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Is the Greek debt crisis one of supply or demand?

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1. Introduction

The Greek debt is too high to allow the government flexibility in its budgetary policies, necessitating fiscal austerity, as agreed to between Greece's institutional lenders (the Troika) and all Greek governments. Fiscal austerity, in the form of higher taxes and large cuts in spending, have caused a demand recession and (by historical standards) extremely high unemployment. These are serious problems and they are the ones that hit the headlines. But a potentially more difficult problem to deal with is Greece's low productivity and competitiveness. There are a myriad of restrictions on free trade that were introduced piecemeal after the end of the civil war in 1949 and which do not allow Greek companies to develop, adopt new technology and grow into world leading exporters - with the exception of shipping, which is subject to different rules because of its international nature.

Joining the euro zone in 2000 gave Greece access to cheap finance, despite its slow productivity. Its many restrictions on trade and its small size gave it protection against the other more productive economies in the Eurozone, whilst trying to maintain a high growth rate in GDP by spending borrowed money. This growth model was obviously unsustainable but it was not exposed until after the onset of the global financial crisis. This failure to open up the economy to competition whilst accumulating debt at the same time was recognized early on, and was highlighted in a series of reports by international organizations, mostly associated with the Troika's periodic reviews.[1]

[1] The European Central Bank (ECB), the European Commission (EC) and the International Monetary Fund (IMF) jointly administered the Economic Adjustment Program for Greece. They issued periodic reports, the latest of which is EC's fourth review (European Commission, 2014) and the IMF's fifth

Because of the many restrictions on free trade, it is our belief that even if Greek debt were eliminated tomorrow, the Greek economy will still not grow substantially enough to catch up with the rest of Europe. On the other hand, if Greece were given more debt relief now the government would have more flexibility in its economic policy and the economy would perform better. The Greek crisis is one of both supply and demand.

Can Greece put in place a reform program that will increase its competitiveness and let it grow quickly after it does? Since the onset of the crisis in 2010, several rounds of legislation went successfully through Parliament, including such potentially beneficial reforms as the very effective introduction of "Enterprise Greece", which enables the speedy establishment of new companies. But the key difficulty in Greece is the implementation of reform. Political influences go very deep and reach low levels of operations in the public sector. In practice there is no such a thing as an independent public sector that will implement the reforms impartially according to any new legislation. In private conversations economists brought in to government to help with reform acknowledge that once in office huge pressures are brought to bear on them to make exceptions that offset the impact of legislation to the point of complete irrelevance.[2]

We believe that if implementation is to succeed the reforms ought to be "owned," that is beyond the sphere of politics, by the groups that will implement them.[3] For example, product market reforms that free up competition in trades such as taxis and pharmacies must be eased in gradually and give affected workers alternative means of support in the transition, as removal of entry barriers and legislated mark-ups will shrink the affected sectors. Indeed, the rationale of IMF support to restructuring countries is to provide a cushion to the losers and help them in the transition to a new economic order. But despite the availability of ample finance for this purpose and more than five years since the initial agreement with the Troika in May 2010 to free up competition, several professions continue to jealously guard their privileges, by restricting access to licensing and only slowly letting go of gross over-billing practices for services provided through public sector projects.[4]

Even if reforms were successfully implemented, there is still a time lag of about 3-4 years before they have an impact on the real economy. We know this from the experience of other

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review (IMF, 2014). The EC's fifth review was interrupted in December 2014. See Hardouvelis (2015).

[2] This is common knowledge in Greece. Most recently it was reiterated to us by Gikas Hardouvelis, who served as finance minister before the Syriza election victory in January 2015.

[3] The *Memorandum of Understanding*, p.3, which the Greek government passed through Parliament, specifically states: "Success requires ownership of the reform agenda programme by the Greek authorities." European Commission (2015).

[4] Overbilling is common knowledge in Greece and it is one of the reasons that businesses were keen to get public sector contracts – only to discover recently that payments are not forthcoming because of the state of public finances. Business people who asked not be named told us that they are discounting public sector contracts by more than 50% and still making substantial profit.

countries that have reformed, for example Germany. The Hartz reforms were implemented over three phases from 2003 to 2005 with full cooperation between union, employers and government, but their impact shows up in the German labor market starting 2007 (Pissarides, 2013). Research by Dustmann et al. (2014) also emphasizes the importance of trust in wage-setting institutions and other aspects of employment decisions in driving productivity improvements. This implies that Greece will require help from the international institutions for longer than the current three-year program, even if it effectively reformed starting now.

The remainder of this paper is organized as follows. Section 2 discusses how demand multipliers are critical in understanding the severity of the Greek contraction. Section 3 discusses structural reforms and competitiveness. Section 4 discusses the impact of labor market reforms. Section 5 argues that even though there exist EZ-wide causes of the Greek crisis and EZ-level policies would help propel Greece on the road to recovery (Pissarides, 2013); Blanchard et al., 2015), lack of competitiveness is a more important problem. It also discusses how the linking of reforms with debt relief can help Greece exit the crisis. Section 6 concludes.

2. Demand multipliers

The main ingredients of the reform program for Greece are three. Fiscal contraction to reduce the massive budget deficit and eventually pay off the debt; reductions in wages, pensions and other costs to increase the competitiveness of Greek industry; and a structural reform program to modernize the economy and increase productivity. The expectation of the institutional lenders was that the fiscal contraction would have very small negative multipliers, the “internal devaluation” that would result from reductions in unit labor costs would increase exports and help also domestic demand, and the structural reform would increase productivity, wages and improve expectations about future prospects, giving access to Greece to more and cheaper finance for investment and output growth.

In practice fiscal austerity led to bigger negative multipliers than estimated by the IMF (as acknowledged by the IMF itself in IMF 2013) and a bigger fall in output than expected. The internal devaluation effort did not help exports rightaway but instead the wage reductions, combined with sticky prices, brought further negative multipliers through a fall in domestic demand (Pissarides 2013). Greece’s large trade deficit declined, since the onset of the crisis, from 11.2%, 2009, to 2.3% of GDP, 2014, and this was in part due to the absolute fall in imports (although they became a larger share of GDP), whilst exports increased absolutely as well as a share of GDP, from 19% to 33%. In fact, exports of goods increased from 8.4% to 17.3%, as a share of GDP. Finally, the structural reform program has been sluggish and so far has had no impact on productivity. Both hourly productivity (1983-2014), and real average earnings (2009-2014) and labor productivity have fallen in Greece, in contrast to the rest of the euro area, where they have been on an upward trend (Figure 1.a, Table 1.c). Real unit labor costs have fallen, 2009-2014 (Figure 1.c), mainly because of price and wage changes and not productivity improvements. Furthermore, the fall-is more likely to have been the result of the collapse of aggregate demand and investment rather than anything inherently counter-productive in the reform program. Whereas fixed capital formation in the euro area has been at about 19% of GDP, only slightly below the pre-crisis levels, in Greece

it collapsed from more than 20% in the pre-crisis years, and 16.3% in 2009, to 8% in 2014 (AMECO), with dwellings construction accounting for a large portion of the collapse.

Output declined in Greece dramatically more than in other countries under stabilization programs (Figures 2, 3). In early 2013, GDP was one quarter below its early 2008 level in sharp contrast to the 10% or less in the other countries. Figure 2 also compares with Finland during its "great depression," 1990-1996, and the US during the Great Depression, 1929-1938. Even more striking is Greece's performance in relation to other European countries. Between 2009 and 2012, Greek income per capita fell from 96% to 75% of the European Union average, below its level in 1995. Between 2010 and 2012, annual real income contraction in Greece has been almost 3 percentage points below the OECD and Troika forecasts, while nominal GDP contraction was 3.5 percentage points lower. Given the 3.8% trend growth rate in 1997-2007, the fall of GDP in 2007-2013 relative to trend is 38% (Mueller et al. 2015). Much of the gain made since Greece's Eurozone accession has been lost. GDP per person declined by 21%, in real terms from 2009 to 2014. Relative to the EU-28 average, it declined from 93% in 2003 to 70% in 2014.

According to the OECD 2013 Survey, p. 53, the adjustment program has so far failed to restore price competitiveness, growth and public debt sustainability and the fiscal contraction has deepened the depression. There is no doubt that there have been errors in policy design by the Troika. The fiscal multiplier assumed in the design of the program was much smaller than might have been at work, 0.5 instead of numbers above 1, which are more widely used now. These would have had a large impact on the estimated contraction, with everything else constant.[5] We believe that of more importance, however, are the peculiarities of the Greek economy, which had largely been overlooked (see also Zonzilos, 2012). The Greek economy is subject to more frictions and is less open than other EZ economies in crisis, such as Ireland and Portugal.[6] In such an economy prices do not fall and the decrease in aggregate demand that is brought about by wage decreases translates into a contraction of aggregate activity and unemployment (Pissarides, 2013). Although wages did fall, by as much as 20% and much more than in the other program countries (see Table 1.c, Figure 6), the associated fall in unit labor costs[7], which is consistent with the performance of exports

[5] There are two different positions by IMF staff. Bi et al. (2013, p.26) argue that projections would not have been very different if higher multipliers had been assumed. Instead, they claim that the error was in the forecast of potential GDP, anticipating a contraction of about 7%, instead of the observed 20%. Blanchard (2015) attributes the underestimation to "other things not being equal", namely interest rates being close to zero and monetary policy not offsetting the effects of fiscal stance.

[6] Total exports (goods and services) as percent of GDP, 2008-2012 average: Greece, 23.4; Portugal, 33.2; Czech Republic, 68.2. The intra-EU exports and imports, as shares of respective totals are the lowest among comparable size EU countries . The share of intraindustry trade is probably not very large, thus the greater the need for adjustment via the exchange rate, and the smaller the productivity-like potential benefit from "task trading" (Grossman and Rossi-Hansberg, 2008).

[7] Unit labour costs, total economy, relative to the former EU-15 and double export weighted, and defined as ratio of compensation per employee to GDP per person employed, declined over 2009-2014 by 17%, 10%, 9% and 7%,, and by 7%, 3%, 6% and 6%, for Greece, Ireland, Spain and Portugal, respectively (AMECO, 2015, variable PLCDQ, nominal, and variable QLCDQ, real).

noted above, did not translate into a fall in prices. Wage reductions were reflected in greater increases in profit margins rather than reductions in prices.

3. Structural Reforms and Competitiveness

With sticky prices and barriers to entry the fall in wages and unit labor costs so far have contributed to the recession instead of reversing it. In such circumstances it makes much more sense to target first product market reforms, which would improve price flexibility and the structural competitiveness of the Greek economy. Labor market reforms are also essential but they can come later, when the economy is performing well and they are easier to implement. Labor market reforms are resisted by workers and their unions and they can be disruptive, both politically and economically. Product market reforms are resisted by the professions and owners of capital, who ultimately are more likely to comply if sufficient compensation to the losers is given.

The issue of the urgent need for structural reforms has figured prominently in all discussions of the Greek crisis. There are two important senses in which product market deregulation can affect growth, which are not typically clarified in public debates. One is abolishing monopolistic and monopsonistic structures and eliminating barriers to entry. A second sense in which deregulation affects growth, which is sometimes alluded to in discussions about Greece's reform program but rarely quantified, is the impact of market deregulation on TFP growth. Boosting TFP growth is essential if Greece is to recover and catch up with other European countries, even though under programs TFP growth decline for Greece since 2007 is much more pronounced than for the other EZ countries under programs (Figures 4.a, 4.b). The fundamentals, however, are against such revival, mainly because of little spending on education and R&D, and poor connections between universities and industry (Pissarides, 2015). Greece's spending on R&D has increased from .6% and .8% of GDP, 2002-2013, but still below the figures, 1.8% to 2.0%, for the EZ.

The first sense has served as a key objective of deregulation efforts that break barriers to competition and has been an important part of the reform programs in the European Union. Its main impact is a jump in potential output, namely it should move the country closer to the technological frontier. The second sense is an important component of EU's *Agenda 2020*, which includes a *Digital Agenda for Europe*. The impact of this reform is mainly on growth, through the beneficial effect of structural reform on R&D and trade competitiveness.

The importance of structural reforms is enhanced in the presence of downward nominal wage rigidities, fixed-exchange rates and high debt levels, which characterize the members of the euro area. For this reason they have been repeatedly emphasized during the European crisis by politicians and leading figures in European institutions. Notably, as the President of the European Central Bank Mario Draghi (2015) eloquently argues, slow-adjusting countries within the Eurozone are likely to suffer higher unemployment, which can become entrenched and structural, whereas structural reform can bring the European economies closer together and thus improve the chances of success of a uniform monetary policy.

Writing in 2009, shortly before the 2009 election that brought Pasok back to power and led to the revelations of Greece's fiscal deficit's increasing from 4.5% in 2001, to 6.5% in 2007, and to 15.6% in 2009, an IMF team identified many key weaknesses in the Greek economy (IMF 2009). It argued that the imputed equilibrium real exchange rate was overvalued relative to fundamentals and implied a competitiveness gap of 20--30 percent; the weaknesses of Greek labor markets were glaring, with low employment rates, especially for females and the young, and relatively high employment protection legislation; structural impediments hindered product market performance, including cumbersome business practices and high costs to start a business; internal competition was insufficient due to high regulation and limited liberalization of utilities, which implied higher energy costs and poorer supply chains for the whole economy

Those observations motivated an important part of the Economic Adjustment Program for Greece, which was agreed in May 2010. Drawing examples from other countries that reformed, the IMF team concluded that were Greece to move toward best practices in each of those areas, the corresponding employment gains could be significant, estimated between 5 and 10 percentage points.

As the Economic Adjustment Program of 2010 gave way to the second one of 2012, the need for reforms were further clarified and the demands became more pressing. But product markets were not given priority and whatever interventions were implemented, they amounted to partial dealing with some of the problems. Price inflation increased from 1.3% in 2009 to 5% in 2010, before going down to -1% in 2013 (Figure 5). At the same time reformers had to tackle fierce opposition from vested interests and lack of political commitment. Product markets continue to be dominated by oligopolies, with numerous barriers to entry, protecting incumbents. As of the time of writing, many of these conditions remain unsatisfied and are part of the latest agreements as "Prior Actions" (European Commission, 2015). A slow improvement did take place up to the January 25, 2015 parliamentary elections. Some international indicators have improved, including the Global Competitiveness Index, from 96 in 2012 to 81 in 2014, the World Bank's Ease of Doing Business shows improvement from 65 in 2014 to 61 in 2015, and OECD's Product Market Regulation Index improved from 2.21 in 2008 to 1.74 in 2013. But such indices are still a long way behind the levels that one would consider to be suitable for an economy on a convergence path with the rest of Europe.

Labor markets reforms were given greater priority, mistakenly in our view. Whether this was because successive Greek governments found it easier to reform labor markets than product markets, or whether this was because the Troika insisted more on them is a moot point. The outcomes of the sequencing of reforms were a large fall in wages, much more than the other program countries (Figure 6), and ahead of prices, bringing about a huge decline in the real wage in Greece (Figure 7). These changes were accompanied by a massive reform of labor market institutions. Numerous firing restrictions, restrictions on overtime work, and the minimum wage used to provide a rigid framework for Greek labor markets. Collective bargaining at the national level, the industry level and then at the firm level determined many outcomes, and so did many other frictions. Except for some large firms, the predominance of many Greek firms that are family-owned and very small and widespread made labor laws not

to be particularly binding. Labor inspections were minimal. Moreover, the shadow economy in Greece, at 24% of GDP as against 15% for the EU-27 in 2012[8], is much larger than the EZ average of 15%. These features of the Greek economy also explain why the reform of the collective bargaining law had a limited impact so far, largely because it involved a small number of firms (Lyberaki, Meghir, and Nikolitsas 2014).

Of greatest macroeconomic significance is the sharp reduction of the minimum wage (in both the public sector and the private sector), the decentralization of wage bargaining to the firm level, and extensive relaxation of employment protection. The aggregate contraction and the increased flexibility of labor markets have been associated with a large decline of unit labor costs by about 20% since 2009 (see Figure 1.d, AMECO, 2015). The ULC-based real exchange rate has depreciated by 16.5% since 2009, though the CPI-based one has depreciated by only 5.6% since 2009.

Eble et al. (2013) calculate, using the IMF's Global Integrated Monetary and Fiscal model (GIMF) that policies that would close roughly half the gap, in measures of product and labor markets regulation, of Greece with the rest of the EZ could raise real GDP by about 4 percent after 5 years and by 10 percent in the long run. Vargas et al. (2013) show that reforms in product and labor markets and knowledge and innovation (as measured by R&D subsidies and the skill composition of the labor force) can account for about 78% of the gap between Greece and the top euro area performers in 2012, measured in per cent deviation from the base line. Reforming the product market yields the highest GDP gains in Greece. In terms of employment gains, tax reforms and skill-upgrading in the form of increasing the share of medium and high-skilled labor supply can help the most to increase the employment rate in the long-run.

Ultimately, a bigger impact of structural reform in Greece would be one that worked its way through higher TFP. With lower entry barriers and less state control a faster process of catch-up to best-practice technologies in manufacturing industries could be attained. Nicoletti and Scarpetta (2003) find that changing governance structures, as by privatization, would bring along improved competitive pressures and entrepreneurial incentives, especially if competition is promoted in the markets where privatized industries operate, such as energy, telecommunication and transport companies that provide inputs to the entire economy. In particular, they argue that a gradual (over ten years) move to the OECD-wide average share of state-owned firms in total value added is estimated to boost annual TFP productivity growth by about 0.7 percentage points in Greece (and in other European countries that still have a large stake of business activities in public hands). They also find that entry liberalization in service industries is estimated to boost annual TFP growth in the overall business sector by about 0.1--0.2 percentage points in countries like Portugal, Greece and Italy.

Against the background of some OECD countries showing, over 1975--2003, impressive TFP growth performance and others the opposite, changes in TFP growth are positively

[8] Europe 2020: http://ec.europa.eu/europe2020/pdf/themes/07_shadow_economy.pdf.

correlated with ICT spending as a share of GDP (Kent and Simon, 2007). The authors also find that the share of ICT spending is negatively correlated with the level of product market regulation. Greek industry is dominated by micro-firms (accounting for about 58% of the non-financial business community, with larger firms accounting for only 13%) and does especially poorly in ICT penetration.[9]

Underlying Greece's competitiveness problem is that the Greek economy does not mobilize enough knowledge (Hausmann, 2012; Phelps, 2015), as expressed through the knowledge composition of the country's exports, relative to the rest of the world. Among 128 countries, Greece has the largest gap between its level of income and the knowledge content of its exports. The same set of calculations suggests, however, that Greece ranks second only to India in terms of how easy it would be to move to exporting more complex goods. Greece is economic neighbor of some of the world's most advanced countries, which facilitates diffusion of innovations and technologies.

4. The impact of labor market reforms

Did the extensive labor market reforms undertaken in Greece have any positive impacts? In 2014 the Greek labor market started to show signs of recovery. Employment contracted at a slower rate than in 2013, by only -0.9% y-o-y in Q1:2014, compared with -2.9% in Q4:2013 and -4.9% y-o-y in FY:2013. The evidence from business cycle and forward-looking indicators signaled, in July 2014, an expansion in employment in Q3:2014 (National Bank of Greece, 2014). More than two thirds of employment losses in the private sector (730,000 jobs) had been due to the closure of about 220,000 small firms (30% of the existing small enterprise count) together with layoffs in that sector. Most of those jobs were lost in firms with a domestic orientation and with less flexible labor market structures, and thus reflected the Greek economy's adjustment to a greater role for larger and more export-oriented firms. Indeed, job losses in medium and large sized firms were half that of the small firms (-17% cumulatively since 2008).

The fact that wages fell by 23% in the period 2009-2013 and employment contracted by -24% cumulatively during 2009-13, caused the wage share in the economy to fall to the low level of 48% of GDP -- 13 pps below its 25-year average. On the other hand, capital income, mainly comprising the gross operating surplus of the business sector, has proved more resilient -- reflecting an ongoing corporate restructuring and lower labor costs -- declining by 19.7% in the five years to 2013. These developments are increasingly favorable for new hiring, as improving business profit margins should lead to higher investment and business

[9] IMF (2015), Ch. 3, reports empirical results which are somewhat mixed on the effects of structural reforms on TFP but generally the impact is positive. Econometric estimates suggest that lower product market regulation and more intense use of high-skilled labor and ICT capital inputs, as well as higher spending on R&D activities, contribute positively and with statistical significance to total factor productivity. The effects vary across sectors and are typically larger the closer the sector is to the technological frontier. For example, product market deregulation has larger positive total productivity effects in the services sector, but high-skilled labor and R&D expenditure have the strongest effects in ICT-related sectors.

expansion. National Bank of Greece (2014) forecasts, by linking employment to corporate profitability and output growth, that it should be profitable for Greek firms to increase their employment by an average pace of 2.5% per annum until 2020, or 19.6% cumulatively during 2014-2020 (720,000 employment positions), pushing the unemployment rate below 21% in 2016 and 12% by end-2020. "Such employment creation will clearly depend on the timely implementation of the programme, including its growth-enhancing structural reform agenda." However, the change of regime in January 2015 overturned those optimistic assessments.

Papageorgiou and Vourvachaki (2015) use calibration techniques to measure the macroeconomic and growth impact of structural reforms. They find strong positive long-run gains from implementing structural reforms in the product and labor markets: 10 percentage point reductions in non-tradable price and private-sector wage mark-ups lead to 9% of GDP. The results also suggest that the fiscal policy mix matters for the impact of the simultaneous implementation of structural reforms and debt consolidations in the short to medium-term. In the long run, the gains of the two policies complement each other with additional GDP gains being in the range of 0.4%--4%. Structural reforms by improving the economy's productive capacity on a permanent basis also improve the tax base. While reforms create additional fiscal space, thus conferring benefits in the long run, they generate losses in the short and medium run, that is, not only pace matters, but also the mix of fiscal tools.

5. Dealing with Greece's large debt

The mainstream view is that Greece, Ireland, Italy, Portugal and Spain have accumulated external liabilities due to loss of competitiveness following relative increases in their unit labor costs. Chen et al. (2013) question this view by pointing to factors that are seemingly external to those countries. First, there has been, among European economies, an asymmetric trade interaction with emerging Europe, fast-growing China and oil exporters. Germany has captured fast-growing markets for its exports, such as China, and integrated its production chains with Central and Eastern Europe, a factor that was also decisive in its ability to expand production without incurring domestic wages increase. Second, during 2000--2009, the real exchange rate appreciation in those EZ periphery countries reflects substantial nominal exchange rate appreciation.

If this is a correct diagnosis, a more accommodative ECB policy would "lift all boats" in the Eurozone periphery (Pissarides 2013). In addition, to the extent that the debtor countries are affected by the changing terms of trade in roughly the same manner, they could also benefit from EZ-wide policies to further improve their competitiveness. That is, infrastructure investments and R&D spending aimed at improved competitiveness will benefit from spillover effects, while such spending will benefit from larger multipliers than there were typically assumed by the design of stabilization programs in the EZ periphery.[10]

[10] There have been prominent voices, including that of Olli Rehn, EU Commissioner for Economic and Monetary Affairs, 2010-2014, in favor of policy initiatives by the European North. As he put it, "As the two largest Eurozone economies, Germany and France together hold the key to a return to growth

Chen et al. is not the entire story, however, at least as far as Greece and Spain are concerned. Greece and Spain experienced borrowing financed economic booms and increasing exports (Galenianos 2014). Greek exports, in particular, increased, from 19% to 22% of GDP, and at the fastest rate than almost any other Eurozone country in 1999-2007. Yet, imports increased even faster, outrunning exports. Current account balance, as a share of GDP, averaged nearly -8% for Greece over 1999--2008.

The ECB's "Expanded Asset Purchase Programme," while principally aimed at offsetting deflationary pressures within the Eurozone it can also improve competitiveness EZ-wide. That is, because of decrease in euro interest rates the resulting downwards pressure on the international demand for the euro will likely bring about its nominal depreciation. The Expanded Asset Purchase Programme will likely help improve Greece's external competitiveness for two main reasons: One, offsetting deflationary pressures throughout the Eurozone would suppress Greece's real exchange rate vis-a-vis its EU trading partners, especially while it remains under its stabilization program; and two, through reducing the borrowing costs of the Greek sovereign when it returns to the international markets.

If nominal depreciation of the euro continues, it would help Greece vis-a-vis its non-European Union trading partners. But, its competitiveness problem would remain, especially vis-à-vis its European Union trading partners, and would require a targeted approach.

There is long history of linking debt relief with reforms that improve economic efficiency. As Eichengreen et al. (2015) discuss, in 1991 Western governments, via the Paris Club, offered Poland a 30 per cent cut in the present value of its debt, in return for agreeing with the IMF on the terms of a structural adjustment program. Poland received subsequently a further 20 per cent cut contingent --- importantly --- on fulfilment of the structural conditions of its IMF program. The politics are vastly different, but Greece, too, has been offered conditional debt relief: First, in the Eurogroup Statement, November 27, 2012; then most recently, in the Eurogroup statement of August 14, 2015.[11]

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and employment in Europe. If Germany can take steps to lift domestic demand and investment, while France embraces reforms to its labor market, business environment and pension system to support competitiveness, they will together do a great service to the entire eurozone providing stronger growth, creating more jobs and reducing social tensions" (Rehn 2013). Most recently, Blanchard et al. (2015) quantify substantial benefits upon the periphery of fiscal expansion by core Europe, but those are shown to be present only in a liquidity trap environment.

[11] Eurogroup Statement on Greece, November 27, 2012, after having granted Greece relief of its debt in a number of ways, states that: "Euro area Member States will *consider further measures and assistance, including inter alia lower co-financing in structural funds and/or further interest rate reduction* of the Greek Loan Facility, if necessary, for achieving a further credible and sustainable reduction of Greek debt-to-GDP ratio, when Greece reaches an annual primary surplus, as envisaged in the current MoU (Memorandum of Understanding), conditional on full implementation of all conditions contained in the program, in order to ensure that by the end of the IMF program in 2016, Greece can reach a debt-to-GDP ratio in that year of 175% and in 2020 of 124% of GDP, and in 2022 a debt-to-GDP ratio substantially lower than 110%." Eurogroup Statement on Greece, August 14, 2015, states: "The Eurogroup considers the continued programme involvement of the IMF as indispensable and welcomes the intention of the IMF management to recommend to the Fund's

Debt overhang affects the policy space of the Greek government and in addition fuels adverse expectations through the effect on individuals' perceived wealth. Given the loss of wealth associated with the unprecedented contraction since 2010, such expectations have a strong impact on the economy. Because a sovereign can always walk away from a deal, especially if it is running surpluses, and refuse servicing the outstanding debt, it makes intuitive sense for the creditors to provide incentives associated with implementation of structural reforms in the form of debt relief.

Müller et al. (2015), motivated by the events surrounding the Greek and EZ crisis, develop a theory of sovereign debt to examine the properties of the optimal dynamic contract between a planner and a sovereign when the country cannot commit to honoring its debt. The main point for Greece is that at high debt levels the incentive to reform is reduced, because most of the benefit from reform will go to the creditors. The optimal program requires that, whenever a credible default threat is on the table, the lenders should give in and improve the terms of the agreement for the debtor by granting her higher consumption and a lower reform effort. In other words, the austerity program is relaxed over time whenever this is necessary to avert the breakdown of the program. These results clearly bear upon the negotiations between Greece and its creditors.

6. Concluding Remarks

During most of the time since Greece's accession into the EZ, the Greek government collected less in taxes than it spent, as indicated by increasing fiscal deficits as a share of GDP of 4.5% to 15.6% during 2001-2009, and the Greek economy consumed more than it produced and had to import way above its exports, as indicated by current account deficits as a share of GDP of 7.2% to 14.6%, during 2001-2008. As a result, Greece experienced an increase of its external public debt as a share of GDP from 103.7%, in 2001, to 129.7% in 2009, in spite of generous help from the EU's structural funds. The Economic Adjustment Program has been a major "demand" force in the severe contraction since 2009, but there is also a "supply" force. Greece must further improve its competitiveness vis-a-vis its EZ partners, and debt relief in and of itself cannot address the competitiveness problem. That requires a targeted approach that involves structural reforms, especially ones that improve competitiveness in the market for goods and services. Reforms are necessary to make Greece more productive, help it attract investment and develop forward-looking export industries. This will inevitably require deep restructuring of the economy, a process that typically follows crises, and is to some extent already under way in Greece.

Reforms have effects over and above the impact of price and wage changes on unit labor costs. They are critical for another reason, too, namely an adverse demographic outlook of population decline that would make it harder for Greece to pay off its debt (Ioannides, 2014).

Executive Board to consider further financial support for Greece once the full specification of fiscal, structural and financial sector reforms has been completed and once the need for additional measures has been considered and an *agreement on possible debt relief to ensure debt sustainability* has been reached." [Emphasis added.]

Reforms involve short-term costs and are thus painful, but necessary. Targeted, “smart” reforms are under a nation’s control, and it would be a tragedy if Greece would not undertake them, especially while under assistance. Debt relief alone would not solve the competitiveness problem. Yet, it could help if it is designed as an incentive to improve competitiveness.

References

AMECO. 2015. http://ec.europa.eu/economy_finance/db_indicators/ameco/index_en.htm

Bi, Ran, Haonan Qu, and James Roaf. 2013. “Assessing the Impact and Phasing of Multi-year Fiscal Adjustment: A General Framework.” IMF w.p. 13/182. August.

Blanchard, Olivier. 2015. “Blanchard: Looking Forward, Looking Back.” *IMF Survey Magazine*. August 31.

Blanchard, Olivier, Christopher J. Erceg, and Jesper Linde. 2015. “Jump-Starting the Euro Area Recovery: Would a Rise in Core Fiscal Spending Help the Periphery?" Sveriges Riksbank w.p. 304. July.

Chen, Ruo , Gian Maria Milesi-Ferretti, and Thierry Tressel. 2013. “External Imbalances in the Euro Area.” *Economic Policy*. 28:101--142.

Draghi, Mario. 2015. “Structural Reforms, Inflation and Monetary Policy.” *ECB Forum on Central Banking.* Sintra, Portugal, May.

Dustmann, Christian, Bernd Fitzenberger, Uta Schoenberg, and Alexandra Spitz-Oener. 2014. “From Sick Man of Europe to Economic Superstar: Germany’s Resurgent Economy.” *Journal of Economic Perspectives*. 28(1):167--188.

Eble, Stephanie, Wojciech Maliszewski, Maral Shamloo, and Iva Petrova. 2013. “Greece: Selected Issues.” IMF Country Report No. 13/155. June.

Eichengreen, Barry, Gary Evans, and Peter Allen. 2015. "Escaping the Greek Debt Trap." July 27. Manuscript.

European Commission. Economic and Financial Affairs. 2014**. “**The Second Economic Adjustment Programme for Greece. Fourth Review.” April. http://ec.europa.eu/economy_finance/publications/occasional_paper/2014/op192_en.htm

European Council. Council of the European Union. 2012. "Eurogroup Statement on Greece." November 27.http://www.consilium.europa.eu/en/press/press-releases/?stDt=20121127

European Council. Council of the European Union. 2015. “Eurogroup Statement on the ESM Programme for Greece." August 14. http://www.consilium.europa.eu/en/press/press-releases/2015/08/14-eurogroup-statement/

European Commission. 2015. “Financial Assistance to Greece." Last update: 8/26/2015. http://ec.europa.eu/economy_finance/assistance_eu_ms/greek_loan_facility/index_en.htm

Eurostat, 2015.

http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tsc00001&plugin=1

Galenianos, Manolis. 2014. “The Greek Crisis: Origins and Implications." Working paper, Department of Economics, Royal Holloway College. March. London.

Greenhouse, Steven. 1991. "Poland is Granted Large Cut in Debt." *New York Times*. March 16.

Grossman, Gene M., and Esteban Rossi-Hansberg. 2008. “Trading Tasks: a Simple Theory of Offshoring.” American Economic Review. 98(5):1978-1997.

Hardouvelis, Gikas. 2015. “How to Undo the Damage in Greece.” *New York Times*, July 6. http://www.nytimes.com/2015/07/07/opinion/gikas-hardouvelis-greece-how-to-undo-the-damage.html?_r=0

Hausmann, Ricardo. 2012. "Ireland Can Show Greece a Way out of the Crisis." *Financial Times*. February 8.

IMF. 2013. “Greece: Ex Post Evaluation of Exceptional Access under the 2010 Stand-By Arrangement.” IMF Country Report 13/156.

IMF. 2014. “Greece: Fifth Review.” June.https://www.imf.org/external/pubs/ft/scr/2014/cr14151.pdf

IMF. 2015. *World Economic Outlook*. “Where Are We Headed? Perspectives on Potential Output.” Chapter 3. April. http://www.imf.org/external/pubs/ft/weo/2015/01/pdf/c3.pdf,

Ioannides, Yannis M. 2014. “Why Productivity Enhancing Reforms Will Help Greece Exit the Crisis and Usher in Long Run Growth.” May. Working paper.

Kent, Christopher, and John Simon. 2007. “Productivity Growth: The Effect of Market Regulations.” Reserve Bank of Australia Research Discussion Paper 2007-04.

Lyberaki, Antigone, Costas Meghir, and Daphe Nikolitsas. 2014. “Labor Market Regulation and Reform in Greece.” mimeo.

Müller, Andreas, Kjetil Storesletten, and Fabrizio Zilibotti. 2015. "Sovereign Debt and Structural Reforms." CEPR Discussion paper No. 10588. May.

National Bank of Greece. 2014. “Greece: Macro View.” July.

Nicoletti, Giuseppe, and Stefano Scarpetta. 2003. “Regulation, Productivity and Growth: OECD Evidence.” *Economic Policy*. 18(36):9--72.

OECD. 2013. OECD Economic Surveys: Greece 2013. OECD Publishing. http://dx.doi.org/10.1787/eco surveys-grc-2013-en. November.

OECD. 2015. *Economic Policy Reforms: Going for Growth*. Paris: http://www.oecd-ilibrary.org/

Papageorgiou, Dimitris, and Evangelia Vourvachaki. 2015. "The Macroeconomic Impact of Structural Reforms in Product and Labour Markets: Trade-offs and Complementarities.” Bank of Greece. August. Preliminary.

Phelps, Edmund S. 2015. "Why Debt Relief Won't Solve Greece's Problems." July 13.http://www.huffingtonpost.com/edmund-s-phelps/debt-relief-greece-problems b 7781624.html

Pissarides, Christopher A. 2013. “Is Europe Working?” Regius Chair in Economics Inaugural Lecture. December 12. London School of Economics.

Pissarides, Christopher A. 2015. “Structural Perspectives on European Employment: The Role of Innovation and Growth.” *ECB Forum on Central Banking*, Sintra, Portugal. May.

Rehn, Olli. 2013. “Turning Germany's Surplus into a Win-Win for the Eurozone." November 11.http://blogs.ec.europa.eu/rehn/turning-germanys-surplus-into-a-win-win-for-the-eurozone/

Vargas, Janos, Werner Roeger, and Jan in ‘t Veld. 2013. “Growth Effects of Structural Reforms in Southern Europe: The Case of Greece, Italy, Spain and Portugal.” Economic Papers 511. European Commission, Economic and Financial Affairs, December.

Zonzilos, Nikos. 2012. “Investment, Development, Unemployment: Proposals for Improving the Economic Policy Mix to Combat Unemployment and Improve Competitiveness.” Presentation (in Greek). IOBE. Lecture. January.

Figures

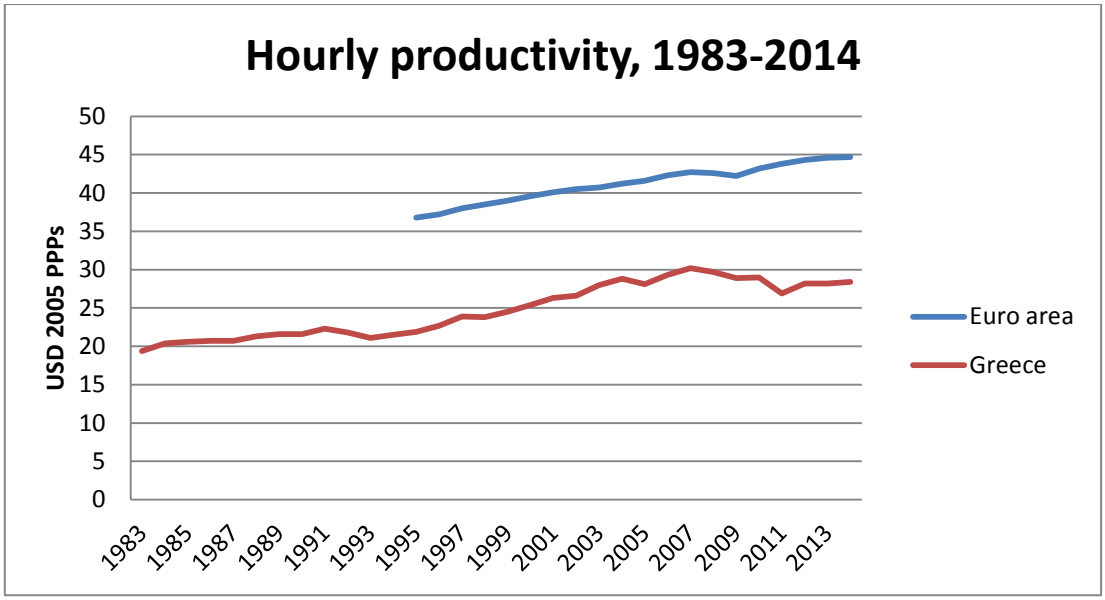

Figure 1.a: Greece, Euro Area. Source: OECD.

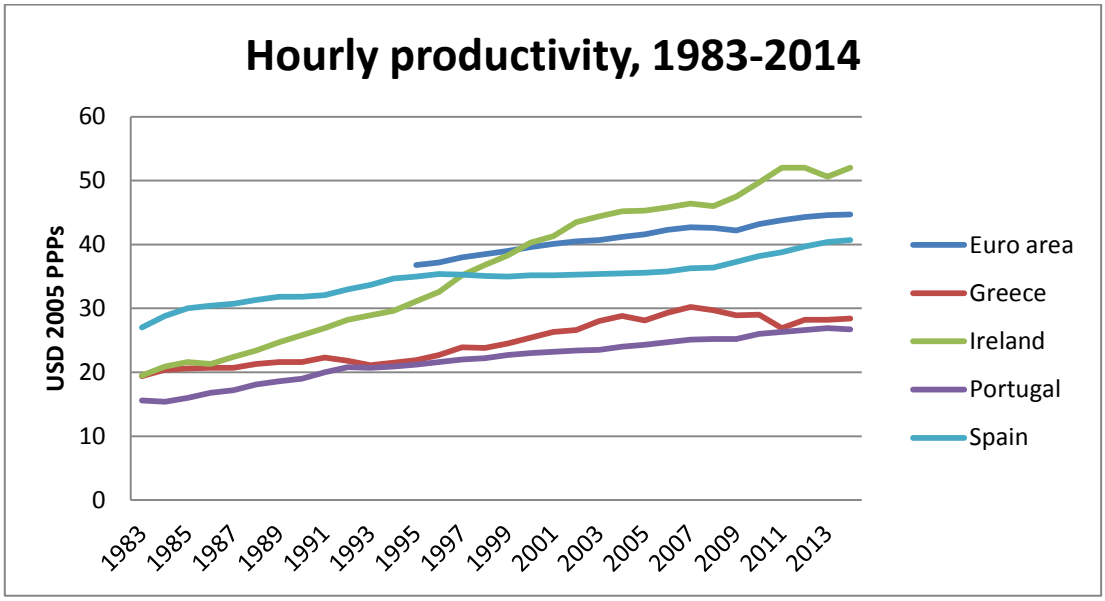

Figure 1.b: Greece, Euro Area, Ireland, Portugal and Spain. Source: OECD.

Table 1.c: Greece, Euro Area, Ireland, Portugal and Spain. Source: OECD.

Real average earnings (2009=100)					
Year	Greece	Spain	Ireland	Italy	Portugal
2009	100	100	100	100	100
2010	93	98	99	101	100
2011	88	96	98	99	97
2012	85	93	97	96	93
2013	80	94	97	96	95
2014	81	93	99	97	93

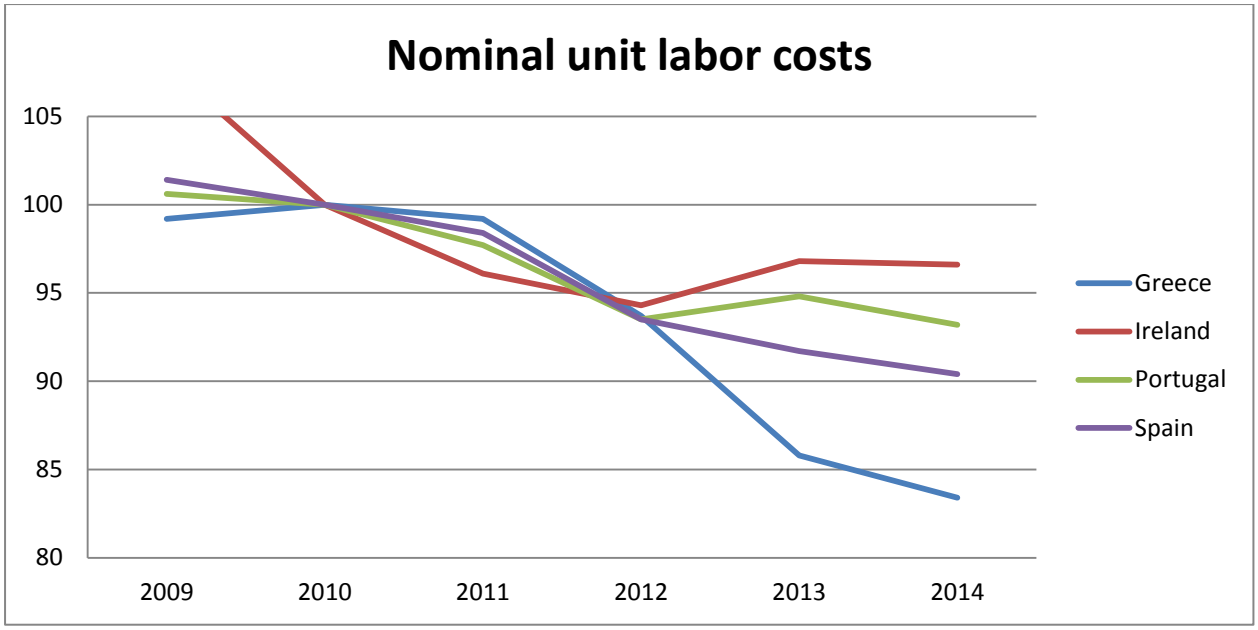

Figure 1.d: Greece, Ireland, Portugal and Spain. Nominal unit labor costs. 2009-2014. Source: AMECO

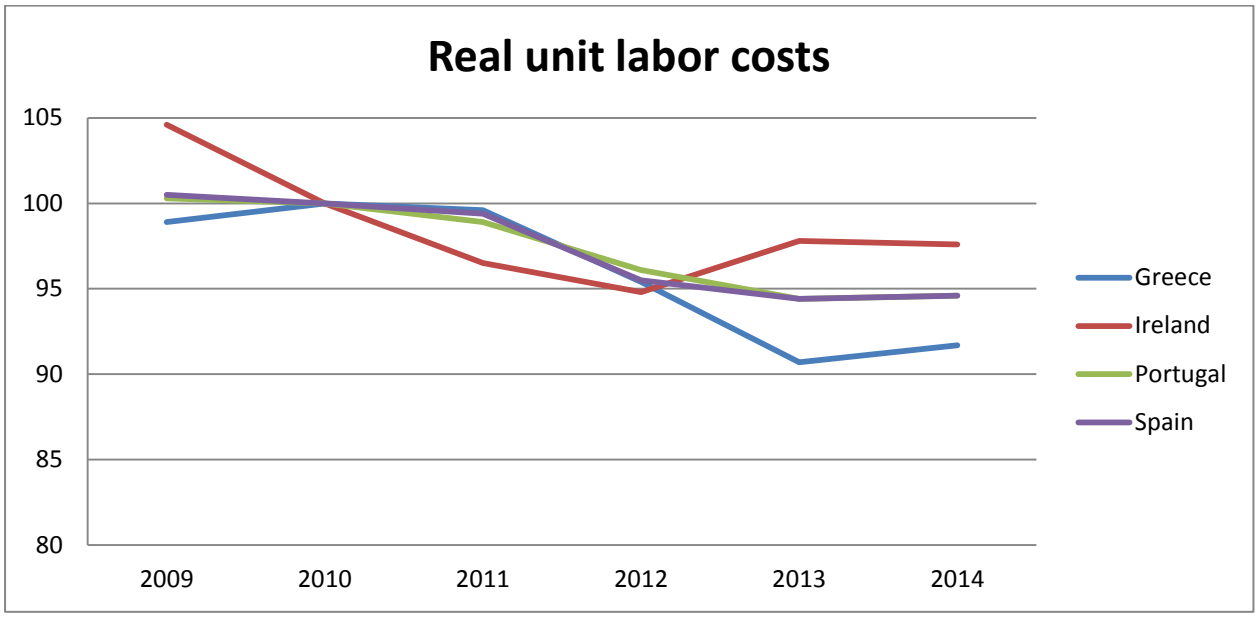

Figure 1.e: Greece, Ireland, Portugal and Spain. Real unit labor costs. 2009-2014. Source: AMECO

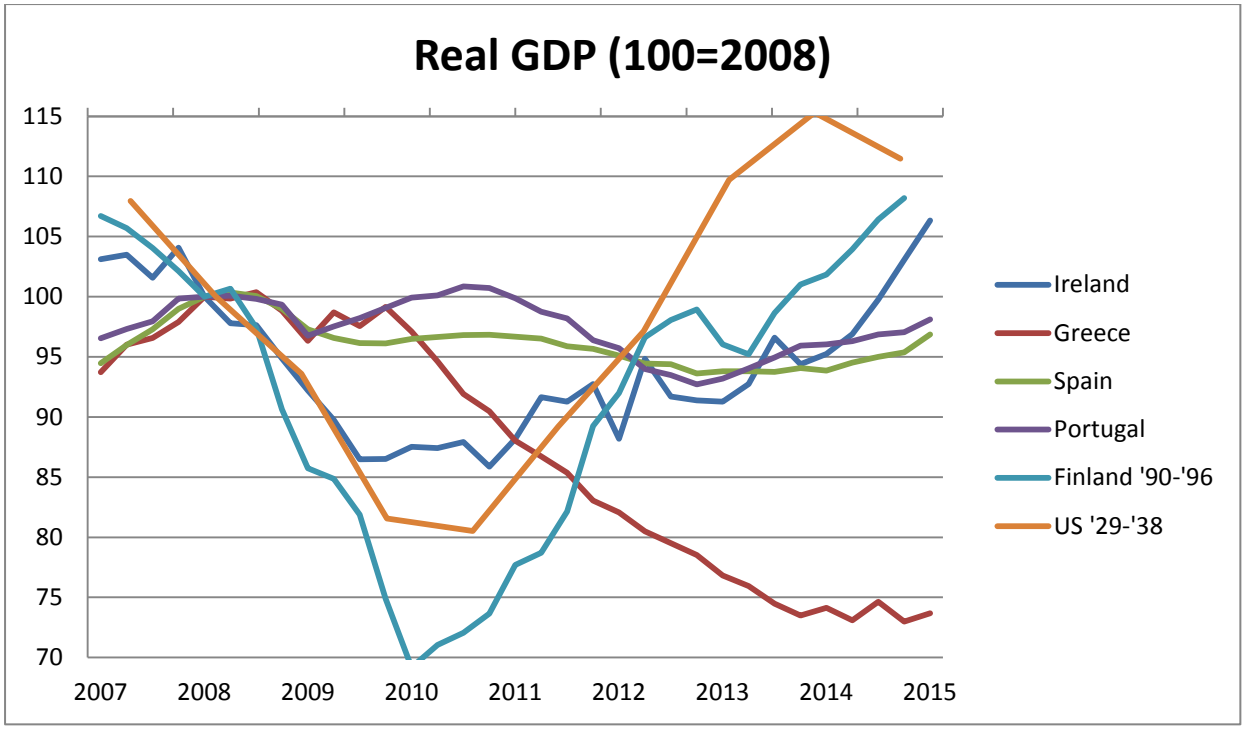

Figure 2: Greece, Ireland, Portugal, Spain, Finland (1990-1996) and US (1929-38). Source: Eurostat, US BEA.

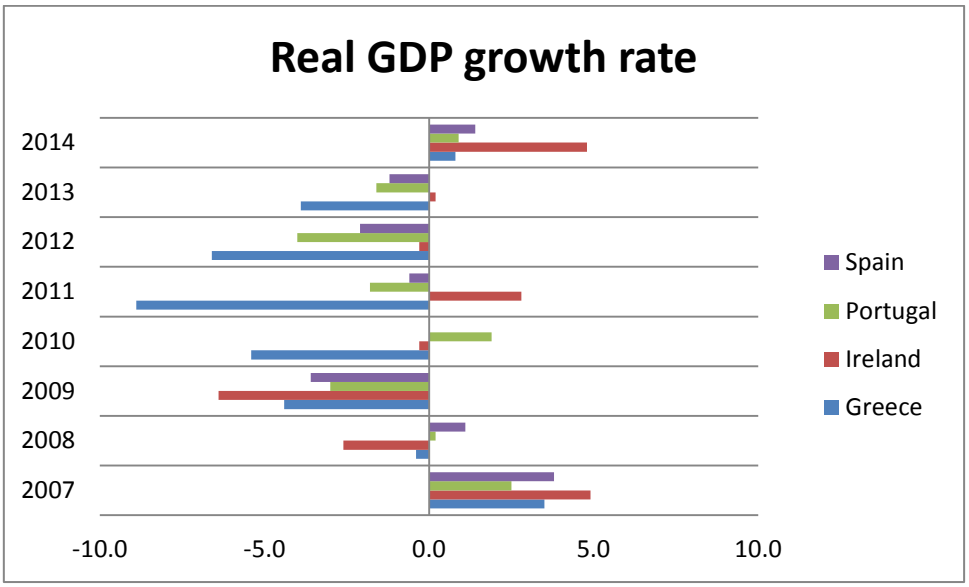

Figure 3: Greece, Ireland, Portugal and Spain. 2007-14. Source: Eurostat.

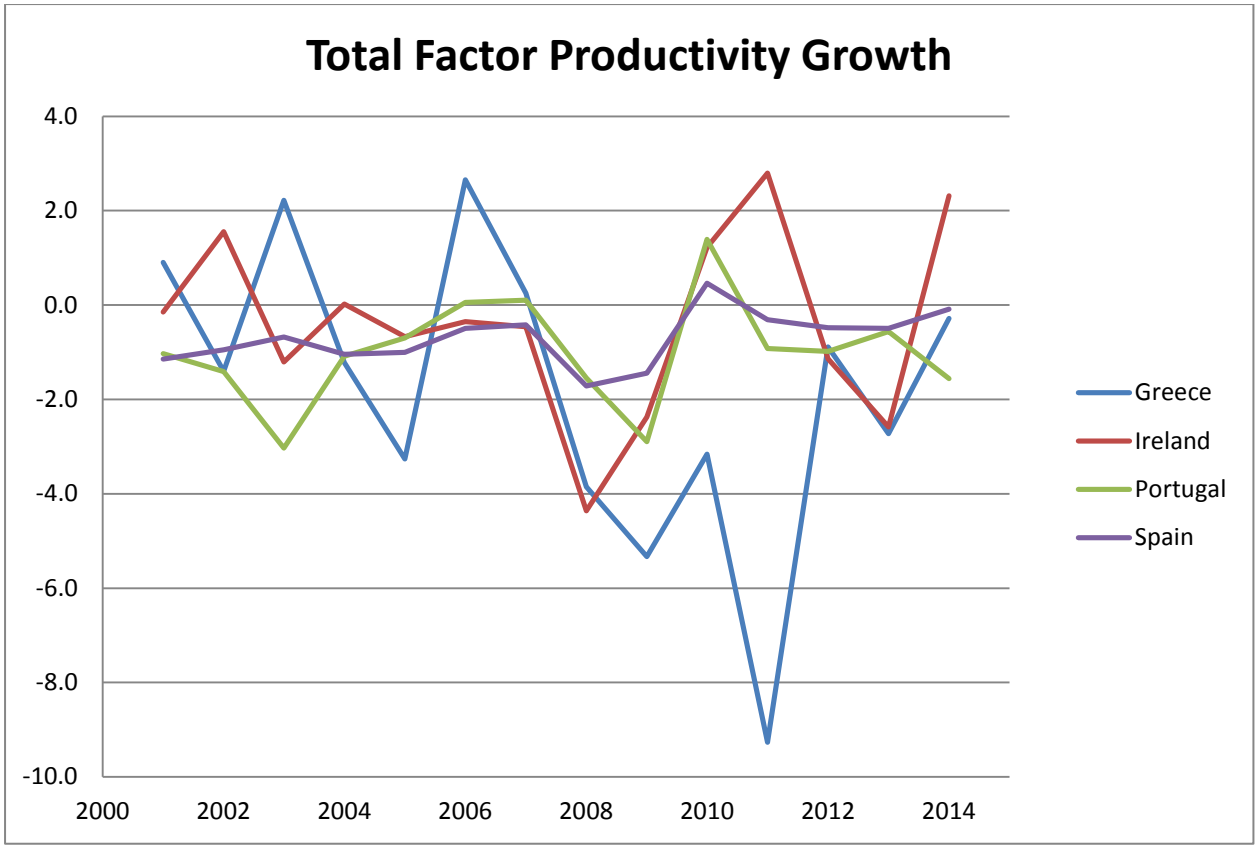

Figure 4.a: Greece, Ireland, Portugal, Spain 2001-2014. Source: The Conference Board.

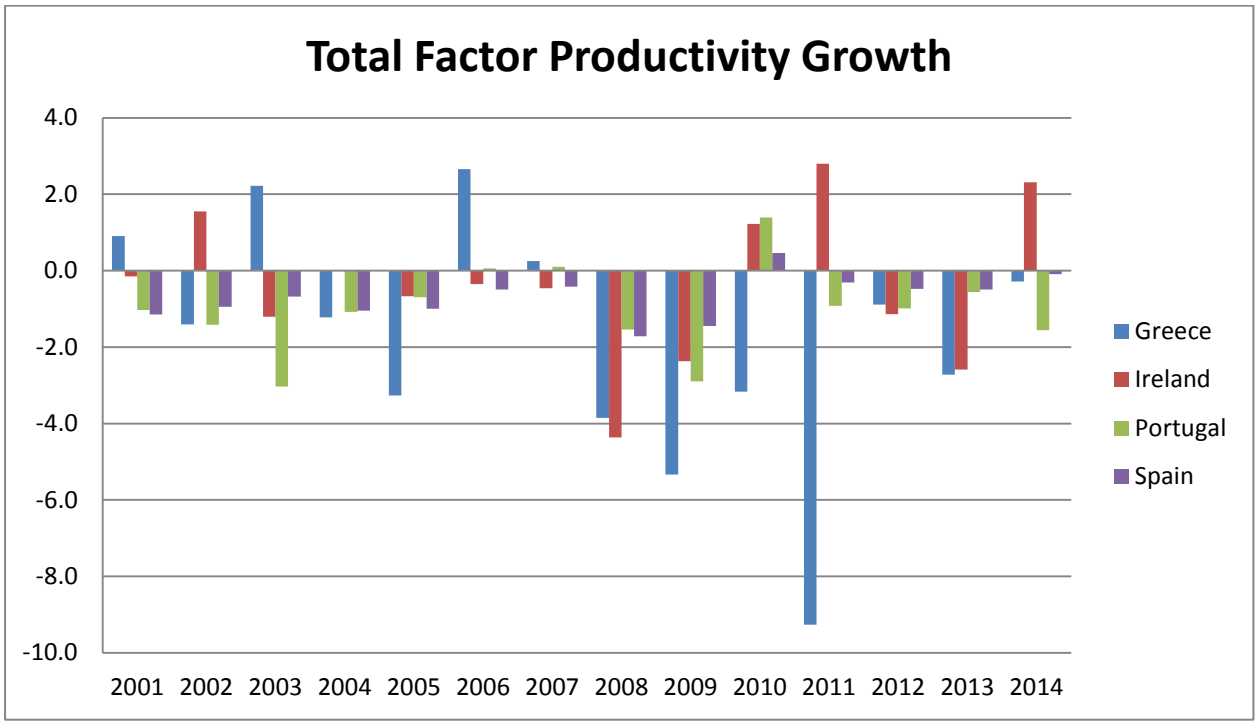

Figure 4.b: Greece, Ireland, Portugal, Spain 2001-2014. Source: The Conference Board.

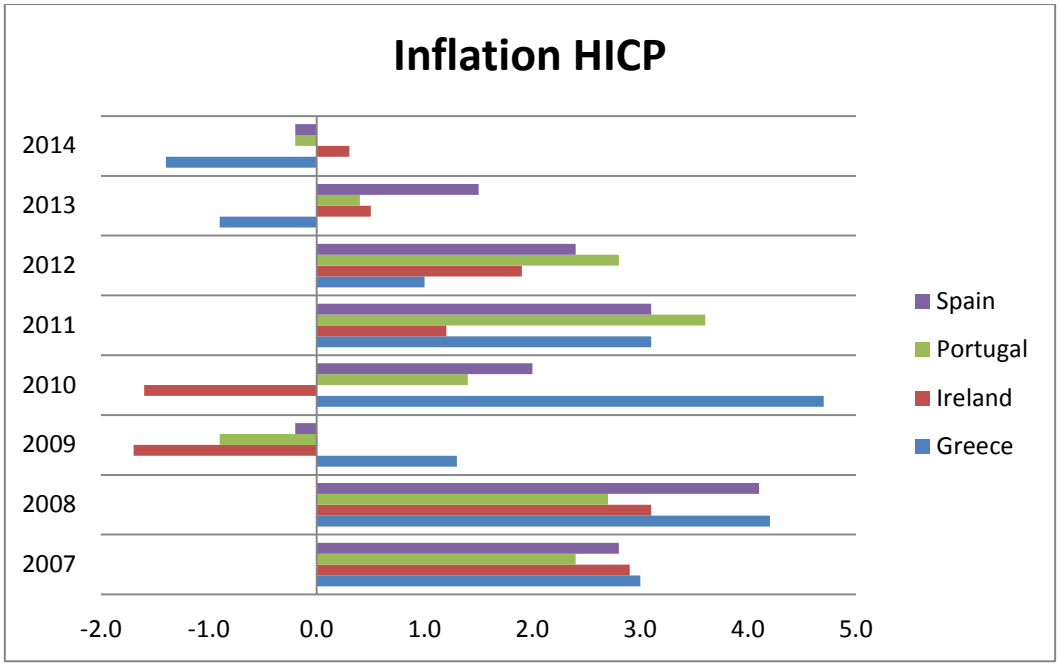

Figure 5: Greece, Ireland, Portugal, Spain 2007-2014. Source: Eurostat.

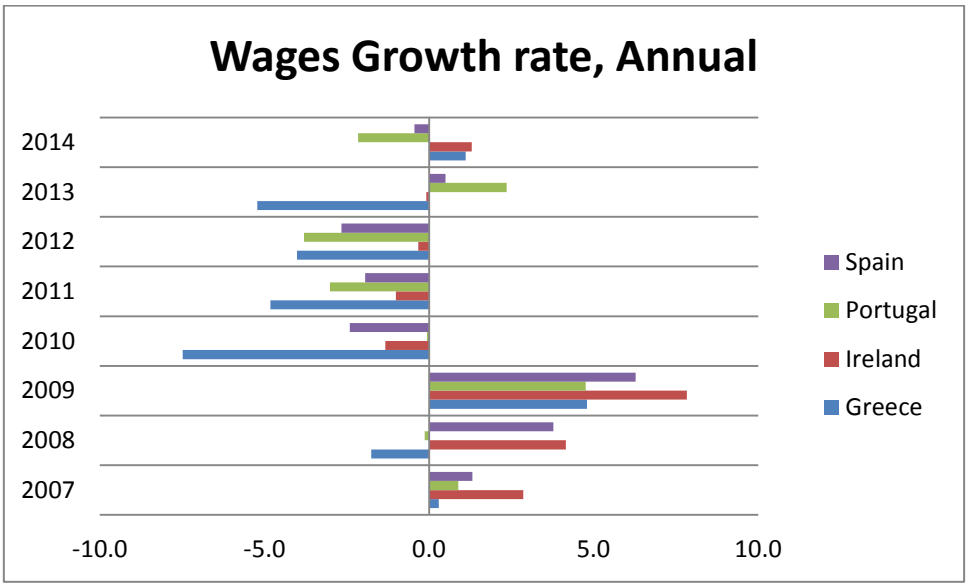

Figure 6: Greece, Ireland, Portugal, Spain 2007-2014. Source: OECD.

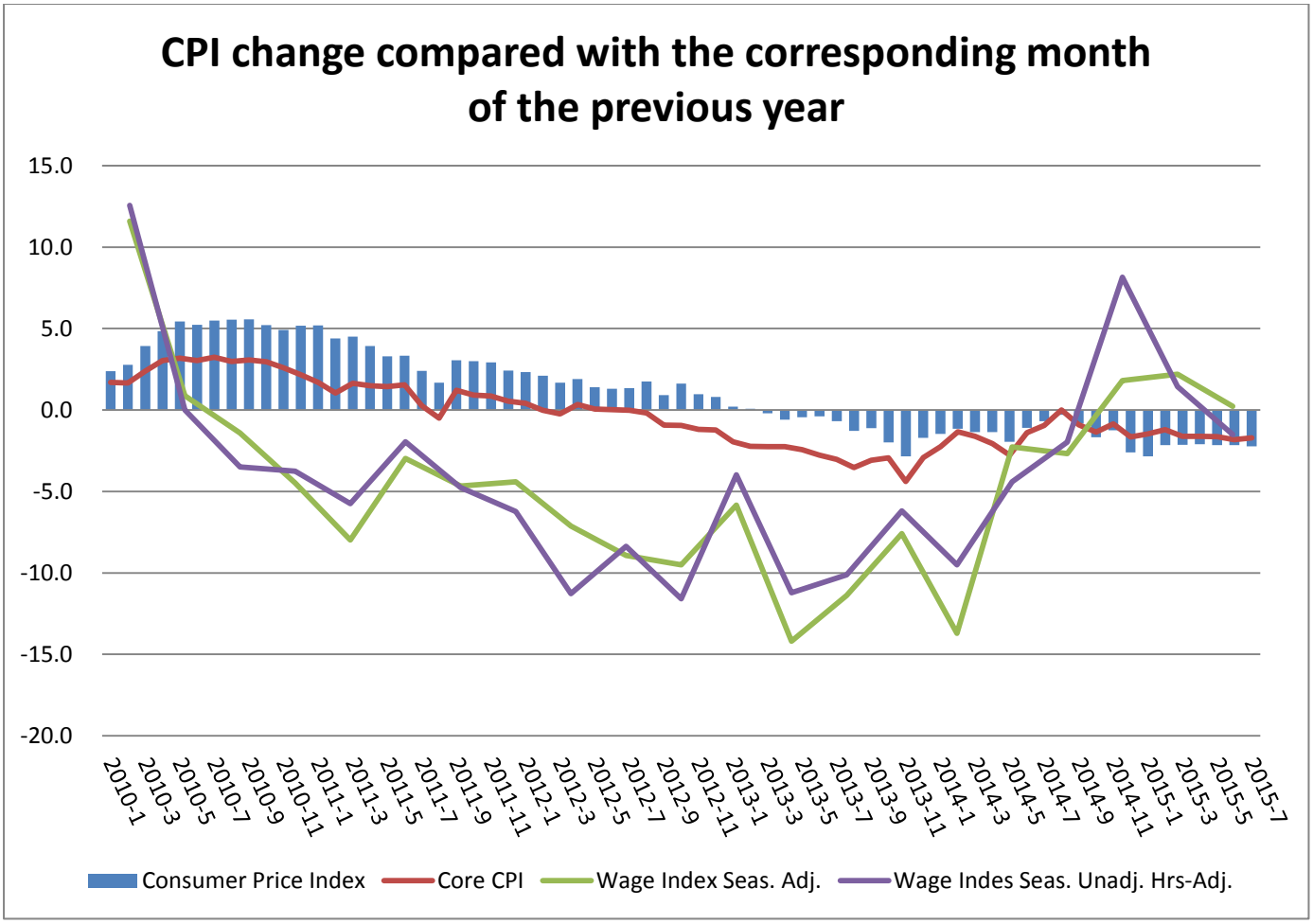

Figure 7: Greece, CPI, Core CPI, Wage indices, y-o-y Monthly Growth rates, 2010.1—2015.7. Source: ELSTAT.