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The Greek Crisis and Financial Assistance Programmes: An Evaluation

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Michael G. Arghyrou

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The Greek Crisis and Financial Assistance Programmes: An Evaluation

Abstract

We analyse the background of the Greek debt crisis and evaluate the three Greek financial assistance programme. The crisis and the first programme's (2010-11) failure were mainly the result of misguided internal policies. The second programme (2012-14) achieved progress towards recovery but this was fragile and was cancelled out by Greece's stand-off with her lenders in the first half of 2015. The stand-off was one that predictably Greece could not win, due to the lack of a credible growth plan; and the adoption of a transparently non-credible ultimatum-game strategy. These explain the signing of the third programme in August 2015.

JEL-Codes: E000, F400.

Keywords: Greece, euro, crisis, financial assistance programmes.

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1. INTRODUCTION

Since autumn 2009 Greece has been experiencing the most challenging economic crisis of its post-war history. The crisis has raised questions on the country's position in the European Economic and Monetary Union (EMU), with influential observers calling for a Greek exit from the euro as a means of kick-starting economic recovery (see e.g., Sinn, 2014). Greek authorities, however, have rejected euro-exit calls. Instead, over the period 2010-14, and in the context of two financial assistance programmes agreed with the European Commission, the European Central Bank (ECB) and the International Monetary Fund (IMF), they followed policies aiming to achieve fiscal consolidation, higher competitiveness and improved institutional performance within the euro area. The economic strategy on which these programmes was based is an issue of controversy; and their degree of success the subject of considerable debate (IMF, 2013). There is no doubt, however, that the best part of their application coincided with a considerable fall in Greek living standards, including six years of consecutive recession (2008-13) and a very substantial increase in unemployment, from 7.8% in 2008 to 27.5% in 2013.

The general election held in Greece in January 2015 resulted into the formation of a government strongly opposing the Greek financial assistance programmes. The first seven months of 2015 saw a stand-off between the new Greek government and Greece's international lenders, culminating in July 2015 with Greece defaulting on its repayments to the IMF, a three-week bank holiday and the imposition of (currently in place) banking and capital controls. Finally, in August 2015 the new Greek government signed a third financial assistance programme, reiterating all the commitments Greece had undertaken in the context of the first two programmes. Although the Greek government was returned to office in another general election held in September 2015, it has clearly been unsuccessful in its stated objective to change fundamentally the terms of the Greek financial assistance programmes, keeping at the same time Greece in the euro-area.

This paper analyses the background of the Greek debt crisis; assesses the degree of success achieved by the first two financial assistance programmes; and evaluates the factors leading up to the signing of the third. We argue that the Greek crisis and the failure of the first Greek financial assistance programme (2010-11) were mainly, though not exclusively, the result of misguided internal policies. The second programme (2012-14), despite imperfections in its application, was successful in putting Greece to the path of economic recovery; however, the progress it achieved was fragile and vulnerable to internal and external risks. Finally, the new Greek government failed to change the terms of the Greek programmes because it did not present a credible growth plan; and pursued an ultimatum-game strategy in its negotiations with Greece's international lenders which from the outset was transparently non-credible.

Overall, and returning to the initial question with which this introduction started, our analysis comes down in favour of Greece's continued participation to the euro. We argue so because although a country's currency is not per-se determining long-term growth and employment, supply-side reforms and institutional performance do so. We argue that as far as Greece is concerned, both prerequisites are better served within the EMU rather than outside.

The remainder of the paper is structured as follows: Section 2 discusses the background, onset and early stages of Greek debt crisis covering the first Greek bailout programme (2010-11). Section 3 evaluates the performance of the second Greek bailout programme (2012-14). Section 4 analyses the factors leading up to the signing of the third Greek bailout programme in August 2015. Finally, section 5 offers concluding remarks.

2. THE BACKGROUND AND EARLY STAGES OF THE GREEK CRISIS

The roots of the Greek crisis go back a long time, namely in the traditional Keynesian policies applied in the 1980s, leaving the country a well-documented legacy of high public debt, inflation and state intervention in economic activity (see e.g. Alogoskoufis, 1995). In

the 1990s Greece applied convergence programmes achieving a partial shift away from this unsatisfactory macro-performance (see Mourmouras and Arghyrou, 2000). This shift, however, was incomplete. The main reason was that with the exception of 1990-93 Greek governments pursued macroeconomic stabilisation through a restrictive monetary policy, without applying sufficient micro-oriented policies increasing flexibility/competition in the markets for labour, goods and services, conditions highlighted by the Theory of Optimum Currency Areas (TOCA) as necessary pre-requisites for successful participation in the single currency. Therefore, although Greece achieved enough macro-convergence to secure its accession to the euro in 2001, it failed to achieve the necessary degree of micro-convergence putting in place the necessary flexibility defences against destabilising economic shocks within the euro-area. As a result, Greece maintained a weak, highly-distorted supply side, not well-prepared for euro-participation Arghyrou, 2006). To a large extent the same applies to the whole of the European periphery highlighting the limitations of the Maastricht Treaty to lay the foundations necessary for a successful EMU (see Lane, 2012).

During the first decade of its euro-participation Greece reverted to policies similar to the one applied in the 1980s (see Dellas and Tavlas 2012). The main features of these policies were lack of progress in promoting necessary structural reforms; and a significant increase in public-sector wages and employment, causing a substantial increase in the public expenditure to GDP ratio, from 45% in 2001 to 54% in 2009. With public revenue stagnant around 40% of GDP, this resulted in increased deficits putting Greece's public debt on an upward path before the global credit crunch of 2008-9.

Furthermore, excessive wage growth in the public sector resulted in an excessive wage growth in the private sector and at aggregate level. A useful benchmark determining wage increases compatible with the economy's production capacity is the sum of inflation and productivity growth (see Tobin 1995). Table 1, Panel A shows that over 2001-9 the cumulative increase in nominal employees' compensation in Greece was 47%, the highest in

Table 1: Excess cumulative nominal compensation growth, 2001-2009 and 2001-2013

	(a) Nominal compensation per employee growth	(b) Harmonised Consumer price index (HCPI) growth	(c) Person-based labour productivity growth	(d) Sum of labour productivity and CPI growth, (b) + (c)	(e) Excess Nominal compensation growth, (a) - (d)
Panel A: 2001-2009					
Greece	**47.0**	**28.8**	**8.8**	**37.6**	**9.4**
Ireland	42.9	22.0	9.3	31.2	11.6
Spain	33.8	25.9	3.6	29.5	4.2
Portugal	28.5	20.3	5.2	25.5	2.9
Finland	27.9	13.3	5.1	18.4	9.5
Luxembourg	26.1	23.3	-3.8	19.5	6.5
Netherlands	25.4	16.5	5.4	21.9	3.5
France	25.0	16.1	4.9	21.0	4.0
Belgium	22.7	17.2	4.3	21.5	1.2
Austria	20.1	15.5	5.4	20.9	-0.8
Italy	19.3	20.0	-5.8	14.2	5.1
Germany	7.2	13.9	1.9	15.8	-8.6
EMU12 Average	**27.1**	**19.4**	**3.7**	**23.1**	**4.0**
Panel B: 2001-2013					
Finland	41.8	25.5	9.0	34.5	7.3
Luxembourg	39.5	37.6	-5.6	32.0	7.5
France	36.3	24.8	9.1	33.9	2.4
Belgium	36.1	28.7	6.4	35.1	0.9
Ireland	36.0	24.4	14.9	39.3	-3.3
Spain	35.1	37.7	12.7	50.4	-15.3
Netherlands	33.8	27.0	6.8	33.8	0.0
Portugal	32.0	30.4	12.0	42.4	-10.4
Austria	29.4	27.4	6.5	33.9	-4.4
Italy	25.2	31.2	-5.2	26.0	-0.9
Greece	**24.5**	**39.3**	**6.3**	**45.6**	**-21.1**
Germany	18.3	22.5	6.9	29.4	-11.1
Average EMU12	**32.3**	**29.7**	**6.6**	**36.4**	**-4.0**

Data Sources: Nominal compensation per employee and person-based labour productivity: ECB. Harmonised Consumer Price Index, total economy: Eurostat.

the EMU. The sum of productivity growth and inflation was only 37.6%. Table 1 suggests that excess wage growth over 2001-9 took place in the majority of EMU countries (see also Afonso and Gomes, 2014); in Greece, however, it was more than double the EMU average. Note the contrast with Germany, where nominal compensation growth undershot its benchmark value by a factor of 2. Wage developments are directly linked to declining

competitiveness (see below) and go a long way towards explaining the growing intra-EMU current account imbalances recorded over 2001-9 (see Arghyrou and Chortareas, 2008).

Overall, the lack of supply-side reforms combined with an increase in demand driven by increased public expenditure, excessive wage growth and the reduction in real interest rates following Greece's accession to the euro (see Arghyrou et al, 2009) resulted in positive output gaps whose cumulative size over the period 2001-9 is estimated, according to IMF data, in the range of 40 percentage points. In other words, the past decade saw the creation of a bubble in the real sector of the Greek economy driving market output well above natural output for a period of time unparalleled to modern European economic history (see also Sinn, 2014). This was enhanced by the lack of a credible European macro-surveillance mechanism and private expectations that no euro zone country would be left to default, irrespective of the state its fundamentals (see Arghyrou and Tsoukalas, 2011 and Arghyrou 2015).

From that point of view, the onset of the Greek debt crisis in late 2009 and the deep recession which followed are not surprising: they are, at least to a large extent, an equilibrium phenomenon restoring Greek output to its natural level. The trigger was the global financial crisis in 2008-9 which deprived Greece from easy access to borrowed funds in a sudden-stop fashion. Having said so, the Greek recession was aggravated by the following factors:

First, major internal policy mistakes during the first six months of the Greek debt crisis and the implementation of the first Greek financial assistance programme, signed in May 2010 and involving loans from Eurozone countries and the IMF to Greece for an amount equal to 110 billion euros. Over this period Greek authorities did not realise that the sudden drop in economic activity following autumn 2009 was not only the cause but also the symptom of the crisis. Although the international credit crunch of 2008-9 was the crisis' trigger, and operated as a major factor reinforcing the recession, the crisis' roots lie in Greece's supply side weaknesses and low institutional performance in key areas such as bureaucracy, judicial efficiency, tax collection and corruption (see Featherstone 2011,

Artavanis et al, 2015, Transparency International, 2012). During 2010-11 Greek authorities hesitated to address these fundamental problems (Lynn, 2010), while their effort to restore fiscal sustainability was primarily based upon emergency tax-collection measures of limited effectiveness.

Second, the lack of a credible EMU plan to address the Greek debt crisis and the failure on behalf of Greece's EMU partners to provide markets a credible reassurance that Greece will stay in the euro (see Bohn and de Jong, 2011, Arghyrou and Tsoukalas, 2011).

The interaction of these two factors operated as a second negative shock, as they caused a significant deterioration in markets' expectations leading to a collapse of the Greek bonds' market, increased capital flight from the Greek banking system and the mutation of the Greek debt crisis into a banking crisis, suppressing consumption and investment spending. This put the country into a vicious loop of deteriorating expectations, accelerating recession, banking crisis and worsening public debt dynamics, rendering economic recovery a very difficult prospect (see Mourmouras, 2013).

3. THE SECOND GREEK FINANCIAL ASSISTANCE PROGRAMME: 2012-14

In view of the developments described above, the first Greek financial assistance programme was abandoned; and a second programme was signed in February 2012. This involved additional loans of 130 billion euros, lent to Greece by the IMF and the European Financial Stability Facility (EFSF); the Private Sector Involvement (PSI) scheme, a debt-restructuring exercise postulating a substantial write-off of Greek public debt held by private investors (53.5% and 73% in face- and net present-value terms respectively); and a major recapitalisation of Greek banks through EFSF funds included in the loan's total 130 billion value. In exchange, Greece undertook to reinforce its existing and introduce new policies aiming towards fiscal sustainability; financial stability; and structural reforms enhancing competitiveness.

To that end, the second half of 2012 saw three important events:

First, the general election held in June 2012 produced a pro-euro coalition government which immediately sent markets strong signals that Greece was determined to implement fiscal and structural policies necessary for Greece to maintain its euro participation.

Second, the Eurogroup meeting of November 2012 provided a credible commitment that EMU countries will assist Greece stay in the euro by resuming the financing of Greece's assistance programme (previously suspended due to lack of progress towards meeting fiscal and reforms targets); reducing Greece's debt burden through extending the maturity of loans to Greece and reducing their interest rates; and considering further debt assistance if certain fiscal targets were met in 2013-14.

Third, the external environment improved significantly due to the ECB's announcement in September 2012 to intervene with unlimited, if necessary, liquidity through the Outright Monetary Transactions (OMT) programme, to stabilise European sovereign bonds markets (as long as the affected EMU member-states have previously agreed with their lenders a suitable adjustment programme).

Economic recovery involves the cancelation of the previously mentioned vicious cycle; and its replacement by a virtuous circle comprising of appropriate policy interventions; improved expectations; improving macro-indicators, and, eventually, higher growth and employment. The sub-sections which follow assess the evidence relating to these stages following the milestone events discussed above.

Policy interventions

The main features of Greek macro-policy over 2012-2014 were fiscal consolidation, bank recapitalisation and structural reforms. It is impossible to measure progress in structural reforms with full precision. However, a quantitative measure extensively used for this

purpose is the Ease of Doing Business Index (EDBI) published by the World Bank. In 2010 Greece's performance was disappointing, reflected in a ranking of 109 out of 183 countries. Two years into the crisis (2012), with Greek authorities hesitant to promote reforms, Greece ranked 100 out of 193. In 2013-14, however, Greece topped the list of the Adjustment Progress rankings published by The Lisbon Council with the speed of reform accelerating sharply. The result was a marked improvement of 39 places in Greece's EDBI ranking (61).

Nevertheless, this progress has not been equally spread across all areas; and Greece's 2014 ranking (61) remains well below the average EMU-country ranking (37). In a recent report the OECD (2013) identified 555 regulations and 329 law provisions hindering competition and flexibility, prerequisites which the TOCA has highlighted as *sine qua none* for successful EMU participation. Since the report's publication Greece has passed legislation addressing some of these distortions (approximately one third), the process, however, is still far from being complete.

Regarding fiscal consolidation, after many years of deficits, in 2013 Greece achieved a primary budget surplus of 1.2% of GDP, increasing to 1.5% in 2014. An important difference with 2010-12 was that in 2013-14 deficit reduction was mainly pursued through lowering public expenditure rather than taxation increases,[1] a key future of successful, growth-inducing fiscal adjustment programmes (see Alesina and Ardagna, 2010, Kataryniuk and Valles, 2015). Finally, in April 2014 Greece placed successfully, for the first time since the onset the Greek debt crisis, a five-year bond issue for 3 billion euro achieving an interest rate just below 5%.

This fiscal improvement was not reflected in the public debt to GDP ratio, which in 2014 still stood at 177% of GDP. Public debt dynamics, however, are also determined by real interest rates on public debt and the rate of economic growth. Along with unemployment, the

[1] The relevant ratios to GDP were: for 2010, public expenditure 52.1%, revenue 41%; for 2012, expenditure 50.9%, revenue 44.6%; and for 2014, expenditure 46.3%, revenue 43.6%. (Source: IMF, World Economic Outlook, April 2015)

latter is the last variable to respond to policy interventions. It is therefore not surprising that the public debt to GDP ratio has not yet been stabilised. In 2014, however, Greece achieved for the first time after six consecutive years of recession a positive growth rate of 0.8%. Given that at the end of 2014 more than three quarters of Greek public debt were held by official lenders involving interest rates in the range of 0.7% to 2%, at the end of 2014 Greece had made very significant progress towards achieving the technical definition of public-debt sustainability.[2]

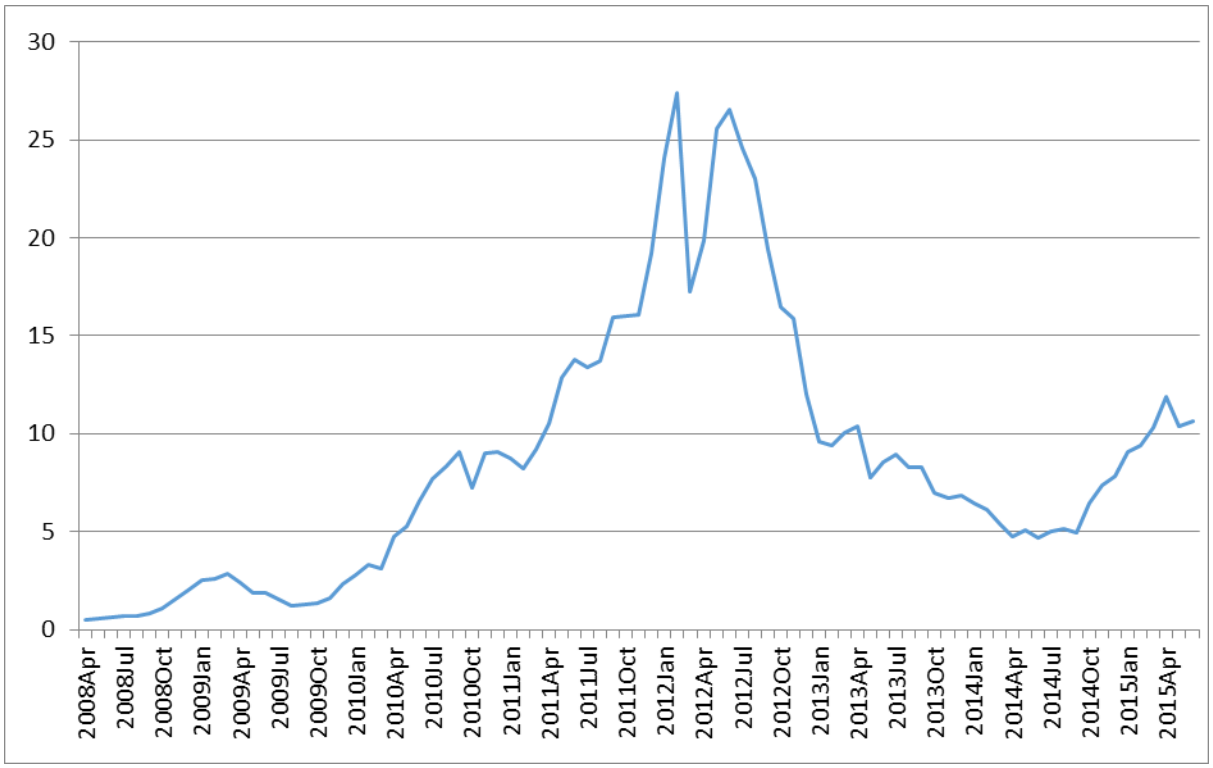
Improvement in expectations

Starting from June 2012 a number of indicators suggest improving economic expectations for Greece's growth performance. These include: (i) a substantial reduction in Greece's 10-year government bond yield spread against Germany, from 2652 basis points in June 2012 to 467 basis points in June 2014 (see Figure 1);[3] (ii) the end of capital flight from Greek banks taking place until June 2012 and a subsequent modest recovery: from a

[2] Assuming no seignorage revenue, the condition for stabilising the public debt to GDP ratio is given by $(r\text{-}x)B = (t\text{-}g)$, where r is the real interest rate (nominal interest rate minus inflation) on public debt, x real GDP growth, B the existing stock of public debt, t government revenue and g government expenditure excluding interest payments (all fiscal variables expressed as ratios to GDP). Rearranging this condition, we obtain $(r\text{-}x)\ B - (t\text{-}g)$ as a metric of the deviation of the primary surplus from the value necessary to meet the debt-sustainability condition. According to IMF data (World Economic Outlook April 2015), in 2012 and 2014 respectively the relevant figures were: x = -6.6% and 0.8%; $t - g$ = - 1.3% and 1.5%; and B = 156.5% and 177%. With inflation figures in 2012 and 2014 respectively given as 1.5% and -1.4%, and assuming a 2% effective nominal interest rate on Greek public debt for both years, we obtain an implied real interest rate r equal to 0.5 and 3.4 respectively. Given these figures, in 2012 the Greek primary budget surplus was 14% of GDP lower than it should be to meet the debt sustainability condition. By 2014, this shortfall had been reduced to 3%.

[3] This reduction is related to the announcement of the OMT programme in September 2012 and the subsequent expansionary monetary policy followed by the ECB. However, it is not due to these factors only: If it was so, Greek spreads should have dropped in a discrete step-fashion in September 2012; instead, they dropped gradually over 2013-14. Furthermore, if the OMT programme was the single determinant of spreads in the euro-area, all periphery EMU countries should have the same spread-values, which they do not. Overall, in addition to EMU-wide systemic-risk conditions, markets determine spreads taking into account improving national macro-developments (see e.g. Arghyrou and Kontonikas, 2012, Constantini et al, 2014).

Figure 1: Greek 10-year government bond yield spread versus Germany



Source: European Central Bank

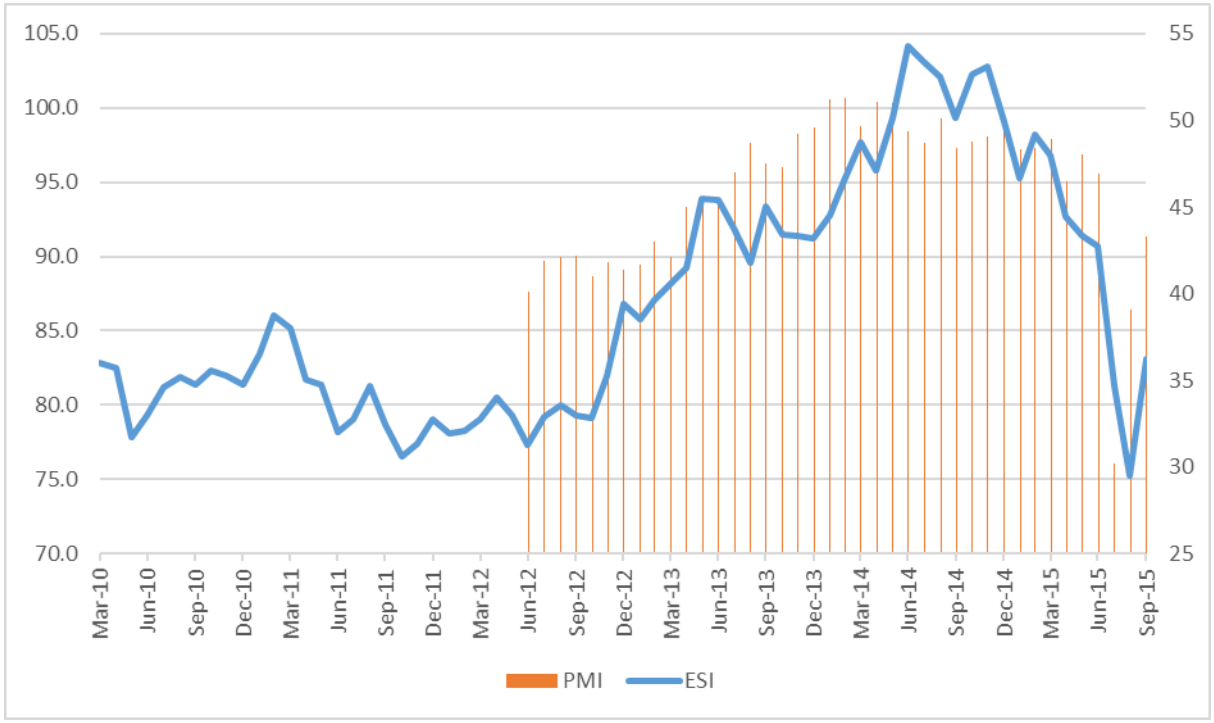
Figure 2: Greek private-sector deposits

Source: European Central Bank

Figure 3: Athens Stock Exchange Index

Source: Athens Stock Exchange

Figure 4: Expectations indicators



Sources: PMI: Markit; ESI: European Commission. ESI measured on left hand side axis; PMI on the right. PMI values lower than 50 denote expected contraction while values higher than 50 denote expected growth.

minimum of 156.2 billion euro in June 2012, Greek private bank deposits rebounded to 173 billion in August 2014 (see Figure 2); (iii) a similar reversal for the Athens Stock Exchange index, rising from an index value of 525 in May 2012 to 1162 in August 2014 (see Figure 3); and (iv) a marked improvement in confidence indicators, such as the Economic Sentiment Index published by European Commission, rising from 77.7 in June 2012 to 102.2 in November 2014; and the Purchasing Managers Index published by Markit, rising from 40.1 in June 2012 to 51.1 in April 2014 (see Figure 4).[4]

Competitiveness and current account

In addition to fiscal consolidation, the Greek external sector has also improved. Real effective exchange rates calculated using unit labour cost suggest that by the end of 2014 Greece had achieved substantial competitiveness gains, fully offsetting the competitiveness losses of 2001-9. These, however, are not so pronounced when measured using CPI-based real effective exchange rates (see Figure 5).

Competitiveness gains are reflected in a marked improvement in the balance of exports of goods and services (see Figure 5) and Greece's current account balance: From a record deficit of 15% of GDP in 2008 and 11% in 2009, in 2013 and 2014 Greece registered a current account surpluses (0.6% and 0.9% of GDP) for the first time since 1948. This reversal is mainly related to the reduction in imports following the fall in disposal incomes caused by the six-year recession. However, Greece's exporting performance, particularly in the services sector, has also improved, though not in a spectacular fashion. If, the basis year for calculations is chosen to be 2008, 90% of the current account adjustment between 2008 and 2014 comes from the imports side and only 10% from the exports one. If, however, the

[4] PMI values lower than 50 denote expected contraction while values higher than 50 denote expected growth.

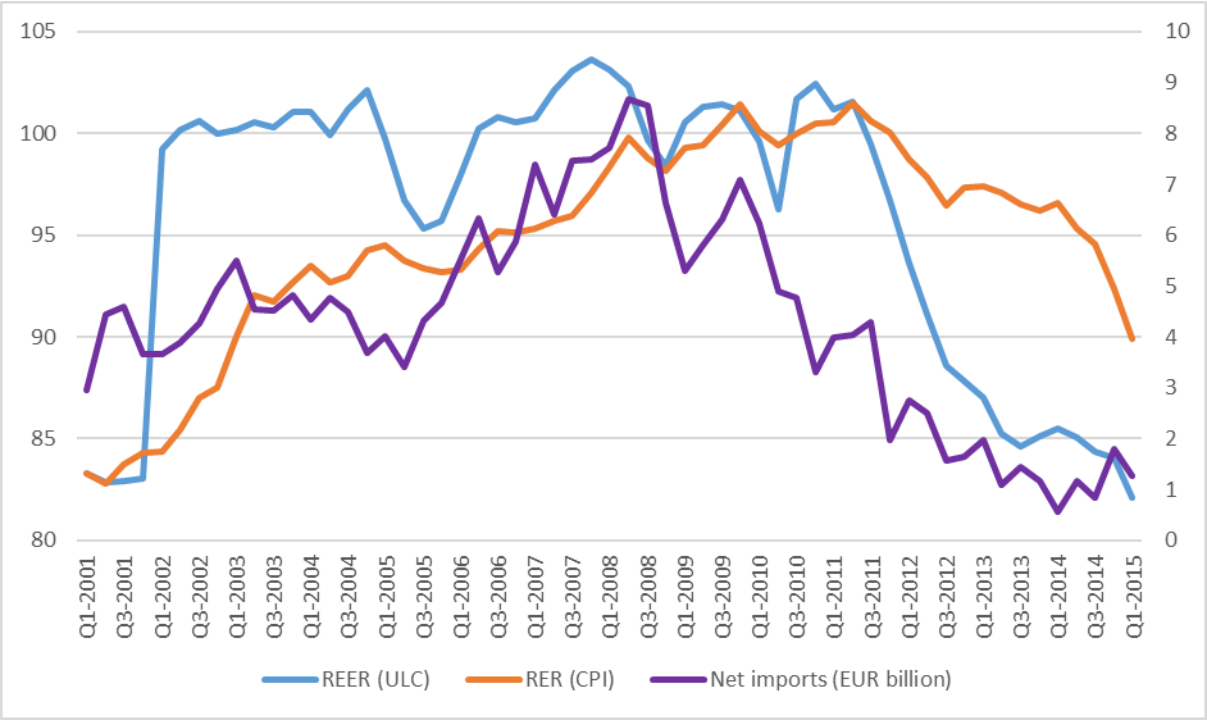
basis year switches to 2009, the adjustment attributed to imports is 70%, while 30% comes from the exports' side.[5]

The improvement in Greece competitiveness, however, could have been substantially extended, as it was the result of an imbalanced adjustment process. As the movements of the ULC- and CPI-based real exchange rates series reveal (Figure 5), adjustment has mainly relied on labour costs and much less on reducing the monopolistic mark-ups included in final prices. Further evidence in support of this argument is provided by Table 1, Panel B, which repeats the exercise discussed in section 2, extending the sample period to 2013. Nominal wage reductions over 2010-13 have completely reversed the excessive wage growth of 2001-2009, to the extent that nominal compensation growth in Greece now undershoots substantially its benchmark value given by the sum of inflation and productivity growth. Although this has improved Greek competitiveness, with consumer prices not falling equally fast it has also reduced substantially the purchasing power of Greek households. For an economy with unemployment rate exceeding 25% and no room for fiscal manoeuvre, it is unrealistic to expect that this wage gap can be closed by increases in nominal compensation. A more realistic approach is to increase CPI-based competitiveness, for which a large margin of improvement exists through reducing profit mark-ups.[6] This brings us back to the necessity of structural reforms promoting competition discussed above, particularly in Greece's extended non-traded sector.

[5] For 2008, 2009 and 2014 respectively the figures have as follows (in billions of euros): Exports of goods and services: 56.4, 45.2 and 58.9. Imports of goods and services: 88, 69.7 and 63.2. Balance: -31.6, -24.5 and -4.4.

[6] Within a standard DSGE model (see Corsetti and Pesenti, 2007, equation (5), p. 70) prices are given by a mark-up over marginal costs, $P = (\theta/\theta\text{-}1)(W/Z)$. Marginal costs are given as the ratio of nominal wages (W) to labour productivity (Z), while the mark-up is a negative function of competition, captured by the elasticity of substitution between firms' products (θ). Prices can fall either through lower marginal costs (W/Z), i.e. lower nominal wages and/or higher productivity; or lower mark-ups due to higher competition (θ).

Figure 5: Real exchange rates and net imports of goods and services

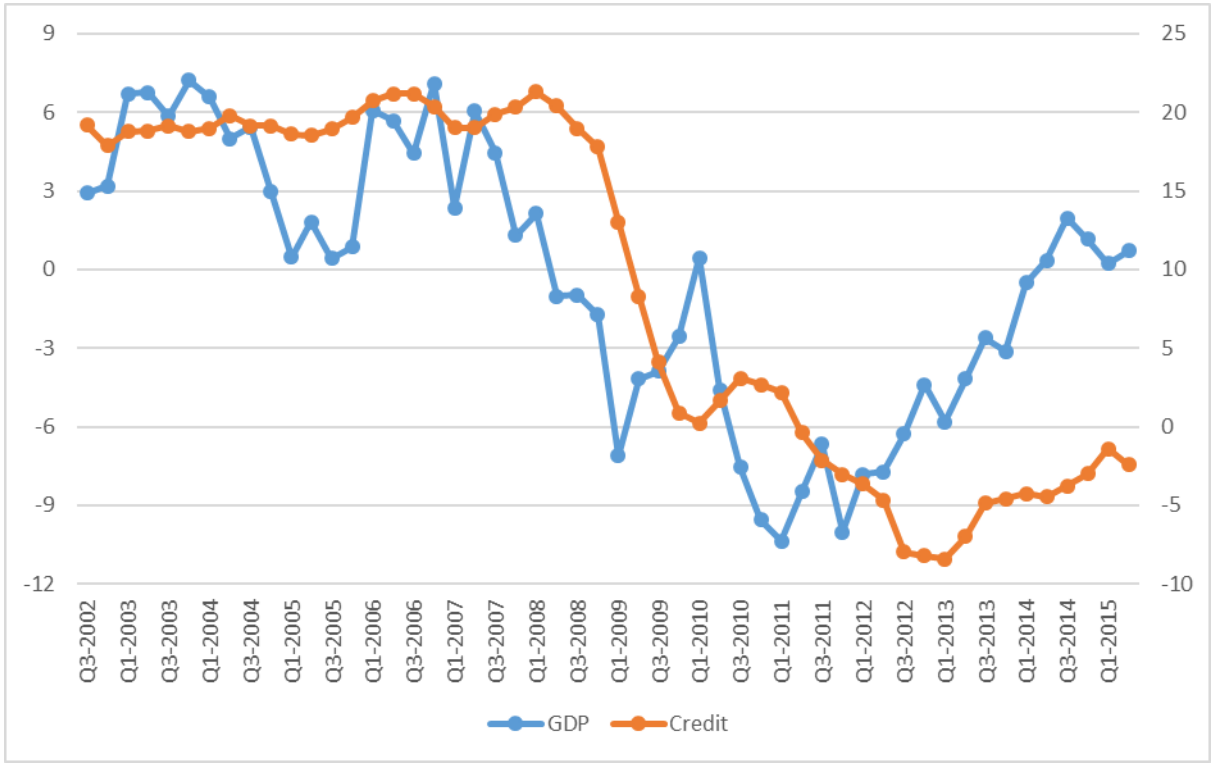


Source: IMF, International Financial Statistics

Credit, growth and unemployment

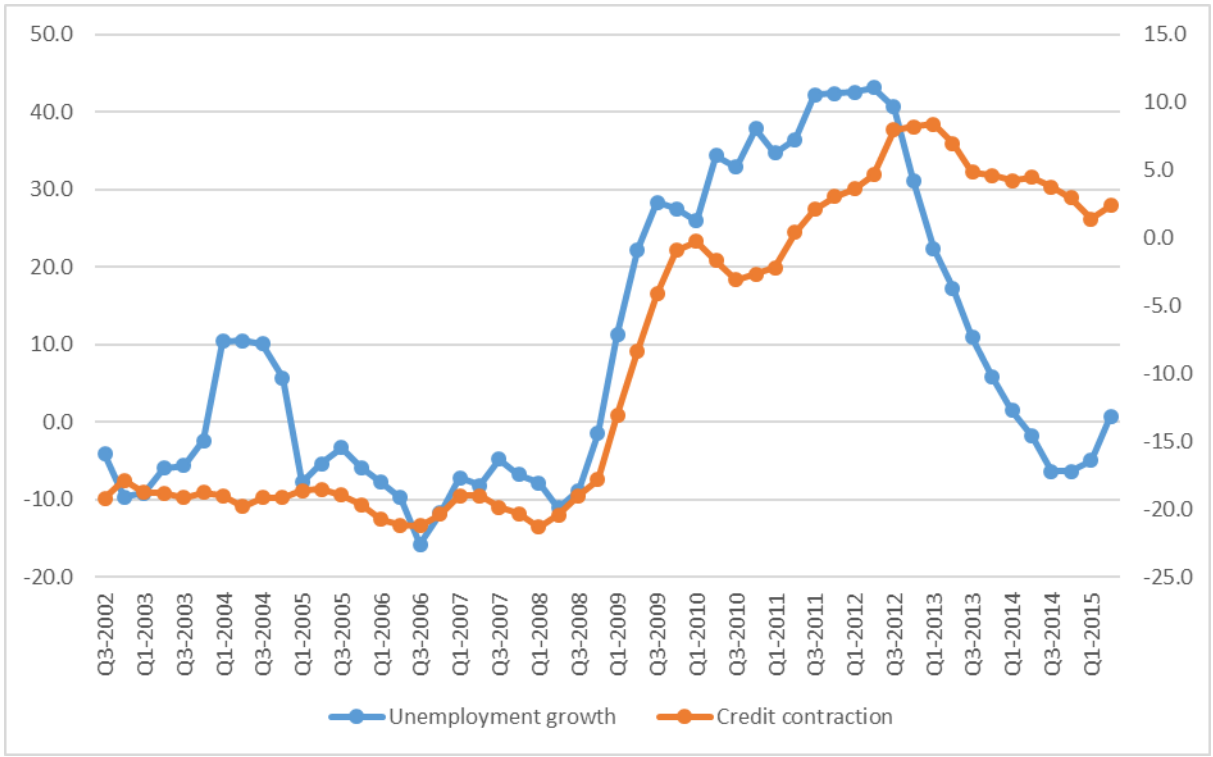
Figure 6 shows that starting from 2012Q4 the negative growth pattern Greece had entered in late 2009 had been reversed, so that in 2014 a positive GDP growth rate was achieved. A similar picture emerges from the line depicting the rate of growth of unemployment, Figure 7 suggests that following fast acceleration over 2009Q1-2012Q2, unemployment growth subsequently entered a steep deceleration path, leading to negative values (i.e. a reduction in the level of unemployment) in 2014. This is evidence that the progress made in the areas of policy interventions, expectations and macro-outlook achieved in 2012-14 had started trickling through in output and employment performance. However, with an output gap estimated in the range of -9% in 2014 and unemployment at 26.5% much remained to be done. Under such circumstances, the mainstream policy recipe would be to support demand through increased credit/liquidity (see Corsetti and Pesenti, 2009). Indeed, Figures 6 and 7

Figure 6: GDP and private credit growth rates (year on year)



Sources: GDP: IMF, International Financial Statistics; Private credit: Bank of Greece. GDP growth measured on left-hand side axis; private credit growth on the right.

Figure 7: Unemployment and credit contraction growth rates (year-on-year)



Sources: Unemployment: IMF, International Financial Statistics; Private credit: Bank of Greece. Unemployment growth measured on left-hand side; private credit contraction on the right. Private credit contraction is obtained by multiplying the rate of growth of private credit depicted in Figure 1 by minus unity.

show that credit growth in Greece is strongly correlated with output and unemployment, particularly up to year 2012.[7]

Bank credit to the private sector decelerated sharply following the onset of the Greek debt crisis and collapsed after the PSI conclusion in February 2012, resulting into total losses for Greek banks of 37.7 billion euro, an amount equivalent to 170.6% of their Core Tier 1 capital and 10.1% of total assets (see Bank of Greece, 2012, Table II.1, p. 14). Greek banks were subsequently cut-off from international money markets; excluded from ECB's low interest rate long-term refinancing operations (LTRO) programme due to the lack of eligible collateral; and relied for the best part of 2010-2013 on the expensive Emergency Liquidity Assistance (ELA) mechanism to continue their operations (see Sinn, 2014). These, combined with the sharp reduction in private bank deposits transformed the Greek debt crisis into a banking crisis placing major obstacles to economic recovery (see Mourmouras, 2013).

Therefore, Greece's growth and employment performance can improve substantially if normal credit conditions are restored. In 2012-14 significant progress was made to that end: In May 2012 the EFSF contributed 50 billion euro (in the form of EFSF bonds) towards the recapitalisation of Greek banks. Over 2013-4, this helped Greek banks to regain access to the ECB's LTRO programmes, attract private funds for recapitalisation purposes, place successfully new bond issues in international capital markets and disengage completely from the ELA financing scheme. At the same time, a number of bank mergers took place, resulting into improved capital requirements ratios and a return to profitability for three out of four Greek systemic banks (see Bank of Greece, 2014).

These positive developments decelerated credit contraction, however they did not manage to deliver the necessary credit growth. Similar problems exist in other euro zone countries, prompting the ECB to reduce its reference interest rates to zero levels and adopt non-

[7] The correlation coefficients between the series depicted in Figures 6 and 7 are 0.70 and 0.68 respectively. If the sample is restricted to 2001Q1-2012Q2 these increase to 0.83 and 0.95 respectively. The reduction in the coefficients' values over 2012-14 is an indication of higher flexibility in the real sector of the economy (i.e. a smaller degree of distortions), which is consistent with the progress in structural reforms discussed above.

conventional policy measures to boost credit, including the Quantitative Easing (QE) programme initiated in January 2015. In the case of Greece, these problems were further exacerbated by the uncertainty regarding the legal treatment of the substantial volume of non-performing loans (see Bank of Greece, 2012); and the time delays and costs associated with resolving insolvency, an area in which Greece's performance deteriorated in 2013-14 (see World Bank, 2013 and 2014). These problems imply the availability of insufficient effective collateral, resulting into a high level of moral hazard perceived by lenders. This, according to Stiglitz and Weiss's (1981) classic contribution, causes credit rationing, maintain high lending interest rates and preventing the necessary for recovery credit expansion.

4. THE THIRD GREEK FINANCIAL ASSISTANCE PROGRAMME

The general election held in January 2015 put in power a Greek government which on the one hand was strongly opposing the fiscal adjustment and structural reforms involved in the first and second Greek financial assistance programme while, on the other, had committed to keep Greece in the euro. The new government's economic programme, as presented in September 2014, envisaged increases in government expenditure, social security provisions and the minimum-wage level. At the same time, it promised reductions in taxation; an increase in the role of the state in the banking sector (including the possibility of haircuts in the nominal value of loans owned to Greek banks by private borrowers); and increased state intervention in general economic activity, through the stopping of planned privatisations and reversal of a number of structural reforms that had already taken place, aiming towards a higher level of competition in the goods and services' markets.

The planned increases in public expenditure and tax reductions unavoidably raised the question of financing. The answer provided by the new Greek government involved three potential sources. First, a reduction in tax evasion. Second, increased tax revenues through higher rates of economic growth, assumed to follow the planned boost in demand. Third, and

in view of Greece's effective exclusion from capital markets, the financing of Greek borrowing requirements by Greece's official international partners through a variety of suggested channels. These included an outright reduction in the nominal value of Greek debt towards official lenders, a full or partial moratorium of servicing the remaining amount of debt, an extension of the debt's maturity; and further lowering of interest rates applied to it.

As the level of tax evasion in Greece is universally accepted to be excessively high (see Artavanis et al, 2015), the potential scope of public finances improvement through this source is indeed substantial. Having said that, this presupposes a major overhaul of the operations of the Greek tax-collection system (a major target of all three Greek financial assistance programmes), hence the extra revenue this source can generate in the short run is limited.

On the other hand, extra revenue from higher economic growth presupposes a credible growth plan. As the new government's economic programme adopted a traditional Keynesian approach, whose credibility as a sound framework of exercising macro-policy has been significantly undermined by the experience of Greece and a wide range of western countries in the 1970s and the 1980s, this element was lacking. Markets signalled their lack of confidence to the proposed growth strategy early and unequivocally: As the prospect of a government change became clear in autumn 2014, all expectations indicators presented in Figures 1 to 4 entered a deterioration pattern, despite the continued improvement in macro-indicators. Therefore, from the outset of the new government's tenure it was clear, both on the basis of theoretical expectations as well as from observed market behaviour, that no growth-generated tax revenue or open-market financing would be available to fund the new government's spending plans.

This left official sector loans as the only possible source of financing Greece's public sector requirements. However, the first two financial assistance programmes had made the continuation of official loans to Greece conditional upon fiscal adjustment and structural reforms which were irreconcilable with the new government's economic programme. This set

the two parties on a collision course. The Greek government went into this collision calculating that if Greece's official lenders insisted on the previously agreed conditionality and Greece held its position, Greece would default and, most likely, would have to exit the euro. The new Greek government calculated (as publicly stated by Greek officials on numerous occasions)[8] that this would set in motion a domino process, resulting in the destabilisation of the whole of the EMU. Greek authorities assumed that the negative externalities caused by such union-wide costs would be prohibitively high so as to convince Greece's international partners to fund the spending plans of the new Greek government. In short, Greek authorities set up what they thought to be a game of chicken, where the losses from non-cooperation would be asymmetrically distributed against Greece's international lenders.

The Greek strategy, however, was misguided as it was obvious, well before it was introduced (see Arghyrou, 2014), that it was based on a non-credible threat. In reality, the Greek position did not set-up a game of chicken, but an ultimatum game (see Camerer and Fehr, 2006) with Greece in the role of the non-fair agent. To start with, a Greek default and exit from the euro would cause a near-collapse of the Greek economy (see Ernest and Young, 2015) without causing similar costs for the Eurozone economies: By the beginning of 2015 authorities in the euro area had put in place a number of effective firewalls able to contain the fall out of a new Greek crisis (e.g. the formation of the European Stability Mechanism, the European Banking Union and the ECB's OMT and QE programmes).[9] Therefore, the distribution of losses of non-cooperation were clearly skewed against the Greek side, so that the latter's threat to proceed to default was, from a rational point of view, cheap talk.

Second, for the Greek strategy to have chances of success, in addition to involving symmetric losses the game would have to be one-shot. From the outset however, it was

[8] For example, in February 2015, in an interview with Italian state television RAI, Greek Finance Minister Y. Varoufakis stated that "The euro is fragile, it's like building a castle of cards. If you take out the Greek card, the others will collapse" (Reuters, Feb. 9, 2015, "Greek finance minister says euro will collapse if Greece exits")

[9] The positive stabilisation effect these firewalls became evident during the first seven months of 2015, when no spill-over effects were observed as the stand-off between Greece and its international lenders unfolded.

obvious that the game was repeated: Given the lack of a credible growth plan discussed above, the Greek positions guaranteed future deficits, i.e. future funding requirements from Greece's international lenders to be demanded on the basis of the same ultimatum. Faced with this prospect, the rational response of Greece's international lenders would be to prefer a smaller loss from an immediate Greek default at present rather than a bigger loss from a bigger Greek default in the future. This undermined further the credibility of Greece's negotiation position.

Finally, and as earlier mentioned, the Greek threat to cause a union-wide destabilisation through a Greek default was regarded by European policy makers (as expressed in numerous public statements)[10] as an unfair and unduly aggressive negotiation tactic, putting Greece into the position of the unfair agent in the context of the ultimatum game. As a result, and irrespective of the rational economic arguments explained above, European policy makers were bound to align their position with the position of the public opinion of their countries which (as opinion polls consistently showed)[11] strongly opposed further financial assistance to Greece without conditionality, even if this implied financial losses from writing down the value of their countries' loans to Greece.

Overall, by threatening default the new Greek government aimed to introduce a game of chicken involving risks Greece's international lenders would be prepared to pay a premium to insure against. In reality however, they started an ultimatum game involving a fully observable asymmetric (against Greece) losses' distribution which Greece could not bear to sustain. Therefore, it was fully predictable that the rational outcome of the game would be that Greek authorities would back down from their initial position, as it duly happened with

[10] See for example, the statements of German Minister of Finance W. Schaeuble in the German Parliament on 26 February 2015, promising "not to let Greece blackmail its euro zone partners" (Germany backs Greek extension but bailout fatigue grows, Reuters, 27 February 2015); and the statements of M. Weber, leader of the European People's Party (EPP), on June 28, 2015, when commenting on the negotiations between Greece and the euro zone he stated "All responsible politicians have made it clear that the Eurozone cannot be subject to blackmail" (see press release of EPP, 28 June 2015, Greece: The Eurozone cannot be subject to blackmail".

[11] See, for example, Reuters, 3 September 2013 "Germans oppose more bailouts, want smaller euro zone".

the signing of the third financial rescue programme agreed in August 2015, involving new loans of a total amount of 86 billion euros.

Before reaching this end-game, however, Greece compounded its losses in an attempt to add credibility to its negotiating position. It did so first by defaulting on an IMF repayment in June 2015 and then by calling the referendum held on 6 July 2015, the announcement of which sparked a run on Greek ATMs, a forced three-week bank holiday and, finally, the imposition of capital controls the bulk of which remains in place. These measures stroke a serious blow to Greece's credibility against its official and potential future private lenders; and completely reversed the process of economic recovery initiated during the period 2012-14: Since January 2015: Greek banks have lost more than 25% of their privately-held deposits, and have built a new ELA exposure of 90 billion euros; projected growth rates for 2015 and 2016 have turned from strongly positive to strongly negative; unemployment previously projected to decline, is now forecasted to increase; and Greece's pubic debt has once again become highly unsustainable (see e.g. IMF, 2015). Therefore, the Greek authorities' choice to depart from the previously agreed framework of financial assistance has unambiguously proved a costly policy error, without any substantial compensating benefits for the country and its citizens.

5. CONCLUSIONS

This paper discussed the background of the Greek debt crisis and provided a critical evaluation of the financial programmes agreed between Greece and its international lenders in 2010, 2012 and 2015 respectively. We argued that the Greek debt crisis, as well as the limited only progress achieved by the first Greek financial assistance programme is mainly (though not exclusively) the result of misguided internal policies. By contrast, the second financial assistance programme, despite imperfections in its application, succeeded in setting in motion the process of economic recovery. This progress, however, was fragile and was

cancelled out as a result of the stand-off between Greece and its official lenders during the first seven months of 2015. We argued that this stand-off was from the very outset one that predictably Greece could not win; and resulted in substantial economic costs that were both unnecessary and, very likely, long-lasting.

Having said so, there is a silver lining in the picture depicted above. Unlike the first two financial assistance programmes, the third programme, signed in August 2015 has been endorsed by the electorate in the general election of September 2015 and enjoys wide political support, as it has been supported in parliament by the government and the major opposition parties. Furthermore, no elections of any kind are scheduled in Greece for the next three years. These factors reduce political risk. In addition, and, unlike the first two programmes (which mainly targeted fiscal sustainability, financial stability and structural reforms), it also places substantial emphasis on improving the institutional performance of the Greek state (see ESM, 2015). These elements, combined with much superior framework of monitoring and implementation, including substantial technical assistance granted to Greek authorities, increase the probability of the programme's full implementation, and eventual success.

Nevertheless, important risks remain. Continued fiscal consolidation, wide ranging structural reforms and extensive streamlining of the Greek public sector are opposed by influential vested interests with significant incentives to suspend them and substantial influence in Greek politics. At the same time, the crisis has caused serious economic hardship for a substantial portion of the Greek population, projected to increase further over the foreseeable future due to the expected negative growth rates in 2015-16. This implies that the third financial programme will be applied within a challenging economic and social environment.

The second source of risk is external. This takes three forms. First, continued conditions of relatively low growth in the euro area. As long as the Greek recovery does not have the

advantage of a favourable external environment, the internal risks discussed above will be reinforced. Second, there is rescue fatigue in creditor countries. This implies that in the event of adverse external shocks causing further financial assistance requirements or political developments in Greece reversing the adjustment programme, it will be challenging for governments of creditor countries to maintain assistance to Greece. Finally, and especially in view of the recent substantial deterioration in the projected trajectory of Greek public debt, fiscal dynamics in Greece are particularly vulnerable to shocks of any kind (see Darvas and Huttle, 2014). Therefore, it is important to investigate ways of lightening further the cost of the Greek debt's service as per the decisions of the November 2012 Eurogroup and the confirmation of this prospect included in the third financial assistance programme. Such a step can contribute towards lowering risk premia and attracting higher volumes of investment. It can also provide fiscal space to reduce taxation, which would be beneficial both for closing the negative output gap and improving Greece's supply side through the reduction of distortions caused by excessive taxation.

Finally, Greece, along with the rest of the crisis-hit countries, can benefit from the emerging new euro-governance system, involving a European banking union, a higher degree of fiscal integration and a lender of last resort capacity for the ECB, (see Elliot, 2012; Allen et al. 2013, Arghyrou 2015). Unavoidably, moving towards a more integrated euro-governance framework implies loss of national discretion in some areas of economic policy. For Greece, however, this may be a price worth paying. The experience of Greece and other periphery EMU countries in the 2000s confirmed that the introduction of a single currency per-se is not enough to eliminate systemic risk caused by problems in these areas; by contrast, it can cause significant problems with far-reaching negative externalities (Sinn, 2014). For these to be addressed within the euro, it is necessary to have a combination of internal reforms and an external environment promoting real (micro-based) rather than nominal (macro-based) convergence. Greece's experience over 2012-14 provides evidence that

despite implementation imperfections, such a combination can set in motion the process of economic recovery. It is doubtful that this progress would have been achieved under discretionary national economic policies.

This is the fundamental reason that makes our analysis, ultimately, come down in favour of Greece's continued participation to the EMU: Although a country's currency is not per se a determinant of long-term economic prosperity, supply-side features and institutional performance are. Recent events have shown that Greece's policy credibility and institutional stability, and by extension economic prosperity, are better served within the single-currency area rather than outside.

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