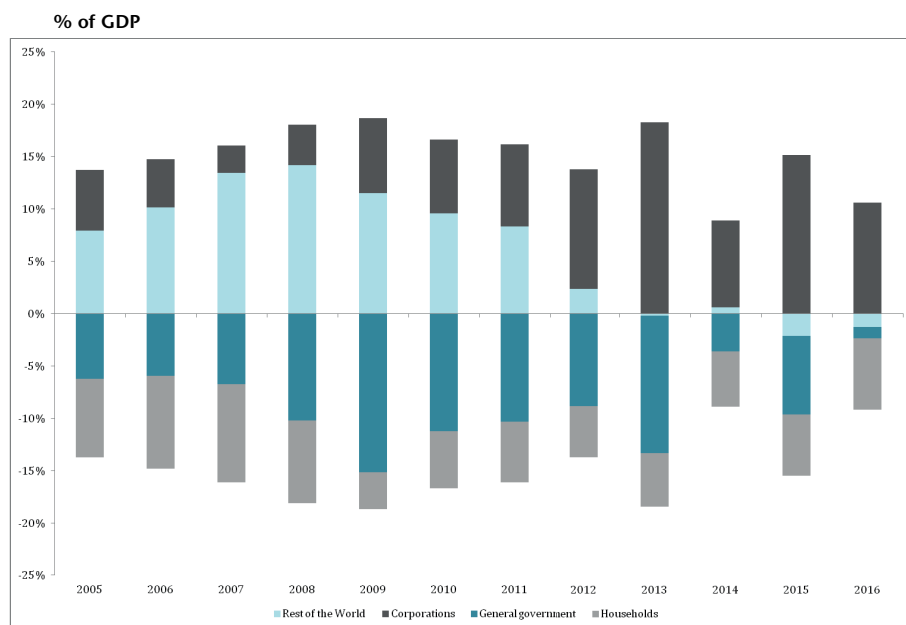
6.4. Austerity and the private sector's financial position

Apart from aggravating the economy's productive problems, internal devaluation and fiscal austerity have also put intense pressures on the financial balance of the private sector, thus feeding back economic stagnation and solvency risk. As depicted in Figure 9, the correction of the public sector's financial imbalance over the adjustment period¹⁶ did not occur at a time of growing private invest-

ment. In addition, whereas the surplus of the external sector has recently smoothed out, any correction in the economy's trade balance has been inadequate to fully offset the contractive effect of austerity on internal demand and GDP growth.¹⁷ Thus, it is clear that, in the absence of a sizeable current account surplus in the coming years, a new dose of austerity to achieve the programme's primary balance target of 3.5% of GDP in 2018 and beyond is very likely that will exacerbate inter-sectoral financial adjustments, thus undermining the capacity of the economy to reach its projected growth path.

The creditors' agenda has also corroded private households' financial health. Figure 10 supports this claim by exposing the evolution of household consumption and gross disposable income as a percentage of GDP over the period 2005-2016. Given the extent of tax evasion, it is evidenced that since 2012 the level of private consumption has started to exceed that of disposable income, with

Figure 9. Sectoral financial balances in Greece, 2005-2016

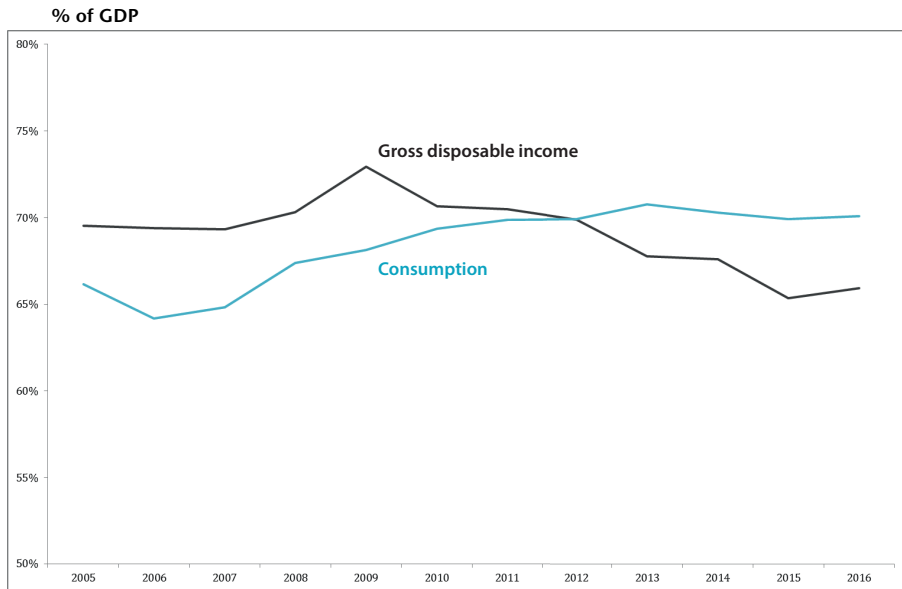


Source: AMECO (authors' calculations).

16. Recall that the public sector's financial deficit and corporations' financial surplus in 2013 and 2015 appear inflated due to recapitalisation of the Greek systemic banks.
17. Note that for the external sector a negative (positive) financial balance indicates a current account surplus (deficit). For a comprehensive analysis on balance sheet adjustments under a regime of fiscal austerity, see Kregel (2011) and Kregel (2015).

the underlying process continuing uninterrupted throughout the adjustment period. This trend implies a gradual drop in savings flows and deposits¹⁸ in the household sector and results from the efforts of ordinary people to keep a decent level of consumption in a context of high unemployment and falling incomes. The plunge of household savings lies at the heart of the mal-performance of austerity in Greece for several reasons. First, it has starkly degraded the financial position of households, hence preventing any real prospect for a vigorous recovery of consumer spending in the near future. On top of that, it has exposed the Greek banking system to a greater credit risk by undermining the loan portfolio quality and the capital adequacy ratio of banking institutions. In fact, in 2016 the ratio of non-performing loans (NPLs) has climbed to 37%,¹⁹ while according to the IMF the ratio has been even higher, i.e. close to 50% (IMF, 2016b). Last but not least, the squeeze of households' savings has severely limited citizens' taxpaying capacity, thereby sidetracking consolidation efforts and perpetuating financial instability through the 'bank-sovereign-nexus'.

Figure 10. Households' consumption and gross disposable income in Greece, 2006-2015



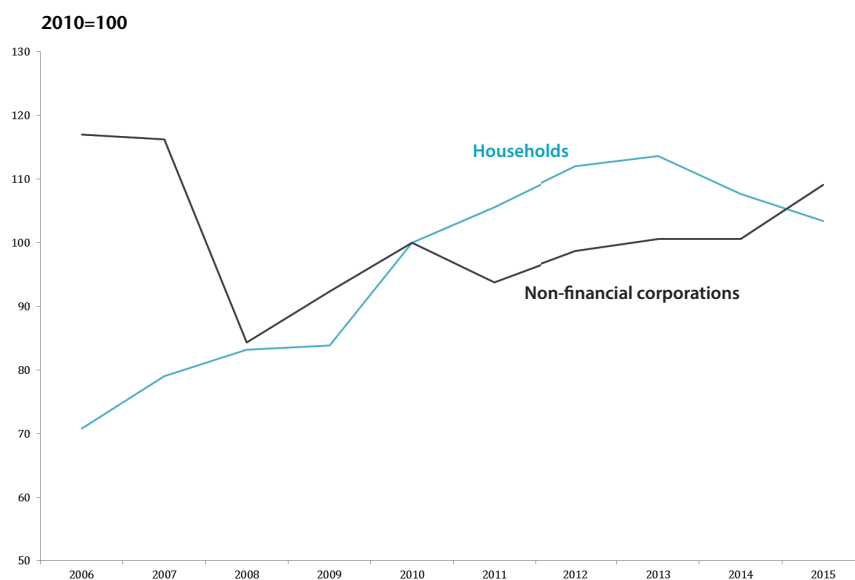
Source: Eurostat (authors' calculations).

18. Given households' negative credit expansion. On that issue, see below.

19. See World Bank database at: <http://data.worldbank.org/indicator/FB.AST.NPER.ZS>

The grave financial repercussions of the creditors' policy agenda are also reflected in Figure 11 that portrays the evolution of the debt-to-gross earnings ratio for Greek households and non-financial corporations (NFCs) from 2006 until 2015.

Figure 11. Households' and NFCs' debt-to-gross earnings ratio in Greece, 2006-2015

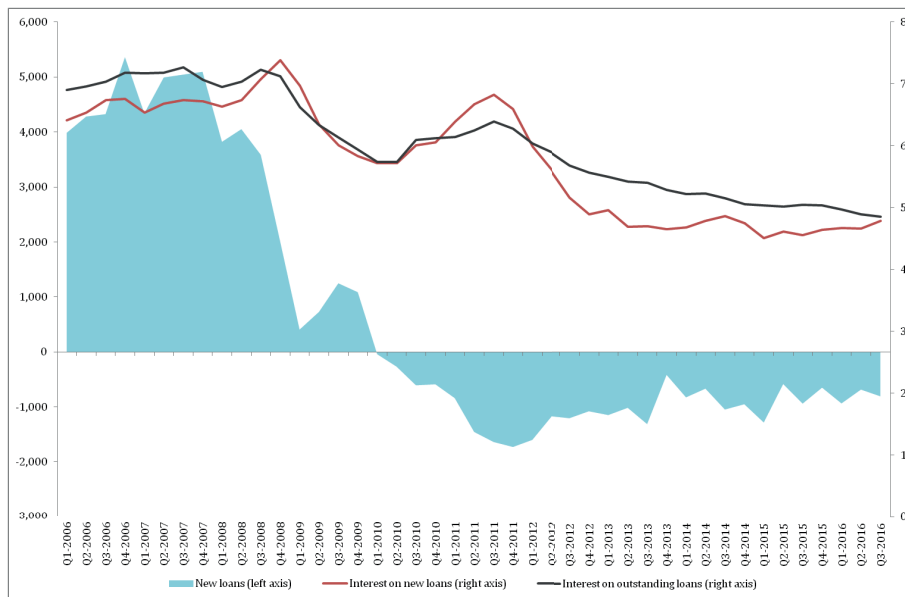


Source: Eurostat, Bank of Greece (authors' calculations).

It is clearly evident that the household debt ratio has been on a strong upward trajectory up to 2013 (i.e., a rise of 35.2% compared to the 2009 level), before falling in the period 2014-2015 thanks to the faster reduction of household debt than gross disposable income. Though, in the entire macro adjustment period, household debt has shrunk by 24 billion euros, while the corresponding fall in household disposable income has amounted to 43 billion euros, suggesting the highly fragile financial structure of the Greek household sector. Regarding NFCs, the relevant index in the same period has also grown, though more moderately, as a result of the stronger decline in gross operating surplus (-28%) than debt (-13%). In absolute terms, between the first quarter of 2010 and the first quarter of 2016 the cumulative reduction of NFCs debt burden has totaled 33 billion euros, indicating the process of deleveraging currently in motion that systematically chocks off the level of domestic demand in the economy.

Figure 12. Lending rates and new loans (Household sector, Greece)

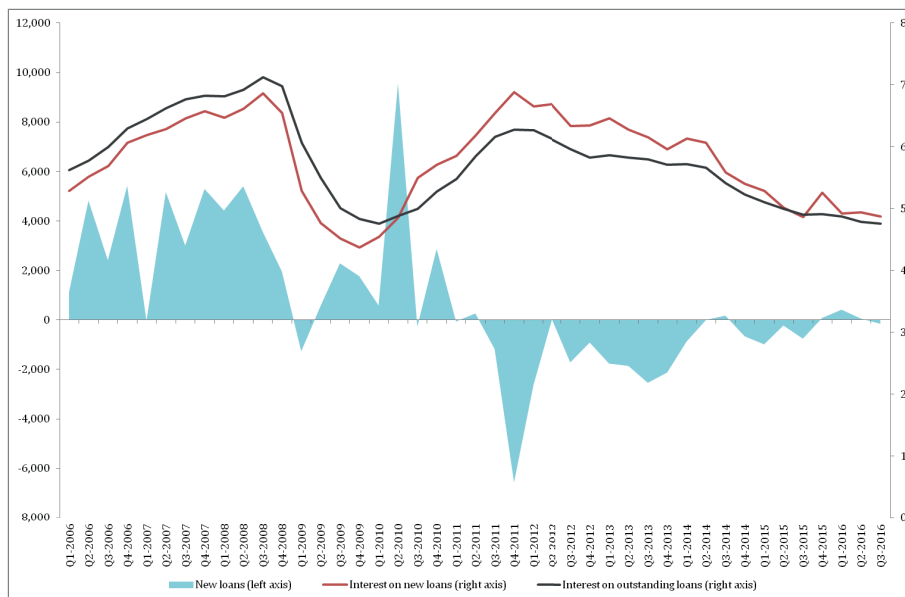
2006Q1-2016Q3



Source: Bank of Greece (authors' calculations).

Figure 13. Lending rates and new loans (NFCs, Greece)

2006Q1-2016Q3



Source: Bank of Greece (authors' calculations).

Figures 12 and 13 corroborate further this assertion, showing the level of lending rates and the volume of new loans to Greek households and NFCs between the first quarter of 2006 and the third quarter of 2016. It is easily inferred that the provision of credit to the private sector has been highly inelastic to the interest rate movements. Indeed, despite the significant reduction of interest rates since early 2012, credit supply to both households and NFCs has contracted by 23.5% and 20.1%, respectively, in the period between the third quarter of 2011 and the third quarter of 2016. This evidence reveals how austerity has impaired the lending channel, thus prolonging deflationary stagnation. This is particularly true for Greece, since households' investment had been a key driver of domestic demand in the pre-crisis era. Given the abrupt contraction of labour cost over the past few years, the evidence also suggests that disinvestment and feeble productive capacity in Greece should not be attributed to the elevated credit cost, but rather to the steep fall of effective demand that has discouraged NFCs' investment decisions and impaired their financial health. For the same reason, it is quite doubtful, whether Greece's anticipated entry to the ECB's QE programme would eventually have any substantial impact on growth and employment.²⁰

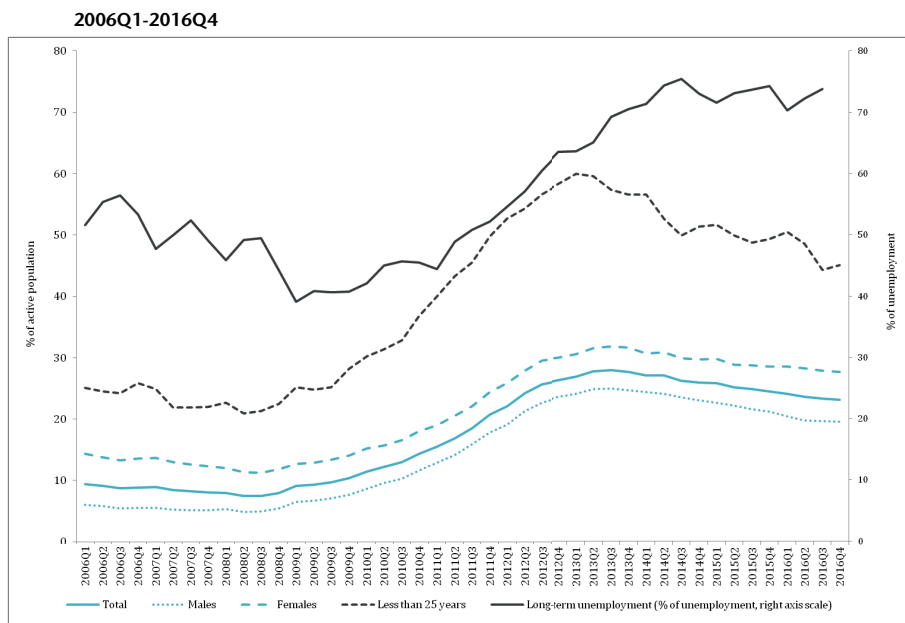
6.5. Employment crisis, job precariousness and poverty

Creditors' internal devaluation strategy has also caused detrimental effects on the labour market and the living conditions in Greece. The unprecedented rise of unemployment rates gives a clear indication of the severe socio-economic disruptions of austerity. From the fourth quarter of 2008 until the fourth quarter of 2016 unemployment in Greece has recorded an unaccepted surge, climbing from 8% to 23.1% of total labour force. This change corresponds to an explosive increase in the total number of unemployed by more than 700,000 persons. Particularly disturbing are the data concerning the evolution of long-term unemployment (see Figure 14). In the third quarter of 2016 long-term unemployed people have amounted to as much as 73.8% of total unemployed (against 40.7% in the third quarter of 2009), meaning that over 800,000 persons have been forced to remain without a job for more than twelve months. This jump in long-term unemployment reveals the depth of the Greek crisis and confirms the widespread fear that much of the plight of unemploy-

20. See iAGS (2017) on the limits of unconventional monetary policy to boost investment and thereby on the usefulness of a new fiscal policy mix for brightening recovery prospects in Europe.

ment acquires increasingly structural characteristics, despite the small decline in the unemployment rate over the last two years or so.

Figure 14. Unemployment rate by social group and long-term unemployment



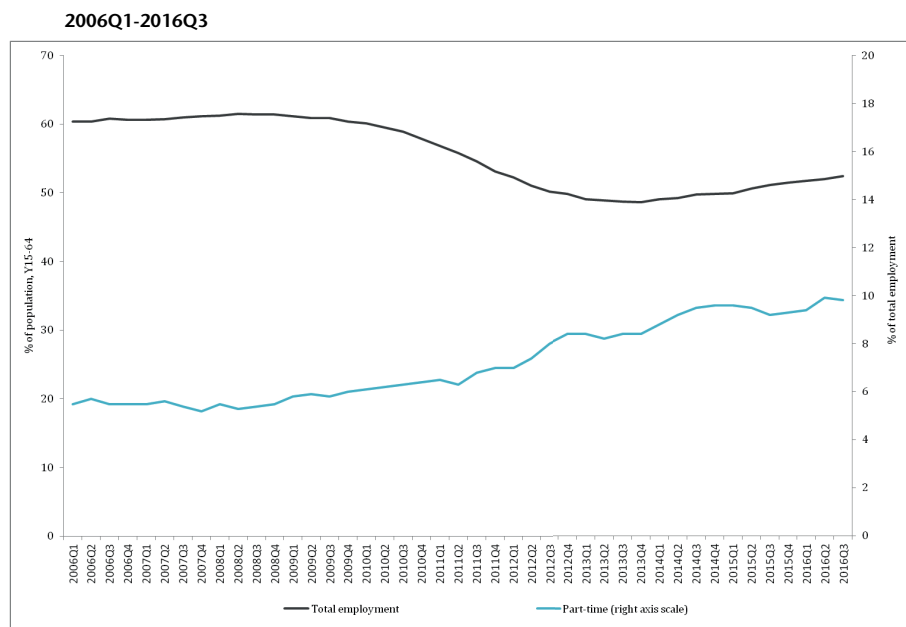
Note: Data on long-run unemployment are available up to 2016Q3.

Source: Eurostat.

What is even more upsetting is that the scourge of high unemployment has mostly ravaged the more vulnerable groups within society. Figure 14 shows that the youth unemployment rate has hit a record high during the years of austerity, ascending by over 30 percentage points compared to the pre-programme period level. Despite the gradual drop in youth unemployment recorded recently, young people in the country find it very difficult to take up a job, with 45% of the labour force aged 15-24 years, i.e. a total of 118,000 persons, effectively remaining out of work. Furthermore, the female unemployment rate constantly surpasses the nation-wide average, standing at 27.6%. At the same time, the risk of unemployment threatens all, no matter what their educational attainment level—even those who hold a postgraduate degree. This evidence substantiates the role of demand-led economic policies for combating both cyclical and structural unemployment.²¹

A more complete picture of the adverse conditions prevailing in the labour market can be obtained by looking at some quantitative and qualitative aspects of employment. Figure 15 shows that the employment rate in Greece has virtually plunged, falling from 61.4% in the third quarter of 2008 to 52.4% in the third quarter of 2016.

Figure 15. Total and part-time employment rates



Source: Eurostat.

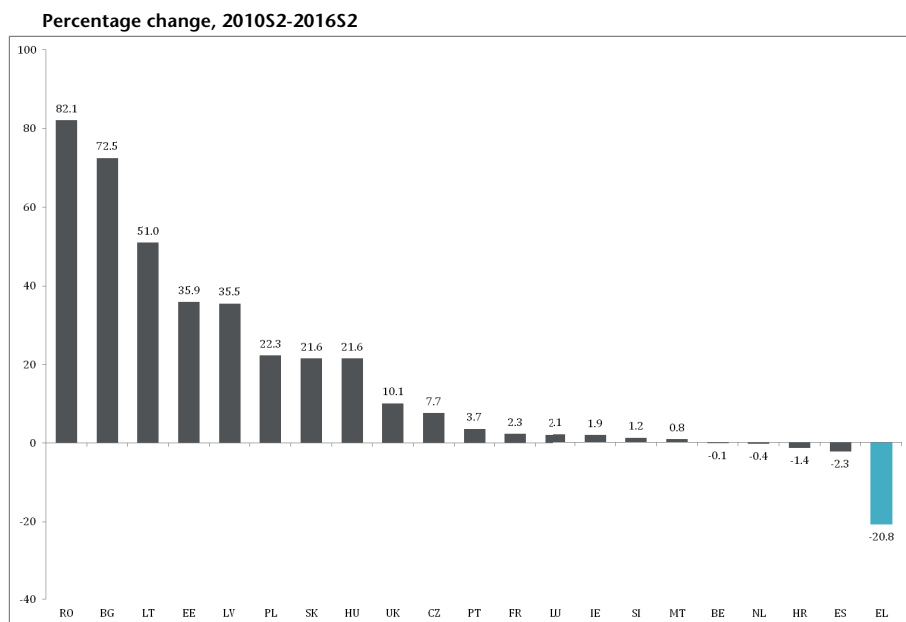
The steepest decline in employment has been observed in the construction sector, which has lost a total of 253,300 jobs, with manufacturing (188,200 losses) and wholesale and retail trade (172,000 losses) following suit. The sum of 613,500 jobs lost in those three sectors represents about 70% of the total employment losses which have occurred in the economy in recent years, indicating the sectors that have borne the brunt of the economic crunch and austerity. Besides the sharp contraction of employment, major changes have also taken place in working conditions and in the terms of employment. Specif-

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21. Antonopoulos *et al.* (2014) and Ioannidis and Pierros (2015) provide a detailed overview of the employment crisis in Greece and offer a proposal for combating unemployment through direct job creation programmes.

ically, the share of part-time work in total employment has increased within seven years by 4 percentage points (9.8% in the third quarter of 2016 against 5.8% in the third quarter of 2009), while that of involuntary part-timers has reached astonishingly high levels, standing at 72.6% of total part-time employees in 2015. All these transformations manifest a wider shift in the working environment and industrial relations in the country and reveal the impact of the creditors' policy agenda on expanding 'in work' insecurity and precarious employment conditions.

In addition, the real minimum wage level has registered a decline of 20.8% during the period between second semester of 2010 and the second semester of 2016 (see Figure 16) with an even greater decline for young people aged less than 25 years. Similar results are reached when comparing minimum wages across the EU calculated in terms of purchasing power standard. Greece has slumped from the 7th to the 11th place in the ranking among member states with a national statutory minimum wage, underperforming with respect to Spain and even to some new member states. It is worth mentioning that the abovementioned developments have been the direct outcome of the extensive amendments in labour law that have been requested by the creditors.

Figure 16. Real monthly minimum wage in the EU



Source: Eurostat (authors' calculations).

More specifically, since 2010 industrial relations in Greece have been in the eye of the storm of the crisis, being an integral part of the internal devaluation strategy. So far, a range of regressive labour market reforms has been promoted through active state intervention geared towards promoting flexible and precarious forms of employment and reforming collective bargaining.²² Such measures *inter alia* include: the suspension of all branch and occupational collective agreements extension as long as Greece's economic adjustment programme is in full effect; the suspension of the so-called 'favourability principle' in collective bargaining; and the prevalence of company level agreements in the case of overlapping with the relevant branch level collective agreement.

Additional legal provisions have accompanied these arrangements, further challenging the institutional standing of trade unions and labour rights. In particular, a new legal framework has been enacted enabling non-trade union representatives (i.e. associations of persons), as well as firms with fewer than 50 employees to reach special company-level collective agreements. Also, far-reaching interventions have been undertaken in the content and universality of the general national collective agreement, including a 22% reduction by decree in the national nominal minimum wage and a further 10% cut for employees aged less than 25 years old; the enactment of legislation providing exclusive competence to the government, rather than to social partners, to set the minimum wage level; the introduction of special provisions regulating the setting of minimum wages for long-term unemployed and the removal of the 'universal applicability principle' of the general national collective agreement on wages.

On top of that, the duration of the 'after effect' of collective agreements has been curbed to three months. A special clause put in place also stipulates that in the absence of a collective agreement, then after a period of three months from the expiry or termination of the prior collective contract, only the terms regarding the basic wage and four allowances are applicable.²³ Besides, wage increases thanks to seniority contained in law and/or in collective agreements have all been suspended, while major legislative amendments have been adopted concerning the mediation and arbitration process. From 2012 on, recourse to arbitration is permitted only by the unanimous consent of all parties concerned and arbitrators' decisions are strictly limited only to issues related to the determination of the basic wage. It is obvious that these deregulation meas-

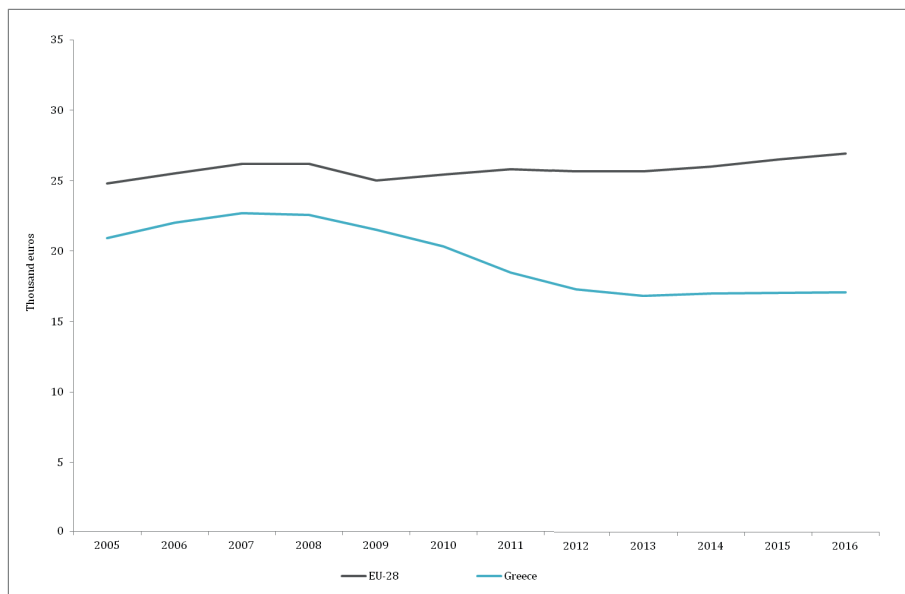
22. See Karamessini (2015) and Schulten (2015) for an overview of the labour market reforms imposed by the two Memoranda.

23. These allowances refer to seniority, child, educational attainment and hazardous employment.

ures undertaken over the last years have radically modified the balance of socio-political power towards employers, narrowing dramatically the range of choices and the bargaining power of trade unions. Certainly, this trend would intensify if additional arrangements related to industrial action and collective dismissals were to be undertaken as requested by the third bailout programme.

Unfortunately, the dismantlement of collective bargaining institutions and wage suppression have obstructed the path towards any socially inclusive economic restructuring of Greece. Besides, drastic cutbacks in social welfare spending have led to an unparalleled deterioration in living conditions, thus widening the development and income gap separating the country and the rest of its EU partners. As depicted in Figure 17, real GDP per capita in Greece has dropped by 24.5% in the period 2008-2016, standing today at nearly 17 thousand euros. This figure corresponds to only 63.3% of the average per capita real income in the EU-28 (compared to 86% in 2008), indicating a disturbing process of divergence between Greece and the EU in terms of living standards currently in motion. Even more worrying is the fact that this trend has not attracted sufficient attention in the current European policy agenda, despite its profound economic and political repercussions and the centrifugal dynamics it creates.

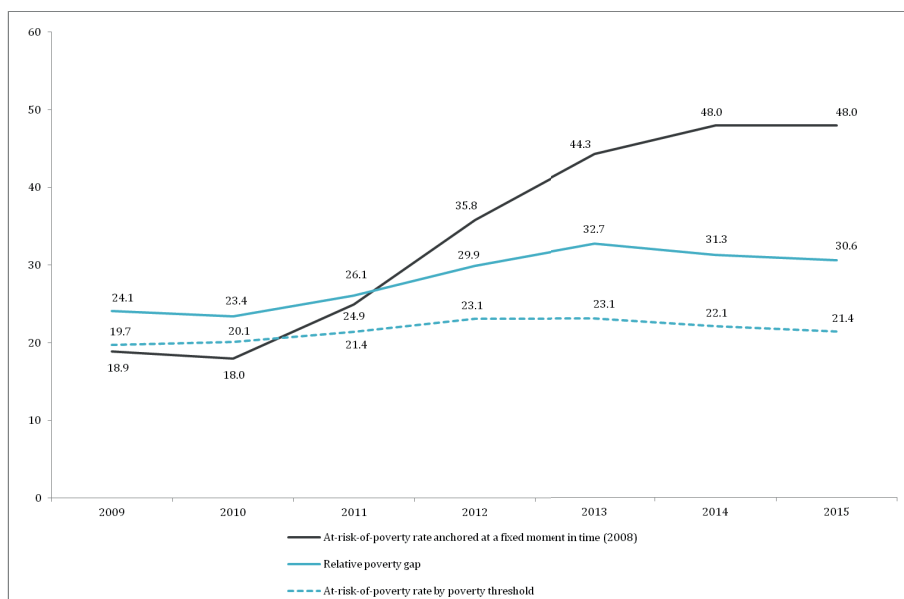
Figure 17. Real GDP per capita in Greece and the EU-28 (2005-2016)



Source: AMECO (authors' calculations).

In addition, the data suggest that relative poverty in the country has increased by 1.7 percentage points, from 19.7% in 2009 to 21.4% in 2015 (see Figure 18). It is important to note that the figure misrepresents the profile of poverty in Greece because this poverty indicator is computed on the basis of the median equivalised disposable (after taxes) income, which has plunged precipitately since 2009. Hence, a more comprehensive depiction of poverty developments in Greece gives the poverty gap index, which over the period 2009-2013 has markedly deteriorated, growing from 24.1% to 32.7%, before falling somewhat in 2014-2015. Despite this slight improvement, the figures underline the very large decline in incomes of the poorest subgroups of the society during the time of austerity; in other words that the poor are getting poorer.²⁴

Figure 18. Key poverty indices for Greece (2009-2015)



Source: Eurostat.

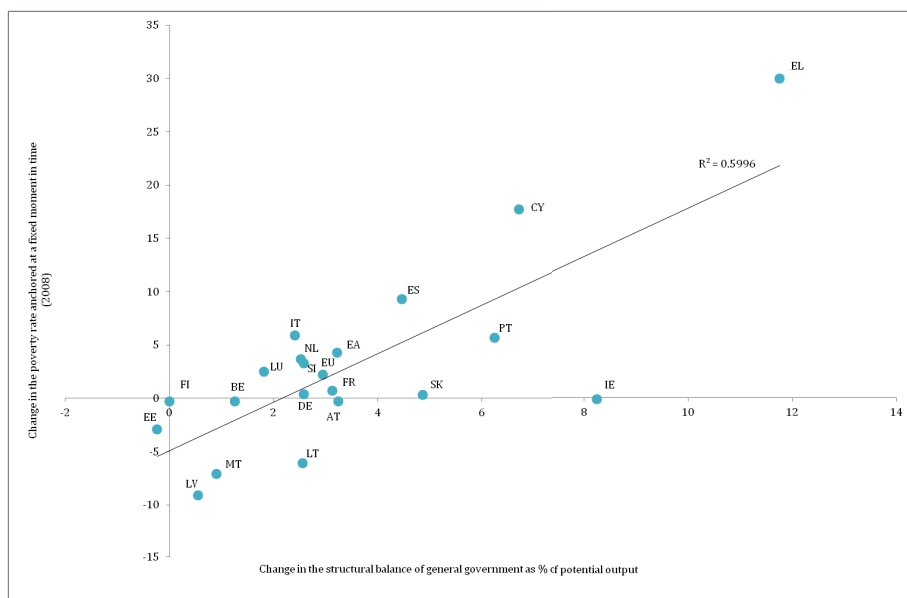
Moreover, looking at an alternative index of poverty, namely the poverty rate anchored at a fixed moment in time (2008), the evidence is more striking. It is found that in 2015 the share of total population with disposable income below

24. For a detailed analysis on recent developments concerning poverty and inequality in Greece, see also Giannitsis and Zografakis (2015) and OECD (2015a).

the 2008 poverty line has climbed to 48% (against 18.9% in 2009). This simply means that in 2015 the total number of people living in poverty has been more than double compared to that in 2008, or equally that almost 5 out of 10 people in the country have had disposable income below the 2008 poverty threshold.

Figures 19 and 20 disclose the role of creditors' policy in proliferating episodes of impoverishment in Greece. Figure 19 depicts the relationship between the size of fiscal consolidation and the change in anchored poverty rates in Greece and in other Euro area member states in the 2010-2015 period. It is evidenced that austerity has exerted a severe impact upon living conditions in Greece, leading to a dramatic upsurge of anchored poverty, thus underscoring the role of creditors' fiscal agenda in deteriorating living standards in the country.

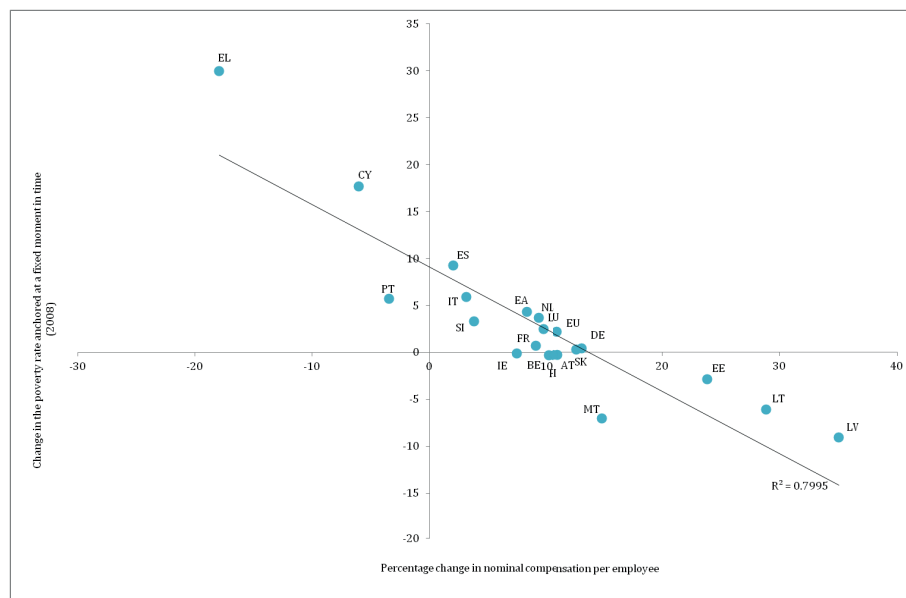
Figure 19. Fiscal consolidation and anchored poverty in the Euro area (2010-2015)



Source: Eurostat, AMECO (authors' calculations).

The same is also true for internal devaluation strategy and the trend of wage compression underway since 2010 (Figure 20). It is also important to note that, together with the striking increase in poverty, over the last six years an ever-growing part of the population in Greece suffers also from material deprivation. For instance, the latest data from Eurostat suggest that in 2015 53.4% of the country's citizens did not have the ability to meet unexpected, though neces-

Figure 20. Labour compensation and anchored poverty in the Euro area (2010-2015)



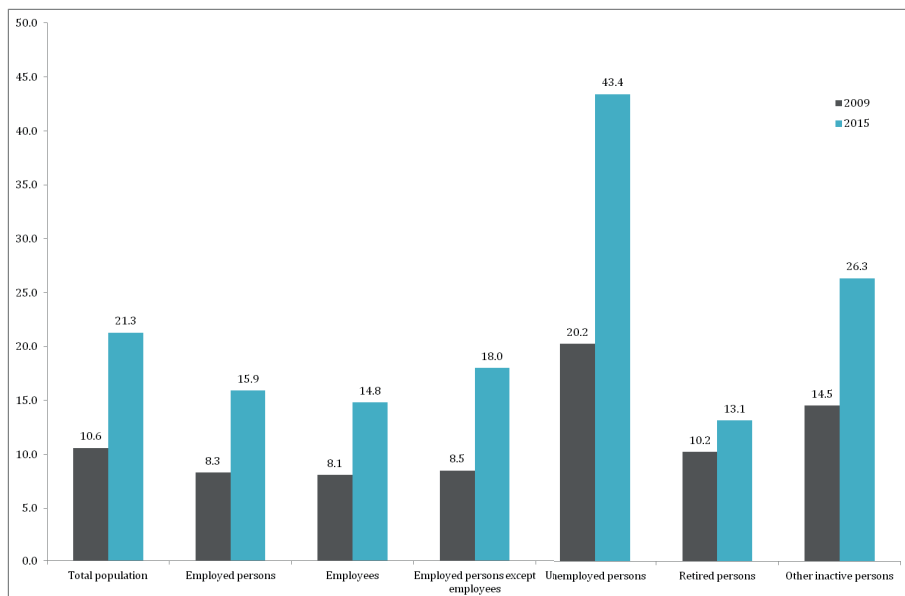
Source: Eurostat, AMECO (authors' calculations).

sary, expenses (against 26.6% in 2009), while the corresponding share of those facing difficulties to pay even regular expenses, including the rent, utility bills and mortgages, has risen from 28.7% in 2009 to 49.3% in 2015. Equally alarming is also the fact that nearly one third of the population (29.2%) in Greece is not able to afford heating expenses, compared to 15.7% in 2009.

What deserves special recognition is that the austerity agenda has impinged disproportionately upon the living conditions of different population groups (Figure 21). Whereas for the general population in Greece the index of severe material deprivation has more than doubled in recent years (21.3% in 2015 against 10.6% in 2009), it is the unemployed persons who have suffered the most from deprived living conditions. Specifically, for this population group severe material deprivation has risen from 20.2% in 2009 to 43.4% in 2015, meaning that more than 4 out of 10 jobless people do not have the means to meet at least four key requirements for decent life. This development highlights the worrisome degradation of Greece's social protection system over the macro adjustment period as a result of sizable public spending cuts and the retreat of the welfare state. Equally worrying and indicative of the worsening working conditions in Greece over the period 2009-2015 is the striking surge of severe

material deprivation episodes among employed persons by 7.6%, with 14.8% of employees and 18% of employed persons except employees in 2015 being severely materially deprived.

Figure 21. Severe material deprivation rate by activity status (Greece, 2009 and 2015)



Source: Eurostat.

Besides, the share of regular pensioners living under severely deprived conditions in 2015 has reached 13.1% (compared to 10.2% in 2009). In the same year, the corresponding rate for those who have opted to remain out of the labour force has been even higher, standing at 26.3% (compared to 14.5% in 2009).

6.6. The INE GSEE policy proposal for Greece to exit the crisis

Following the formal request of the Greek authorities for financial support from the ESM, in August 2015 the Greek government and the European Commission have concluded a third economic adjustment programme that shall accompany the country's financial aid of an amount of up to 86 billion euros for the period 2015-2018.²⁵ The specific terms and requirements of the agreement have been

set forth and compliance with them has been under the supervision of and regular reviews by the institutions (i.e. the EU Commission, ESM, ECB and IMF) as a precondition for loan disbursements to the Greek government.²⁶ The overriding objectives of the new MoU are the same as the previous two, namely to restore fiscal sustainability, secure stable financial conditions, improve competitiveness and modernise public administration.

Specifically, in the fiscal area, the programme imposes a wide range of reforms in order for Greece to achieve a primary budget balance of -0.25%, 0.5%, 1.75% and 3.5% of GDP in 2015, 2016, 2017 and 2018, respectively. On the revenue side, such measures include, inter alia, the modification of the VAT system, the removal of several tax incentives and exceptions, the restructuring of personal income tax schemes, the creation of appropriate mechanisms for filling revenue losses and strengthening tax enforcement. On the spending side, the Greek government is committed to controlling social expenditure by curbing healthcare spending and introducing a broad social welfare and pension reform agenda, involving strong discouragement of early retirement. The Greek authorities have also committed to taking any action required to correct any deviation from the fiscal targets. Up until the completion of the first review of the programme (June 2016), the Greek government had already legislated fiscal measures estimated to generate a net saving of 3% of GDP (5.7 billion euros) in the period 2016-2018. These measures have supplemented an initial 1.7% of GDP adjustment put in place in July and August 2015.²⁷

To secure financial stability and improve liquidity conditions in the economy, the Greek government has also launched a procedure for the recapitalisation of the banking sector, improving the governance framework of the Hellenic Financial Stability Fund (HFSF) and resolving the problem of NPLs. To boost competitiveness and economic growth, an independent body of experts has also been set up entrusted with evaluating several labour market reforms, acknowledging international best practices. Despite that, the Greek government has also committed to not making any amendment to the current system

25. The programme's content and objectives have been set in liaison with the ECB and with technical support from the IMF.

26. See Council implementing decision EU (2015) 2015/1411 and also 'Memorandum of Understanding between the European Commission acting on behalf of the European Stability Mechanism and the Hellenic Republic and the Bank of Greece', available at: http://ec.europa.eu/economy_finance/assistance_eu_ms/greek_loan_facility/pdf/01_mou_20150811_en.pdf.

27. See EC (2016a).

of collective bargaining in the country and abstaining from any action that may endanger a shift back to past labour market arrangements that presumably are uncondusive to sustainable growth. Moreover, Greece has been requested to fully implement an extensive set of comprehensive product market reforms included in the OECD competition Toolkits I and II, open up closed professions, enhance energy market competition, ease investment licensing processes and activate large-scale privatisations, transferring valuable public-owned assets to an independent fund.²⁸

Finally, to modernise public administration, the Greek government has committed to setting up a three-year action plan geared towards reinforcing and depoliticising administration structures. To this end, Greek authorities are required to rationalise wage bill in the public sector, connect pay with skills and efficiency, foster e-government and transparency and improve the procedures relating to the selection of managers and further promote employee mobility in the public sector. On top of that, special provisions have been laid down for combating corruption and dispensing justice, including the launch of a new framework concerning the funding of political parties, the insulation of the judicial system from political interference and pressures, speeding up justice and promoting e-justice. Last but not least, the government is also obliged to take action to improve the credibility and statutory independence of ELSTAT and support the autonomy of independent bodies.²⁹

There is no doubt that Greece suffers from low-quality public institutions, as well as poor performing tax administration. In fact, according to the World Economic Forum competitiveness report, the country ranks only 17th among EMU member states in terms of government and public institutions efficiency (WEF, 2015-2016). At the same time, OECD data indicate that in 2013 the tax debt-to-net revenue collection ratio has surpassed 130% (OECD, 2015b), while VAT gap approached 28%, two times above the EU average (EC, 2016b). However, it is also true that any effort to upgrade public administration structures and improve tax compliance vitally hinges on people's living standards and trust on public institutions. In this regard, austerity is clearly an ill-advised way of achieving these goals. It is not only the deep recession that has suffo-

28. The monetisation of these assets is planned to be used for debt repayment purposes, for covering part of the bank recapitalization cost and for financing investment projects in the country.

29. For further details and an updated version of the measures imposed by the third MoU along the abovementioned lines see the Supplemental Memorandum of Understanding (June 2016) available at: http://ec.europa.eu/info/sites/info/files/ecfin_smou_en.pdf

cated citizens' tax-paying capacity and skyrocketed pessimism about Greece's economic prospects.³⁰ It is also the erosion of core pillars of welfare state in the era of economic adjustment that had drag down confidence on public sphere.³¹ In our opinion, modernising public administration and combating tax fraud and corruption presuppose a stable macro and social environment necessary to restore trust on public institutions and build social consent to the need of reform. Yet, this, first and foremost, calls for a pragmatic and viable programme for stimulating employment and economic growth.

Thus, bearing in mind the adverse socio-economic consequences of the two previous adjustment programmes, the third MoU leaves no room for optimism for the country's economic and social conditions in the near future. It is far from evident that Greece needs to shift away from the creditors' failed austerity experiment and embark on a credible recovery strategy. The INE GSEE policy proposal is built upon three pillars that are fully compatible with the particular features of the country's growth model, putting employment creation at the epicentre of the effort to deliver economic, social and financial stability in Greece.³²

Pillar 1: An alternative debt crisis management framework

Austerity has evidently failed to fulfil one of its chief stated goals: to restore public sector's solvency and help the country regain access to private bond markets. Therefore, a fundamental change in the financing architecture of Greece's debt management strategy is urgently required. In our view, the public debt is sustainable when it can be served. For that reason, we propose a new financing architecture in line with the principle: 'sustainable primary surplus-sustainable debt'. Sustainable primary surplus is the one derived by the country's growth performance and the underlying social conditions. It is not the one achieved by austerity, which is both futile and socially unfeasible. Hence, at a first stage, a new financing architecture is crucially needed that would set the

30. The Eurobarometer survey published in December 2016 shows that 97% of citizens in Greece consider the economic situation as bad, while 64% and 61% of those questioned expect a further deterioration of employment and economic conditions, respectively, in the next year (see Eurobarometer, 2016).

31. For instance, in the period 2009-2014 public expenditure (measured in terms of real per capita euros) on public health, education and social protection in Greece has plunged by 45.6%, 16.3% and 15.1%, respectively (INE GSEE, 2017). Moreover, in 2014 the percentage of citizens having confidence in national government has declined by 19 percentage points relative to 2007, standing at only 19% (against 42% in the OECD economies). See OECD (2015c).

32. For a more detailed presentation of the INE GSEE proposal see INE GSEE (2015).

annual interest payments at least equal to a lower, pre-specified sustainable primary surplus target. If so, the public sector would stop accumulating new debt, thereby increasing its credibility and solvency in capital markets in an environment conducive to social cohesion. In this context, debt-restructuring does not necessarily imply a 'haircut', but a new repayment schedule and much lower average interest rates.

Pillar 2: Interventions for stimulating domestic demand

The Greek economy is a consumption-led growth economy (INE GSEE, 2015). This structural constraint should be taken into account in any policy aiming at delivering macroeconomic stability in the short-term. At the same time, an investment-led productive transformation of the Greek economy is also essential in order for Greece to be put on a sustainable growth track and address its long-lasting competitiveness problems. In fact, empirical evidence indicates that stimulating productivity by means of increasing investment spending by 9% per annum over the period 2010-2017 would have produced the same competitiveness gains in terms of real effective exchange rate as the ones caused by cutting wages, without the recessionary effect of the latter option. In particular, the contribution of the project to GDP would have amounted to as much as 2% per year, leading the debt-to-GDP ratio to decline to 120% by 2016. It is also important to note that the net cost of the plan would have been 32.9 billion euros, thus being far less than the total volume of bail-out loans granted to Greece since 2010.³³

Alternatively, a sizable amount of funds for financing this project might be provided by the so-called 'Juncker Plan' and/or through the appropriate restructuring of EU funds, the expansion of EIB functions and the attraction of FDI. In any case, this project should be designed so as to provide support to selected sectors and activities that have strong multiplicative effects on actual and potential output and in which Greece possesses significant comparative advantages, such as: (a) agriculture and food industry; (b) high-quality and sustainable tourism activities; (c) sustainable energy networks and green power infrastructure; (d) high and medium-high technology manufacturing sectors (e.g. refined petroleum products, manufacture of chemicals and chemical products).³⁴

33. For further details about this proposal see Passas and Pierros (2017).

34. On empirical evidence that suggest the importance of mobilising invest funds to certain manufacturing sectors, see Argitis and Nikolaidi (2014b).

Nonetheless, given Greece's consumption-led growth model, reviving real investment activity can be stamped with success only if it runs in parallel with measures geared to stimulating employment in the economy. In this respect, we propose the design and activation of a 'Job Guarantee Programme' (JGP) in Greece. The idea heavily draws on Hyman Minsky's view on the function of the state as an 'Employer of Last Resort' (ELR) and the imperative for it to act so in times of crisis and soaring unemployment.³⁵ In our view, a policy intervention of this sort is of profound relevance to Greece, given the substantial contribution it could make to re-establishing sound macroeconomic and financial conditions in the country. Recent empirical studies have justified the case for embarking on a JGP on the back of its strong positive (both direct and indirect) impact on employment and thereby on GDP growth, private sector balance sheets, tax revenues and ultimately on the public sector's financial status.³⁶ This latter effect provides the crucial linkage between the first and the second pillars of our policy proposal and it is where employment creation becomes highly important for resolving the debt crisis. To the extent that the primary surplus would ensue from the growth-stimulating effects of the programme, such a surplus would become practically sustainable and could be used for covering Greece's annual interest payments.

Pillar 3: Re-regulating labour market

To expand employment and economic growth in Greece, it is also vital the immediate abolition of the measures taken recently in the direction of greater labour market flexibility and the adoption of a new, socially inclusive reform agenda for reshaping labour market conditions. In this context, a range of policy interventions that could serve this goal includes, *inter alia*, the full restoration of collective bargaining system, the unconditional application of all collective bargaining agreements and the re-establishment of all legal provisions guiding the mediation and dispute settlement procedures in the pre-crisis period.

The abovementioned pillars incorporate the distinctive structural aspects of the Greek economy and are fully consistent with the complex institutional setting in which it is embedded. Thus, they deal a decisive blow to both the causes and effects of the crisis and offer an immediate relief from the current unfortunate conditions, without putting Greece's participation in EMU at stake.

35. See, for instance, Minsky (1986) and Papadimitriou and Minsky (1994).

36. See Antonopoulos et al. (2014) and Ioannidis and Pierros (2015).

Simulations of INE-GSEE's policy proposal

In order to evaluate the impact of our policy proposal on Greece's solvency prospects,³⁷ we have opted for three different scenarios and calculated the scale of a JGP required to build in 2020 a primary fiscal surplus equal to interest payments. In our baseline scenario, we have estimated the size, as well as the growth and fiscal effect of a JGP needed to satisfy the solvency condition under the present interest obligations of Greece. Scenarios 1 and 2 incorporate an adjustment of the interest payment schedule by 30% and 60%, respectively.³⁸

Table 3. Simulation results under different policy scenarios

	Baseline scenario	Scenario 1	Scenario 2
Real GDP growth in 2020 (%)	2.4%	1.7%	0.9%
Fiscal surplus in 2020 (% GDP)	3.5%	2.5%	1.5%
Cumulative size of the JGP	280,000	197,000	102,000
Reduction of unemployment by 2020 (% of labour force)	7.5%	5.5%	2.5%

Source: IMF (2016c), authors' calculations.

Table 3 illustrates the results of our simulations under the aforementioned scenarios. In our baseline scenario, real GDP should grow by 2.4% in order for the public sector to achieve a primary surplus of 3.5% of GDP necessary to restore its financial solvency in 2020. The cumulative size of the JGP needed to satisfy the solvency condition amounts to 280,000 (direct and indirect) jobs, leading to a reduction of unemployment by 7.5%. Adjusting interest payments by 30% (scenario 1), the primary surplus target falls to 2.5%. To achieve it, the required growth rate declines to 1.7% in 2020, while the size of the JGP sufficient to reach this rate lowers to 197,000 jobs, thus causing a 5.5% drop in

37. Note that according to our estimates, the achievement of a primary surplus of 3.5% of GDP in 2018 would be insufficient to ensure a solvent fiscal regime and fulfil the country's annual interest obligations, thus paving the way for the introduction of additional austerity measures.

38. In all simulations, we have assumed that public expenditure remains frozen until 2020 and then it rises proportionally to real GDP growth. Moreover, government revenue increases with GDP at a constant rate equal to the 2016 effective tax rate (0.44%), while all other variables, such as investment and export, are assumed to remain constant.

unemployment. Finally, in scenario 2, which assumes a 60% interest adjustment, the primary surplus necessary to restore public sector solvency stands at 1.5% of GDP. This target can be met by a real GDP growth rate of 0.9% attained through the creation of 102,000 new jobs. Under this scenario, the ensuing decline in unemployment reaches 2.5%.³⁹

It becomes clear that re-establishing the fiscal solvency of Greece involves a combination of employment (and/or investment)-driven growth and debt restructuring that revises primary surplus targets. It is worth noting that the precise way of achieving this restructuring is important, but not critical. The most critical element is that any rearrangement of Greece's financial obligations should be compatible with and responsive to the achievement of a sustainable primary surplus. For this to happen, it is crucial to pave the way for the immediate transition of the Greek economy to an environment of faster economic growth and improved living standards.

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39. Undoubtedly, the fiscal and macro performance will be even better if the economy simultaneously experiences a positive investment shock.

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APPENDIX

An analysis of Greece's debt sustainability

In this annex, we try to assess whether Greece's public debt stock is still a cause for concern—implying that some form of assistance or restructuring would be needed—or if it can be considered as sustainable.

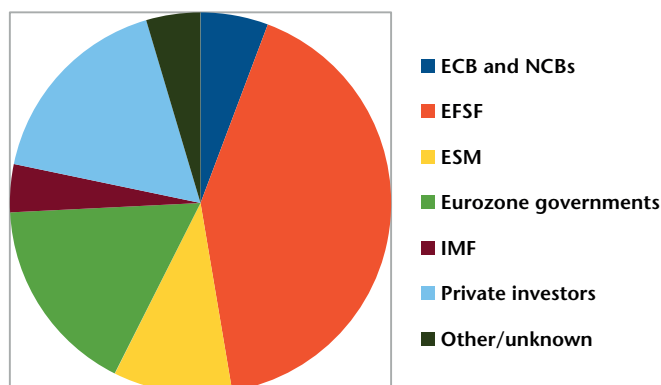
Three scenarios will be considered: the first one corresponds to our assessment of the situation as of today, without no further assistance or debt relief; the second one corresponds to the implementation of the short-term and medium-term debt relief measures contained in the Eurogroup statement of 5 May 2016; and the third scenario corresponds to a possible solution for making the debt sustainable at virtually no financial cost for member states.

Level, composition and characteristics of the debt stock

By the end of 2016, the gross public debt of Greece, in the sense of Maastricht, amounted to 315 €bn, that is 179.7% of GDP. Even though in face value terms this represents a significant decrease from the maximum reached in 2011 (356 €bn), the picture is different when looking at the ratio to GDP: it has been on an upward trend, despite the 2012 restructuring, because of the dramatic fall of nominal GDP.

Figure A1 shows the share held by each creditor category in the total debt stock. Following the 2012 restructuring, official creditors now hold about three quarters of this debt stock; in particular, the EFSF and the ESM together hold more than half of the debt.

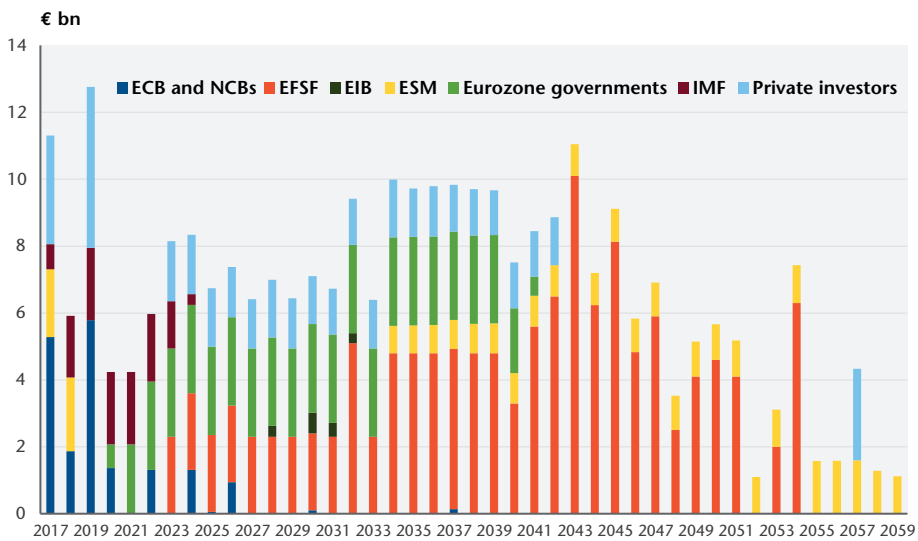
Figure A1. Creditor composition of the debt stock



Sources: Greece's PDMA, Thomson Reuters Eikon, IMF, ESM, European Commission.

Figure A2 shows the repayment profile of the debt principal, by creditor category (excluding short-term debt). In the short run, most repayments go to the Eurosystem (mostly corresponding to bonds purchased through the Securities Market Programme that were exempted from the 2012 restructuring), to the IMF, and to private creditors (medium-term bonds issued in 2014). In the years 2020-2040, the bulk of repayments concern bilateral loans from Eurozone governments (through the Government Loan Facility, GLF henceforth), EFSF loans and private investors (new bonds emitted during the 2012 restructuring). The ESM loans are those with the longest horizon, the last one maturing in 2059.

Figure A2. Debt principal repayment schedule, by creditor excluding short-term debt



Sources: Greece's PDMA, Thomson Reuters Eikon, IMF, ESM, European Commission.

The fact that the bulk of the debt consists in very long-term loans (EFSF, ESM, GLF) does not however mean that Greece is protected from interest rate risk. Indeed, all these loans are serviced at a variable interest rate (indexed on the EURIBOR for the GLF, and at financing cost for EFSF and ESM). The perspective of the normalization of monetary policy in the Euro area is therefore a critical issue that could substantially impact Greece's debt sustainability; we return to this dimension below.

Common hypotheses

A number of hypotheses are common to our 3 scenarios:

- 1 Principal and interest repayments.** In addition to the repayment schedule for official loans, we have constructed a detailed database of outstanding bond issues (including hold-outs from 2012), taking into account the specificities of some securities (inflation-linked bonds, GDP-linked securities, variable-rate coupons). Our data source is Thomson Reuters Eikon.
- 2 Potential growth.** For 2017 and 2018, we use the European Commission projections of -0.5% and -0.2% respectively; for subsequent years (until 2059), we use the estimates from the 2015 Ageing Report, that forecasts a gradual increase up to 2% in 2035, then an abrupt decline towards 1% per year.
- 3 Real growth.** It is the sum of the potential growth, the automatic closing of the output gap (based on the European Commission estimate of -9.8% in 2016, and with an automatic closing speed of 15% per year) and the effect of fiscal impulses (with a short-run multiplier varying between 0 and 1.5—depending of the sign and size of the output gap— and a long-run multiplier of zero)
- 4 Inflation.** It is assumed to return to the long-run ECB target of 2%, following a dynamic Phillips curve (with an output-gap elasticity of 0.5)
- 5 Fiscal policy.** We consider that maintaining a primary surplus of 3.5% of GDP over several decades, as assumed by the European Commission's debt sustainability analysis, is not realistic. We rather assume a long-run primary surplus of 1.5%, which is more realistic given historical records and the political instability that a larger surplus could engender. However, in the short run, a bigger surplus is generated as the output gap closes, before gradually fading away and converging towards the long-run value
- 6 Privatization proceeds.** Given the past poor records, we don't believe in the objective of 50 €bn cumulated expected proceeds. We rather assume that the rate of 3 €bn cumulated that has been observed over the years 2010-2014 is maintained, corresponding to about 0.3% GDP each year.
- 7 Risk-free interest rates.** We rely on market futures until 2026, which forecast an increase to 1.7% by that date; then we assume that interest rates gradually converge towards an equilibrium value of 3.8% (which is the sum of the long-run growth forecast for the Euro area of 1.5%, plus the ECB target of 2%, and a premium over the sum of the two).

- 8 Market interest rates for sovereign bonds.** We assume that the premium over risk-free rates is equal to 3.3 basis points for each point of the debt-to-GDP ratio over 60%. This is a conservative estimate, that was obtained using data for all the Euro area members except Greece (given the limited liquidity of Greece's bond).
- 9 Refinancing maturity.** The average maturity of new marketable bonds issued by Greece is assumed to be 7 years.

a) Baseline scenario

In this scenario we analyze the likely path for Greece's public debt under the hypothesis that there is no new financial assistance programme after the current one (Greece returns back to the markets in 2019) and that no more debt relief measures are implemented. In particular, this means that among the short-term debt relief measures discussed at the May 2016 Eurogroup, the only one which is included in this scenario is the 2017 waiver for the step-up interest rate margin on the loan for the 2012 debt buy-back; the other measures having not yet been implemented, they are not considered in this scenario.

Given our hypothesis on risk premia, the interest rate at which Greece returns to the markets in 2019 is 4%, which is a quite optimistic hypothesis; this rate then increases first because of the normalization of monetary policy, then because of the snowball effect on the debt stock.

The official rates at which the ESM and EFSF lend are computed assuming that they continue financing themselves at risk-free rates, with an average maturity of 5 years as they currently do.

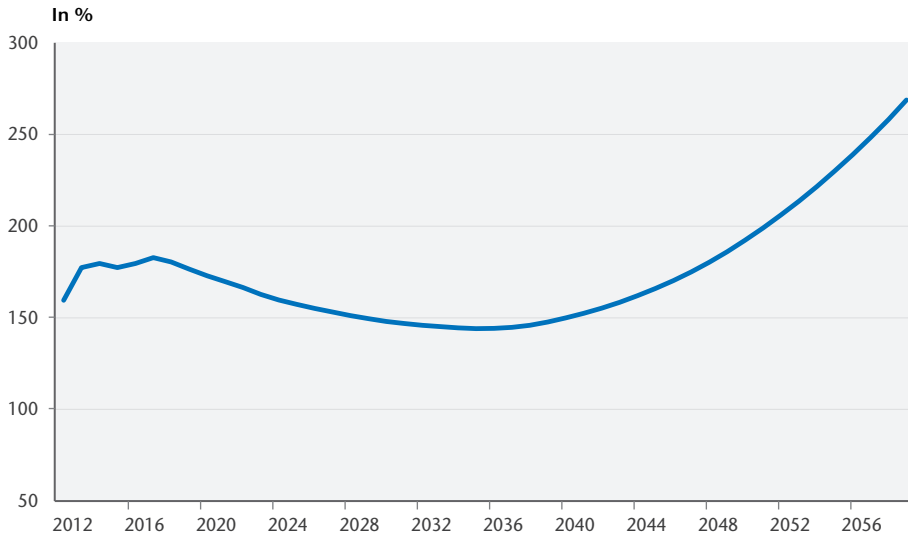
Figure A3 shows the path for the debt-to-GDP ratio under this scenario. It is highly explosive: after a decrease under 150% of GDP in the mid 2030s, the ratio starts to increase again because of the rise of the apparent interest rate (both because market rates increase, and because the share of official loans decreases).

Figure A4 pictures the trajectory of the primary surplus under this scenario: it first increases and reaches a peak at 2.9% in 2023, then decreases to 1.5% in 2031 and stabilizes there.

Another way of presenting this scenario consists in computing the long-run primary surplus that would be consistent with a stabilization of the debt-to-GDP ratio, all other hypotheses kept unchanged. In this case, the computation gives

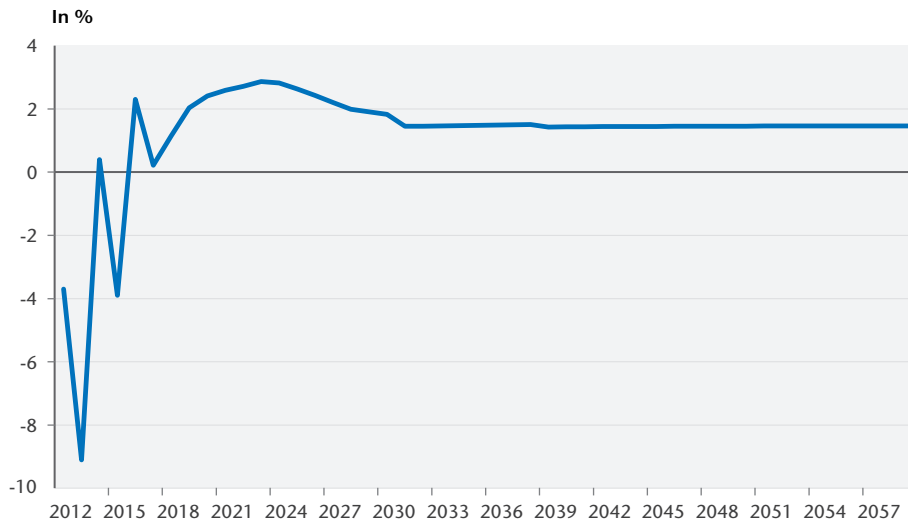
a primary surplus of 3.1% (to be maintained forever) in order to stabilize the debt at 119% of GDP. Such a long-run surplus is highly unrealistic however.

Figure A3. Baseline scenario, debt/GDP ratio



Source: authors' calculations.

Figure A4. Baseline scenario, primary surplus



Source: authors' calculations.

This analysis shows that under this scenario the debt is highly unsustainable: under a reasonable primary surplus hypothesis, the debt stock enters into a snowball dynamics. This justifies that some debt relief measures be taken.

b) Limited debt relief scenario

Indeed, some debt relief measures have been discussed at the May 2016 Euro-group, and this second scenario analyzes them. They comprise short-term measures (i.e. to be implemented before the end of the ESM programme) and medium-term measures (i.e. to be implemented at the end of the programme), which can be summarized as follows:

- changing the financing strategy of the EFSF and ESM in order to lock-in as much as possible the current low interest rates (given the expected increase due to the normalization of the monetary conditions); and additionally implementing a partial repurchase of the GLF loans by the ESM in order to lower interest rates;
- reprofiling the EFSF and GLF loans in order to increase the average maturity and to smooth the repayment profile;
- abolishing the step-up interest rate margin on the loan for the 2012 debt buy-back;
- restoring the transfer of SMP and ANFA profits to the Greek government.

Given that these measures have not yet been implemented, we need to make hypotheses for the first two of them.

Concerning the official interest rates, we make the hypothesis that the EFSF and ESM increase their average borrowing maturity from 5 years to 15 years, starting from 2017. This has the consequence of delaying the transmission of the risk-free short-term rates increases to Greece. We also assume that the GLF loans will now bear the same interest rate as the ESM ones (instead of a 50 basis points premium over the 3-month EURIBOR), i.e. we are implicitly assuming that these loans are repurchased by the ESM (therefore at no cost for member states).

Concerning the reprofiling of the EFSF and GLF loans, we make the hypothesis that their maturity is increased up to 2059, and that their repayment profile is smoothed (without a nominal haircut). Figure A5 gives the new principal repayment schedule hypothesis.

Figure A5. Repayment schedule under limited debt relief scenario

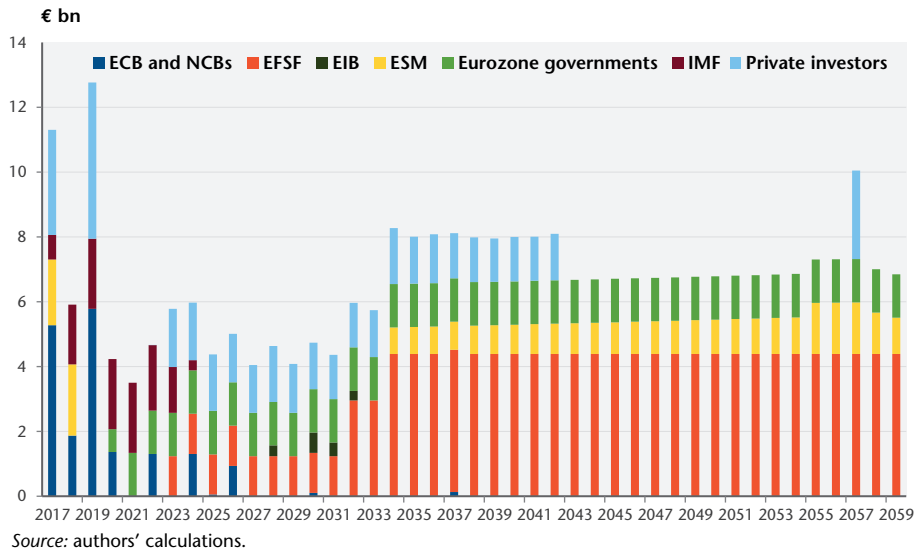


Figure A6 pictures the path for the debt-to-GDP ratio under this scenario. As one can see, the improvement is notable compared to the baseline scenario, but is still insufficient to make the debt burden sustainable.

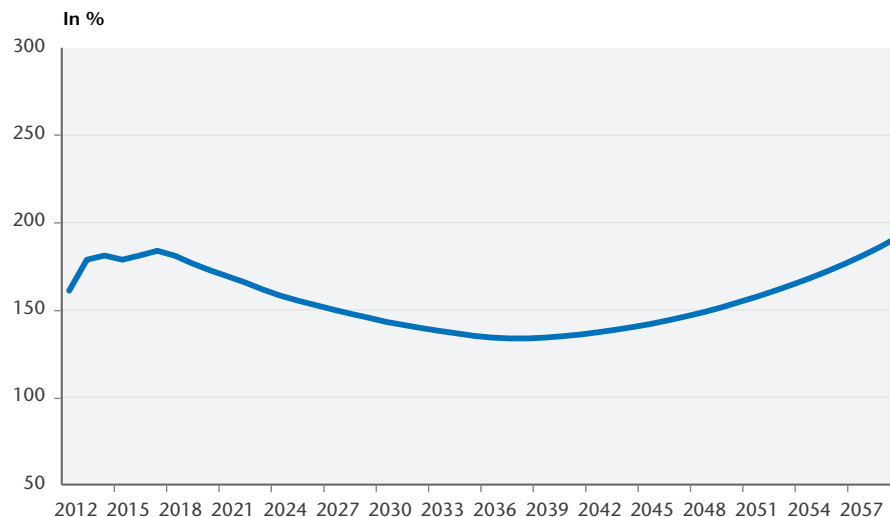
Again, looking differently at this scenario, the long-run primary surplus required to stabilize the debt-to-GDP ratio (at 110%) is of 2.5% of GDP, which is still very high.

The conclusion of this exercise is that, even if all the promised debt relief measures are implemented by the end of the ESM programme, it is not realistic to expect Greece to go back to the markets and repay its debts over the long run. Said otherwise, an orderly completion of the programme and the planned debt relief measures are not sufficient to guarantee the membership of Greece within the Euro area. Further action needs to be taken.

c) A possible solution for ensuring debt sustainability

This third scenario is based on the previous one, but adds a critical change: we now assume that Greece does not return to markets in 2019, but remains under financial assistance from the ESM, rolling over its debt by contracting new official loans. This process is assumed to last until 2050, after which Greece returns to financial markets.

Figure A6. Limited relief scenario, debt-to-GDP ratio



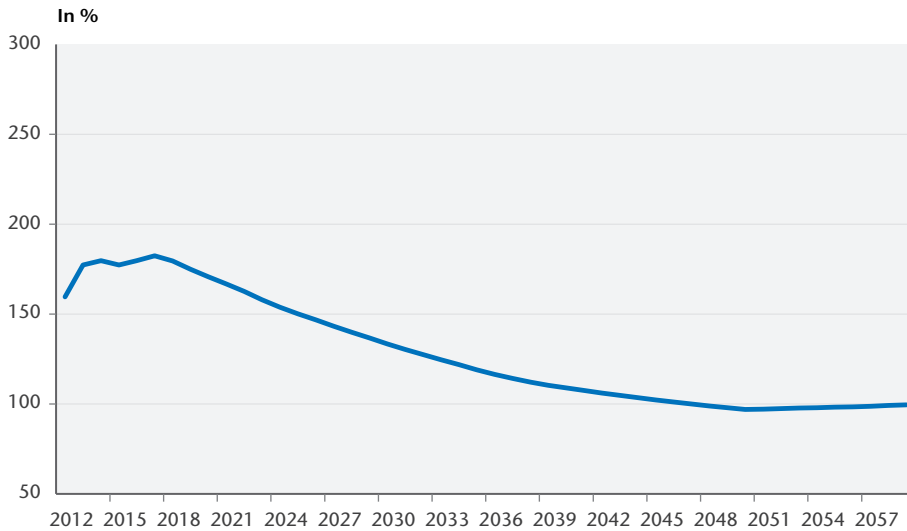
Source: authors' calculations.

Figure A7 plots the path of the debt-to-GDP ratio under this scenario. One can see that the debt stabilizes slightly below 100% of GDP at the end of the forecasting horizon: this is still significantly higher than the 60% target of the Stability and Growth Pact, but at least it would permit Greece to finance itself at reasonably low market interest rates.

It is interesting to note that this scenario comes at no cost for the other eurozone members. The improvement of Greece's situation under this scenario comes from the fact that it does not face the risk premium associated to its high debt burden. Said otherwise, this scenario is equivalent to a form of debt mutualization, under which Greece's debt is transformed (until 2050) into a risk-free debt guaranteed by the other member states. And this comes at no cost for these states, at least under the hypothesis that Greece does not default, which is a reasonable to expect given the sustainability of the debt burden.

Of course, even though the scenario that we describe is realistic from a purely economic perspective, one could still wonder whether it is from a political perspective. The major issue here being that Greece could consider that being under programme until 2050 is an unbearable loss of sovereignty, while the creditors could be reluctant to give a debt guarantee of such an amount for such a long time. In particular, this means that, if this solution is to become realistic, the management of the programme should be different from the one we have observed so far: Greece's sovereignty should be respected, imposed

Figure A7. Sustainable scenario, debt-to-GDP ratio



Source: authors' calculations.

austerity should be avoided as much as possible so that Greece can recover as fast as possible from its deep recession. It also means that, in creditor countries, the institutions and political representatives should communicate on the huge efforts already undertaken by the Greek people, and on the fact that the new arrangement comes at no cost for taxpayers.

Of course, there are many other ways to design a sustainable scenario. An alternative one could be to increase maturities even further, or to lend at more concessional terms (however implying a loss to creditors in net present value terms, even if not in face value terms).

Whatever the solution chosen, our analysis shows that there exists an economic solution that could make Greece's debt sustainable and secure its euro membership. Whether there is the political will to do so still remains to be seen.