Chapter 1
Severe pain, very little gain: internal devaluation and rising unemployment in Greece

Sotiria Theodoropoulou

1. Introduction

The economic crisis that began with the global credit crunch in 2008 has, through its evolution, put Greece at or near the top of several dismal categories. With an unemployment rate of 25.6 per cent, Greece was the country with the highest jobless rate in the EU in the first quarter of 2015. It has also been one of the countries most adversely hit by the economic crisis that started in 2008, losing 25 per cent of its GDP between then and 2014. Greece was also the country in which the euro-zone sovereign debt crisis began in 2010 and, consequently, the first to receive a bailout, the only one to receive three bailouts and the only one in which the economic adjustment programmes attached to the financial support have failed outright to restore the country's access to financial market financing or to render public debt sustainable as a proportion of GDP.

The fact that unemployment has risen since the beginning of the economic crisis is not surprising, given the depth and length of the recession. However, there are indications that it rose by more than what would have been predicted by Okun's Law, the long-term empirical relationship between changes in output and unemployment, as estimated for Greece. This chapter first explores the dynamics of the labour market response to the recession and reviews different explanations for the apparent over-responsiveness of the Greek unemployment rate to it.

It also focuses on one of the pillars of the adjustment programme that was imposed in Greece and other euro-zone members that received financial support, namely so-called 'internal devaluation', that is, policies aimed at restoring price competitiveness (real exchange rate vis-à-vis one or more trading partners) by means of productivity improvements and/or wage cuts when depreciation of the nominal exchange rate is not available (Darvas 2012). Internal devaluation has been pursued in order to reduce Greece's current account deficit, which peaked at 16.5 per cent of GDP in

2008, and bring it more in line with 'fundamentals' (European Commission 2010) but also in the hope that, especially after 2012, demand for net exports could be stimulated to provide a source of aggregate demand for the Greek economy (European Commission 2012), which at the time was shrinking at an annual rate of 8 per cent. The strategy of internal devaluation had previously encountered scepticism, for several reasons, some general and some more case-specific.

Nominal wages are known to be rigid downwards (cf. Bewley 1999), which essentially means that unemployment would have to increase in order to put the downward pressure on wages that is supposed to achieve the targeted adjustment. Given that the burden of adjustment would have to be borne by member states with current account deficits alone and not by those with current account surpluses, such as Germany, whose wage and price developments have been steadily moving below the euro-area target inflation rate of 2 per cent, the costs of internal adjustment were bound to be even higher. Moreover, the type of labour market reforms that increase wage flexibility also come with side-effects in terms of employment and income security and greater inequality, all of which become further magnified at times of recession.

More specifically, however, in the case of Greece, goods exports had been concentrating on capital-intensive sectors, in which labour costs represent a relatively marginal proportion of costs, and in services, demand for which is not very price-elastic (European Commission 2010, 21). Furthermore, the Greek economy has been relatively closed, with exports a small proportion of its GDP. In other words, policies that would put pressure on wages were likely to have only a small effect on price competitiveness and such effects would at best have only a very limited positive impact on aggregate demand. Indeed, the latter could reasonably be expected to be dampened further as the downward pressure on wages would reduce disposable income and consumption (Theodoropoulou and Watt 2012, 2015).

This chapter therefore further investigates the form that internal devaluation took in Greece and asks whether it achieved its intended effects, one of which was to provide a source of demand stimulus that would help to reduce unemployment, and if not, why not. The rest of the chapter is structured as follows. Section 2 introduces the main characteristics of the Greek economy and its growth model, which are critical for understanding how it reached the crisis, why it responded the

way it did and why internal devaluation was always likely to fail. Section 3 examines developments in the labour market during the recession. Section 4 investigates why the unemployment rate over-responded to the recession. Section 5 analyses internal devaluation in Greece and its effects. Section 6 concludes.

2.   Greece in the crisis

The Greek economy fell into recession as early as 2008, following the onset of the global financial crisis in 2007. In 2008, the economy had a current account deficit of 16.5 per cent and a government budget deficit of 9.9 per cent of GDP, which grew further to 15.3 per cent in 2009. The rise in risk-aversion in the aftermath of the global credit crunch and the revelations in 2009 that the Greek public budget deficit as a share of GDP had not only breached the EU's fiscal rules but had expanded to double digits, resulted between 2008 and 2010 in episodes of 'sudden stops' of private sector capital inflows (cf. Merler and Pisani-Ferry 2012) which had hitherto been financing both the current account and the government budget deficits. By early 2010, the Greek government was effectively shut out of the financial markets. That led to the request for and provision of a bailout package by the EU and the IMF, which included an economic adjustment programme to be implemented as a condition of financial support.

While the Greek banking system had directly suffered relatively little from the global credit crunch of 2008–2009, the dramatic adverse shift in market perception regarding the creditworthiness of the Greek government eventually affected the banking system and the private sector more generally, thus causing a rather atypical balance of payments crisis (Pisani-Ferry, Sapir *et al.* 2013). Although the ECB stepped in and provided the banking system with the necessary liquidity to mitigate the sudden cessation of private capital flows and prevent the banking system from collapsing, this liquidity did not find its way to the real economy.

The current account deficit was to some extent common to the other troubled countries in the euro area, most notably Ireland, Portugal and Spain. An important driver of these trends was the fact that, due to membership of the common currency, the periphery countries – and Greece in particular – benefited, up to the crisis, from relatively low real interest rates. On joining EMU, they saw their interest rates decline as

the risk of future inflation and currency devaluation were all but eliminated. That gave periphery old member states a boost in growth, which led to higher than targeted inflation rates. As they were subject to the nominal interest rate set by the ECB for the average of the euro area their real interest rates remained low. Lower real interest rates further fuelled demand, which would have cooled off to some extent if there had been real exchange rate appreciation.

Low real interest rates also generated demand for credit which, thanks to accelerated financial integration, was met by increased credit flows from other euro-zone members (notably Germany), where savings rates have been higher due to, among other things, subdued wage and domestic demand growth and illustrated in mirroring current account surpluses. Thus, financial integration within the EMU neutralised the real exchange rate channel through which the periphery economies could have been stabilised in the run-up to the crisis. Instead, what happened was that demand remained strong, raising their imports and domestic demand and pushing up their nominal wages and prices which, within the euro area, led to higher real exchange rates and worsened their trade balances further.

However, beneath these common trends, the Greek current account deficit was underpinned by the fundamental characteristics of the Greek growth model, which created vulnerability in the Greek economy when the global financial crisis broke. Since 1974, the Greek economy had been characterised by a high growth-low development pattern (Vaitsos 2011). Capital accumulation had been low and not focused on potentially dynamic sectors that could promote productivity growth and a shift in economic activity towards higher quality and value added sectors. Although Greece, like other advanced economies, has experienced de-industrialisation, on the eve of the crisis its industry accounted for a fairly low share of value added, concentrated mainly in low and medium-low technology sectors, while even the tertiarisation of the economy had focused – with the exception of tourism – on services that are neither very tradable nor dynamic and with high value added (Giannitsis 2013). The export orientation of the Greek economy has thus been weak and, as a consequence, Greek firms have faced relatively weak competition – both international and domestic – and have had little incentive for making efforts to increase their competitiveness. The state had been systematically spending to create public employment directly as a means of keeping unemployment under control and boosting business demand

through its consumption and investment. This can explain the chronic proneness to high public deficits and debt (Argeitis 2011, 182-3), as well as the current account deficits that gradually grew as a share of GDP from 1974 (Giannitsis 2013).

Table 1 **Correlation coefficients between current account balance (CAB) and real effective exchange rate (REER) calculated with different indicators, Greece, 1994–2013**

	1994–2013 CAB (billion euros)	2001–2013 CAB (billion euros)
Harmonised index of consumer prices (HICP)	−0.59	−0.20
Nominal unit labour costs in the whole economy	−0.82	−0.65
Nominal unit wage costs manufacturing	−0.37	−0.16
Price deflator GDP	−0.72	−0.50
Price deflator exports of goods and services	−0.55	0.04

Source: author's calculations using AMECO data (UBCA series) and DG ECFIN Price and wage competitiveness data (Annual REER series Eurozone).

Table 1 shows the bivariate linear correlation between the current account balance in Greece with various real effective exchange rate (REER) indicators, which vary depending on the relative price or cost index used for their calculation (European Commission-DG Ecfin). It suggests that the strongest association between the Greek current account balance and measures of relative prices (real effective exchange rate) based on different relative price and labour cost indicators is that between nominal unit labour costs *for the whole economy* and the GDP price deflator. What is striking is that the correlation between the current account balance and the nominal unit labour costs in the manufacturing sector – the tradable sector par excellence – is weak in absolute terms and far less than half of the REER based on nominal unit labour costs for the total economy. This suggests that the strong negative association between unit labour costs and the current account balance is likely to originate in the developments in unit labour costs in services and/or non-tradable sectors.

The strong negative correlation with the GDP deflator, which reflects the evolution of the prices of domestically produced goods and services as a result of demand, suggests further that domestic demand developments are likely to have been more relevant for the Greek current account imbalance than exports. Indeed, recent research suggests that rather than unfavourable developments in export performance, it has been demand

developments that have been driving current account deficits, which then resulted in upward trends in measures of relative costs/prices and instead the observed real exchange rate appreciations have been due to relative cost developments in the non-tradable sectors (cf. Gaulier and Vicard 2012, Gabrisch and Staehr 2015).

Figure 1 presents the distribution of employment across sectors in 2008. Wholesale and retail trade activities employed most people, with 18.2 per cent of total employment, followed by manufacturing with 12.1 per cent, agriculture with 10.6 per cent, construction with 8.8 per cent, public administration with 8.1 per cent and education with 7.2 per cent. Non-tradable sectors accounted for a higher share of employment than tradable ones. The relative importance of the various sectors did not change dramatically between 2001 and 2008, although the decline in manufacturing and agriculture continued, whereas the shares of construction, public administration and education expanded.

The sector that experienced the most pronounced employment growth was real estate, renting and business activities, where employment expanded between the first quarter of 2001 and the first quarter of 2008 by 51.5 per cent. Other than that, the sectors that registered relatively the largest employment expansions were construction and the broadly defined public sector (public administration, health and social work, other community, social and personal services, public utilities and education), all increasing by between 20 and 28 per cent. In other words, in 2001–2008 employment growth took place predominantly in the non-tradable sectors.

3.   Labour market developments in Greece

Evolution of unemployment in Greece during the crisis: underlying labour market dynamics

Unemployment in Greece rose more than threefold between 2008 and 2013, from 7.8 per cent to 27.5 per cent. During the same period, Greek GDP shrank in volume by 25 per cent (see Figure 2). While the onset of the recession preceded the adoption of the EU/IMF economic adjustment programmes in Greece, with their emphasis on fiscal austerity, the adverse effects of the latter in the real economy were much higher than originally forecasted in the programme (IMF 2012). It is worth noting

Figure 1 **Distribution of employment across NACE2 sectors,
first quarter of 2008**
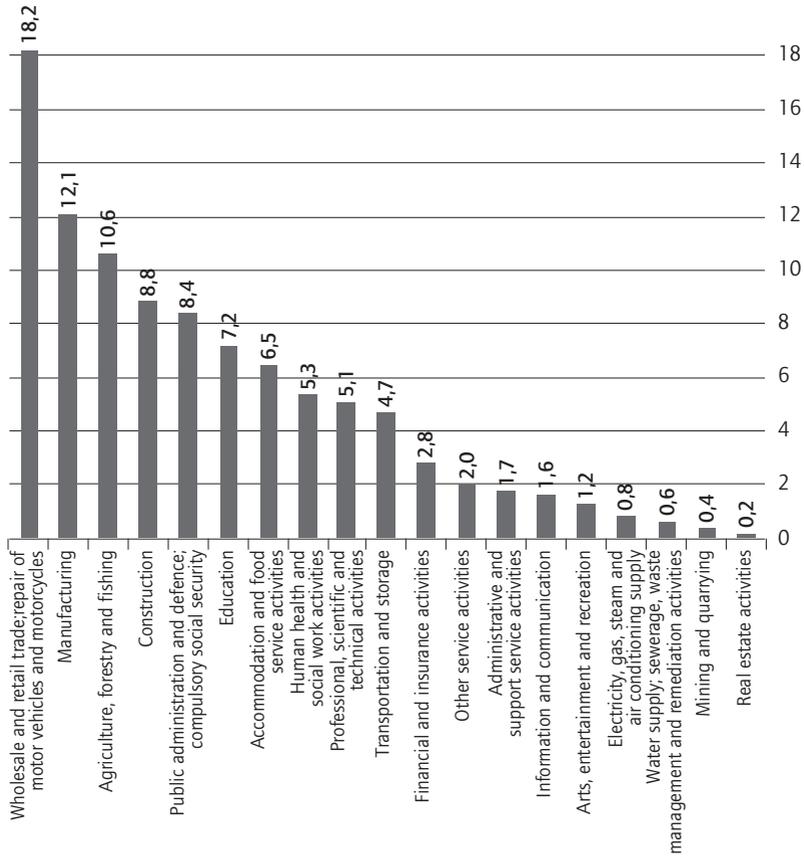
Source: Author's calculations using Eurostat Labour Force Survey database.

that the Greek general government balance shifted from a deficit 15.3 per
cent of GDP in 2009 to a deficit of 3.5 per cent in 2014. That took a
significant fiscal effort, as the structural government balance increased
from a deficit of 15.2 per cent of potential GDP in 2009 to a deficit of 6.2
per cent of potential GDP in 2013.[1]

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1. The increase in the government's structural fiscal balance indicates the discretionary fiscal
tightening effort.

The increase in unemployment affected some groups of the labour force and some economic sectors more than others. That and the large increase in the share of long-term unemployed in the total suggest that the increases in the unemployment rate originally due to the negative output shock have probably become structural. In practice, this means that a recovery alone is unlikely to prove sufficient to restore unemployment rates to their pre-crisis levels and that, unless effective activation policies are put into place, the potential of the Greek economy to attain output growth will remain curtailed for a long time.

Figure 2 **Real GDP and unemployment rate (UnR), Greece, 1999–2013**
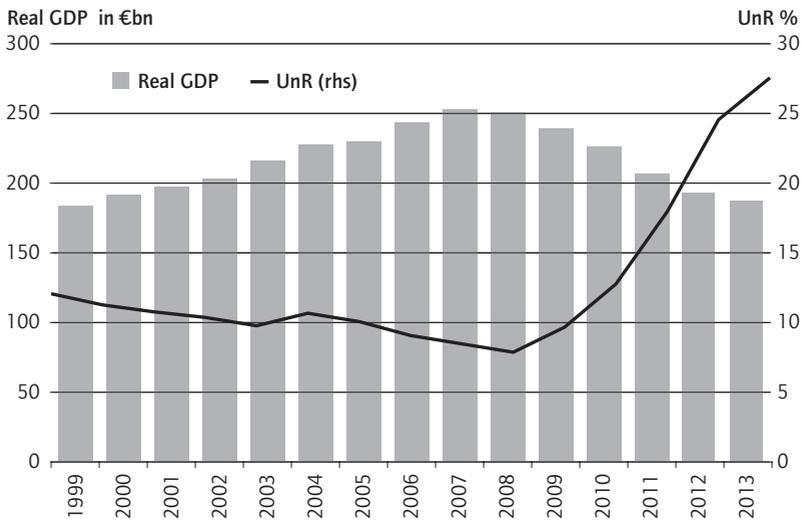
Source: Eurostat (une_rt_an, nama_10_gdp series).

For men of all ages, the unemployment rate rose almost fivefold, from 5.1 per cent in 2008 to 24.5 in 2013 (Eurostat Labour Force Survey). The rise was even more pronounced for older men (aged 40–64), whose unemployment rate rose from a negligible 2.9 per cent in 2008 to 17.8 per cent in 2013, while for those aged 50–64, it reached 18.2 per cent in 2013. Women in Greece have been facing higher unemployment levels, which, however, increased by less than those of men during the same period (from 11.5 to 31.4 per cent). Similar to women, young people (below age 25) have faced unemployment rates well above the EU or euro area average. In 2008, the youth unemployment rate stood at 21.9 per cent (15.9 per cent in the EU and 16.1 per cent in the euro area). By 2013,

it had risen to 58.3 per cent (23.7 in the EU and 24.4 in the euro area). Thus, although the rise in youth unemployment has received most public attention, older men have been hit far harder by the crisis.

The share of the long-term unemployed in total unemployment has traditionally been high in Greece, but after the crisis began in 2008 it rose from 47.1 per cent to 67.1 per cent in 2013 and further to 73.5 per cent in 2014. In other words, from one in two unemployed in 2008, long-term unemployed people represented two in three unemployed in 2013 and almost three in four in 2014. Again, the rise was particularly dramatic for men of all ages, but in particular those aged from 40 to 64 years. Within the latter age group, almost eight out of 10 unemployed men had been without a job for longer than 12 months. Women of similar age faced equally, if not slightly higher long-term unemployment shares. However, long-term unemployment had been more usual among elder women prior to the crisis than it was for men, with their share in total unemployment being around 60 per cent in 2008. Long-term unemployment is a particular challenge for any economy, as has also been associated with 'hysteresis' phenomena, whereby the potential output of an economy decreases following prolonged recession and long-term joblessness for large parts of its labour force.

In the case of Greece, this development has been particularly worrying for other reasons. On the one hand – and as we will see further below – Greece has not been famous for either its level of spending on active labour market policies (which can be an effective tool together with economic recovery for re-integrating the long-term unemployed into employment) or the effectiveness of its policies. This means that the prospects of regaining the economy's production potential are already looking bleak. The age group of 40–64 year olds, especially men, might generally be considered to be in the prime of their careers and thus their effective side-lining implies that precious work experience and 'human capital' accumulated in the course of their careers are no longer being put to use to help the Greek economy to recover.

On the other hand, the recent reforms in the Greek pension system and the continuous pressure on it are particularly worrying for this age group because many of its members are far from retirement age. Given the very low unemployment benefit coverage and the absence of minimum income support, their long-term unemployment is likely to add particular pressures to the social security system.

As the unemployment rate may sometimes conceal aspects of the labour market situation, we also examine the labour market dynamics linked to the decline in real output in Greece between 2008 and 2013. Employment among the working age population (15–64 years old) declined from 65 per cent in 2008 to 54 per cent in 2013 or by 17 per cent. For those under 25, the change in the employment ratio declined from 23.5 to 11.8 per cent, whereas for those above 25 years old it declined from 69.1 to 55.6 per cent. Women of working age saw their employment rate decrease by 18 per cent, whereas for men the respective reduction was 22.2 per cent.

According to Eurostat data (lfsa_argan), the total activity rate in Greece increased slightly between 2008 and 2013 – by 1.2 per cent – thanks to the increase in the activity rates of women, both Greek and foreign. During that period, the activity rate of Greek females rose by 6 per cent, whereas that of foreign females rose by 12.5 per cent. These figures contrast with the evolution of men's activity rates, which fell almost equally by 1.9 per cent for Greeks and 2.1 per cent for foreigners. For the 40–64 age group, male activity rates (of all origins) declined more steeply, by 7.7 per cent between 2008 and 2014, a staggering figure given that the Greek labour market has traditionally promoted the male bread-winner model. Looking at breakdowns of activity rates by age and sex during the same period, there was a slight decrease for those under 25 years of age and an increase in the otherwise low activity rate of women above 25. Given that unemployment increases and activity rate decreases hit men of prime age in particular, this suggests that more women actively joined the labour market in search of complementing household incomes.

The average number of actual weekly hours of work in the main job for employed people fluctuated slightly between 2008 to 2014 to reach 41 hours from 40.6. During that period, this decrease reflects mainly the change in working hours of employees (from 38.9 to 38.1), whereas the hours worked by the self-employed remained roughly stable (from 45.8 to 46). Slight fluctuations were observed for males and females during the same period, without leading to changes. Looking at the average number of actual weekly hours of work in the *second* job, however, we see that between 2008 and 2013, there was a slight decrease for men (from 19 to 18.2) and an increase for women (from 15.7 to 17.2). These data further reinforce the picture that, given the stronger adverse effect of unemployment increases for men, women have sought to supplement lost family incomes, in this case by working longer hours in second jobs.

Real labour productivity growth per person employed was negative between 2008 and 2011, turned positive in 2012 and remained stable in 2013 (Eurostat data, nama_aux_lp). This measure does not account for changes in the pool of employed people and thereby for the heterogeneity in labour productivity across sectors in the Greek economy. This is an important qualification, given that – as we will see below – employment losses were fairly concentrated in particular branches, while the intensity of job losses also varied across sub-periods during the crisis (2008–2014). With this caveat in mind, it could be argued that there are indications that – at least in some sectors – firms held back from shedding labour in response to the recession between 2008 and 2011, although it appears that this was no longer the case between 2011 and 2013. Indeed, the annual rate of employment (headcount) losses more than doubled between 2010 and 2011, accelerating from 3.6 to 7.6 per cent.

The relatively low – by EU standards – share of part-time contracts in total employment increased between 2008 and 2013 from 5.4 to 8.4 per cent (Eurostat data, lfsa_eppga). The share in total part-time employment contracts of those that were involuntary rose from 44.1 per cent in 2008 to 68.2 per cent in 2013 (Eurostat data, lfsa_eppgai). On the other hand, the share of temporary contracts in total employment increased between 2008 and 2011 from 11.6 to 12.6 per cent and fell to 10.2 per cent in 2012, when it remained stable (Eurostat data, lfsa_etpga). There were indications (low reliability of Eurostat data) that in 2008, 82.2 per cent of those with temporary contracts had accepted them because they could not find a permanent job. By 2013, that share had risen to 87.8 per cent of total temporary contracts (Eurostat data, series lfsa_etgar).

According to Eurostat labour force statistics (see Figure 3), between the first quarter of 2008 and the first quarter of 2014 the sectors with the largest relative employment losses were real estate activities, with 65.1 per cent (57.7 per cent from the first quarter of 2010) lost jobs, and construction, with 62.4 per cent (55.7 per cent from the first quarter of 2010). Together, the job losses in these two sectors (mostly construction) accounted for about 20–24 per cent of total job losses in the economy in these periods. Just over half of men aged 40–64 lost their jobs in construction and 60 per cent in real estate activities between 2008 and 2014. The construction and real estate services sectors had among the highest losses not only in terms of number of persons employed but also the average number of actual weekly hours worked, falling from 41.6 to 35.3 and from 45.4 to 37.4. In other words, the reduction in the overall

labour input in the construction and real estate services sectors was even
greater than the cuts in jobs suggest.

Figure 3 **Relative change in employment by NACE2 sectors,
2010Q1–2014Q1 and 2008Q1–2014Q1**
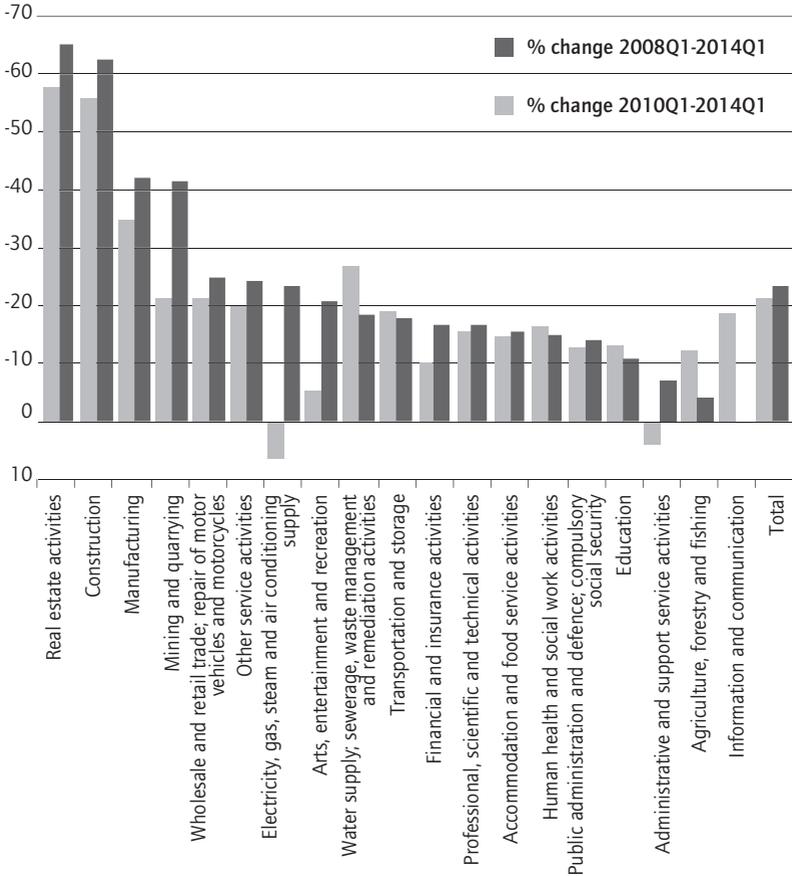
Source: Author's calculations using Eurostat LFS data.

Manufacturing, the second largest sector in terms of share in total
employed persons (12.1 per cent in the first quarter of 2008), and mining
and quarrying experienced losses of 42 and 41 per cent, respectively (35
and 21 per cent, respectively, from the first quarter of 2010). Again, job
losses for males aged 40–64 years of age were close to double the average
in the sectors. The job losses in manufacturing accounted for about one

in five job losses in the total economy, with another one in five being accounted for by job losses in the trade sectors. The average actual weekly hours worked in manufacturing remained roughly stable. Wholesale and retail trade, which, with 18.7 per cent, accounted for the highest share in total employment in 2008, experienced employment losses of 25 per cent between the first quarter of 2008 and the first quarter of 2014, with average actual weekly hours worked stable, while employment losses in the third largest sector – agriculture, forestry, and fishing – were limited to 4 per cent between the first quarter of 2008 and the first quarter of 2014.

In spite of the massive fiscal austerity pressure, public services (public administration, education and health care) lost between 13 and 16 per cent of their jobs between the first quarter of 2010 and the first quarter of 2014, accounting for about 4–5 per cent of the job losses in the total economy. On the other hand, average actual weekly working hours increased in the public administration and education sectors by 1.6 and 1.8 per cent, respectively, a development which illustrates how labour input in those sectors was reduced through the dismissal of employees on temporary/fixed-term contracts and the reallocation of workload to permanently employed people (Matsaganis forthcoming).

Labour market adjustment to the output shock that the Greek economy has been suffering has taken place not only via the adjustment of labour input (employment headcount and hours); labour costs have also adjusted. According to calculations based on Eurostat data (lc_lci_lev), between 2008 and 2013 labour costs (including wages, salaries and social security contributions) fell in the industry, construction and services sectors (excluding public administration) by 12.6 per cent, whereas the wages and salaries component of labour costs fell during the same period by 15.6 per cent, suggesting that it bore a larger part of the adjustment than social security contributions. Most of this adjustment took place after 2012. The cuts were particularly pronounced in the construction sector, where labour costs fell by 22 per cent during the 2008–2013 period, whereas in the business economy, private (business) services and industry, the losses were slightly below the national (minus public administration) average. Thus, the construction sector seems to have responded to the shock by adjusting quantities and prices. The adjustment of labour costs will be discussed in more detail in the following sections on internal devaluation.

4. Why has the unemployment rate over-responded to the Greek recession?

There is no doubt that the massive recession that the Greek economy has experienced since 2008 goes a long way towards explaining the increase in the country's unemployment rate. However, recession alone cannot account for all of it. The empirical relationship between changes in output growth and unemployment increases – that is, by how many percentage points the unemployment rate changes (increases) when output growth changes (falls) by 1 per cent – is called Okun's law. Estimations of the Okun's law for Greece for the period 1970–2007 suggest that a 1 per cent decrease in output was associated with a 0.12 to 0.23 percentage point increase in the unemployment rate (Gogos and Kosma 2014). Thus, the increase in the unemployment rate between 2008 and 2013 was well above what Okun's law would have predicted given the economy's behaviour prior to the crisis. A different report has suggested that the responsiveness of the unemployment rate to recession started picking up relative to the prediction of Okun's law from 2010 onwards (Nikolitsa 2014). In that respect, we could say that the Greek labour market did not demonstrate sufficient 'macro-flexibility' (cf. Blanchard *et al.* 2013) to the output shock it has been experiencing since 2008, as the unemployment rate changed in response to it to a far greater extent than what would have been expected in accordance with Okun's law.

The literature suggests various reasons that may explain the higher responsiveness of unemployment to recessions. Low costs of firing and hiring and the greater use of temporary contracts are associated with a higher responsiveness of the unemployment rate to recessions, in contrast to stronger traditions of lifelong employment (as in Japan) (IMF 2010, Carlin and Soskice 2015). Greece has been classified until relatively recently in the top half of the OECD rankings in terms of the strictness of its employment protection legislation both for regular and for temporary contracts (http://www.oecd.org/employment/emp/oecdindicatorsof employmentprotection.htm).

However, this indicator of 'official' stringency of employment legislation does not provide a full picture of the extent to which EPL protects working people in Greece. The Greek labour market has been characterised by a division between highly protected insiders, under-protected 'mid-siders' and unprotected outsiders (Jessoula *et al.* 2010; Matsaganis forthcoming). The 'mid-siders', representing the vast

majority of Greek workers, have been employed in small firms (which are typical of the Greek economy), paid on average less and enjoying less generous unemployment and employment protection. A special case of mid-siders are the self-employed, who in Greece represent almost 30 per cent of employed persons, double the EU28 average.

In addition, Greece is also characterised by substantial informal employment, which tends to be concentrated in particular sectors, such as construction, tourism and other services, where the enforcement of employment regulation, minimum wage and social provisions has been weak. These are sectors in which employment has been precarious but where flexibility is de facto very high (Matsaganis forthcoming). The large concentration of job losses in the construction sector and other services and the characteristics of the labour market (with its high polarisation) may have been one of the explanations of the over-responsiveness of unemployment to recession.

Moreover, the economic adjustment programmes that Greece had to adopt in exchange for EU/IMF financial support, led to reforms in EPL. Firing costs were lowered for employees on regular contracts; the greater use of temporary and fixed-term contracts was facilitated; and more flexibility in working time arrangements was promoted (Theodoropoulou 2015). These changes took place from 2010 onwards, when – as we saw – the rate of employment losses started picking up as it became clearer that the recession was here to stay. It is fair to speculate that the EPL reforms that took place once the economic adjustment programmes were adopted are likely to have exacerbated the responsiveness of unemployment to recession.

The extent to which active labour market policies are used effectively to help unemployed workers reposition themselves into employment has also been mentioned as a factor that can reduce the response of unemployment to recession. At 0.2 per cent of GDP in 2010, public spending on active labour market policies in Greece was less than half the EU average (Theodoropoulou 2015). Even the little money spent had very questionable effects on unemployed workers before the crisis (Matsaganis forthcoming). Moreover, during the crisis, the extra policy measures that were pushed in this area – namely, the temporary extension of short-term public works programmes – had a particular focus on young people not in employment, education or training (NEET), even though, as we saw, the group that was worst affected by unemployment increases were men 40 years of age or above.

The degree of trust or the quality of labour relations has also been suggested as a mitigating factor with regard to the extent to which unemployment rises follow an adverse output shock (Blanchard, Jaumotte *et al.* 2014). Unlike other euro-zone member states, Greece did not manage to establish a solid tradition of social concertation between employers, trade unions and the state in the run-up to joining EMU, for various reasons, which included the reluctance or inability (due to the Maastricht criteria) of the government to put macroeconomic policy considerations on the bargaining table (Ioannou 2000). Once Greece joined EMU, the hurdles to building such concertation became even higher (Ioannou 2004) and when the economic adjustment programmes attached to the Greek bailouts were adopted, the scope for negotiations decreased even further. On the one hand, in a context of severe public spending cuts – including in investment – and substantial tax increases, there was little Greek governments could offer in exchange for concerted action over wages and price adjustment. On the other hand, under pressure from the Troika, collective wage bargaining was decentralised and in fact was the only area in which reforms wrought a paradigmatic change (Theodoropoulou 2015).

This lack of trust in employment relations has meant that concertation has not been possible with regard to the adjustment of nominal wages and prices in order to minimise the effects on real incomes and speed up adjustment. Moreover, there have been no high-level agreements between employers and unions that would privilege adjustment to the recession through the intensive margin (hours) and/or wages rather than the extensive margin (employment).

Other factors influencing the elasticity of unemployment to recession, although in different directions, are the responsiveness of wages, the amount of financial stress facing the economy and the demand component – that is, domestic vs external – that dominates the downturn, with a drop in domestic demand having stronger effects on unemployment for a given fall in output growth than export demand (ECB 2012). We will return to evidence on the effects of these factors in the following section, where we examine the impact of internal devaluation. It will be argued that the strategy of internal devaluation as it was actually implemented in Greece may have exacerbated rather than mitigated rising unemployment in Greece.

5. Role of internal devaluation in explaining unemployment in Greece

5.1 Internal devaluation in the Greek adjustment programmes

Internal devaluation (or adjustment) has been defined as the outcome of policies aimed at productivity improvements and/or wage cuts to restore price competitiveness when depreciation of the nominal exchange rate is not available (Darvas 2012). The real exchange rate can be defined either as the relative prices of tradable to non-tradable products in an economy or as the relative prices, costs and productivity of a particular country vis-à-vis the rest of the world or the group of its main trading partners (for example, the EU) (IMF 1984).

In the context of the first Greek conditionality programme, internal devaluation was to be promoted through a bundle of structural reforms that would aim at both strengthening external competitiveness and accelerating the reallocation of resources from the non-tradable to the tradable sector (European Commission 2010: 10). Labour market reforms, by changing collective wage bargaining institutions, the setting of minimum wages, employment protection legislation and unemployment benefits (Theodoropoulou 2015) were aimed at increasing the responsiveness of wages to the recession and, together with product market and business environment reforms, at facilitating the transfer of productive resources from the non-tradable to the tradable sector, through adjustment of *internal* relative costs and prices (that is, across the tradable and non-tradable sectors). Fiscal austerity, with the cuts it imposed on public sector wages, was also supposed to contribute to internal devaluation by reducing the wage costs of the non-tradable public sector, where a significant wage premium applied over the private sector (including the tradable part of it), even after controlling for compositional effects of the sector's workforce (Christopoulou and Monastiriotis 2013).

The original programme explicitly left out conditionality on private sector wages. At that point the risks attached to putting additional pressure on private sector wages were deemed too great, despite the potential benefits (European Commission 2010. Indeed, in 2009, labour costs represented only 17 per cent of the output value of the manufacturing sector in Greece and about 49 per cent of its value added. Thus, it would take a very large drop in labour costs and the assumption of no increases in any other

production costs for any discernible change in the prices of manufacturing exports to occur (Giannitsis 2013). However, the approach changed by 2012, when, under the pressure of faltering fiscal adjustment and the deepening of the recession that it caused (IMF 2012), explicit targets for private sector wage adjustment were brought to the fore in the second adjustment programme for Greece, in an attempt to stimulate external demand for Greek output (European Commission 2012).

In sum, therefore, from the beginning the strategy of internal devaluation as a means of adjusting the current account balance and as a potential source of demand stimulation was, due to the closedness of the Greek economy, very risky. The risks were heightened by the fact that internal devaluation in Greece would be the only weapon wielded to achieve the adjustment of its current account deficit, rather than coordinated action aimed at narrowing the current account surpluses at the core of the euro area. Further constraints were the Greek system of industrial relations, which had not been effective in the past in delivering concertation among price and wage-setters and had been weakened further in the context of the adjustment programmes. We next turn to the actual effects of internal devaluation.

5.2   Internal devaluation, wages and prices

Nominal unit labour costs for the total economy continued rising in 2008 and 2009 as nominal compensation per employee rose and labour productivity started declining. Nominal unit labour costs only started falling from 2011 (see Figure 4). In 2012–2013, when the second economic adjustment programme introduced conditionality on private sector wages as well, the downward adjustment of nominal unit labour costs became more pronounced, driven predominantly by nominal compensation per employee.

Figure 5 shows the evolution of nominal unit labour costs for the whole economy, as well as that of nominal unit wage costs – excluding employers' social security contributions – in three major economic sectors: manufacturing, services and construction. Nominal unit wage costs in the construction sector were actually the ones that grew the most, doubling between 2000 and 2009 reflecting the booming demand in that sector.

Figure 4 **Nominal unit labour costs and their components, Greece, 2001–2014**
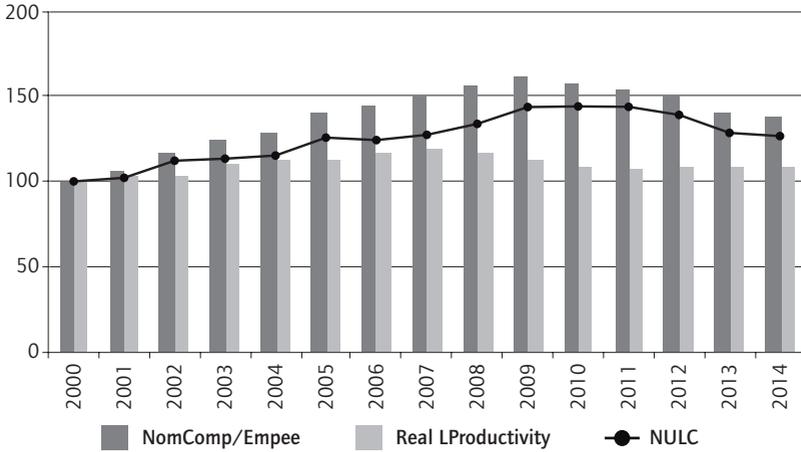
Source: Author's calculations using AMECO data (HWCDW, PLCD, RVGD series).
Note: NULC – Nominal unit labour costs; NomComp/Empee – Nominal compensation per employee;
Real LProductivity -Real labour productivity.

Figure 5 **Nominal unit labour costs and nominal unit wage costs, Greece, 2000–2013 (2000=100)**
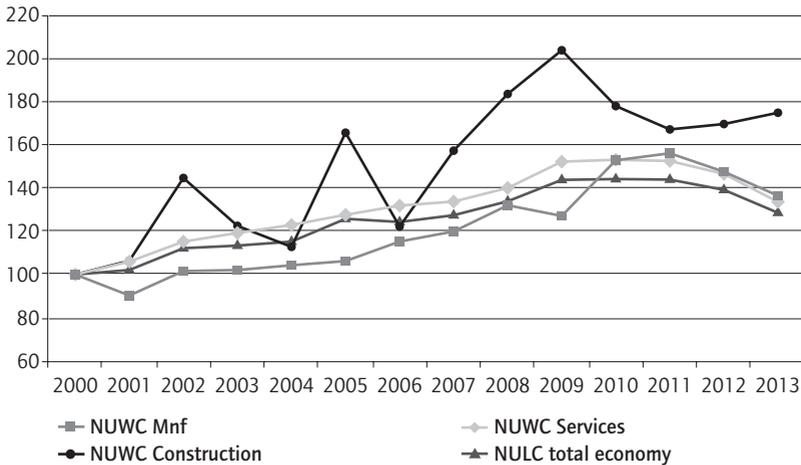
Source: Author's calculations using AMECO data (PLCD, PWCM, PWC4, PWC5 series).
Note: Mnf: Manufacturing.

We see that the evolution of nominal unit labour costs mirrors that of nominal unit wage costs in services, while unit wage costs in manufacturing continued to increase until 2011 before they started declining. Unit wage costs in the construction sector have been much more volatile and although their growth rate declined sharply between 2009 and 2011, they began rising again after that.

The next question is whether these falls in nominal wages/labour costs translated into lower prices for the whole economy, exports and various sectors and, perhaps more importantly, for the purposes of internal devaluation – which is a relative concept – whether these declines in nominal wages/unit labour costs were further translated into real exchange rate devaluation.

Figure 6 **Price deflators, total economy (GDP) and main sectors, Greece, 2000–2013 (2000=100)**
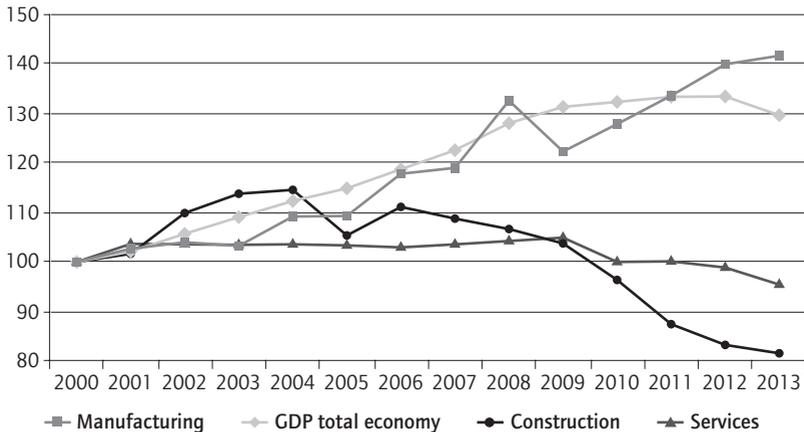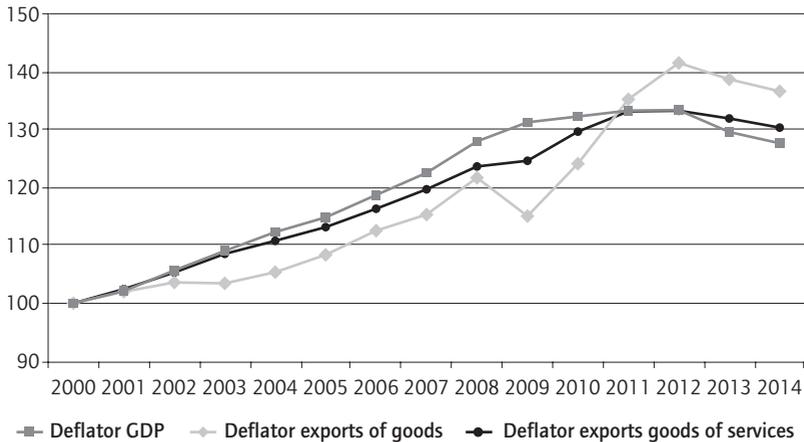

Source: own calculations using AMECO data (PVGM, PVGD, PVG4, PVG5 series).

Figure 6 shows the evolution of price deflators for broad sectors of the economy and for GDP, reflecting total demand for domestic output. With the exception of construction, it appears that the decline in price deflators in services and for GDP has been less pronounced than the decline in unit labour costs and unit wage costs that we saw in Figure 5. The price deflator in the manufacturing sector has actually been increasing since 2009 despite the fact that nominal unit wage costs have been declining in manufacturing in line with the rest of the economy. Given that manufacturing is one of the main sectors that are tradable, this means

that any potential gains in terms of price competitiveness from the pressure on nominal wages have not been passed on – whether wholly or partly – to the sector's prices. The evolution of the export price deflators of goods and services (see Figure 7), however, suggests that nominal wage cost decreases from 2011 onwards were passed on to a larger extent to exported goods, probably due to stronger competition in international markets.

Figure 7 **Price deflators of exports and GDP, Greece (2000=100)**

Source: Author's calculations using AMECO data (PXGS, PVGD, PXGN series).

There may be several reasons for this. For example, product market competition may not be strong enough and allow for profit margins and prices to resist adjustment to lower unit labour costs. Looking into the relevant OECD product market regulation indicators, one can see that Greece is in most cases in the middle of the range of OECD members in terms of the restrictiveness of product market regulation, although the Greek authorities implemented deregulation reforms in most of the areas to which these indicators refer between 2008 and 2013 (latest available data). However, there are some exceptions to this. Price controls in competitive sectors – for example, road freight, professional services, and mobile communications – in fact slightly increased during that period. Similarly, the rules for getting information on and obtaining licenses and permits to start new businesses remained among the least simple within the OECD group, with no change. This is an indication of barriers to entry in a product market, which is normally something that hinders

Figure 8 **Cost of borrowing for non-financial institutions, Germany, Spain, France, Greece, Italy, Portugal, January 2010–January 2015 (% per annum)**
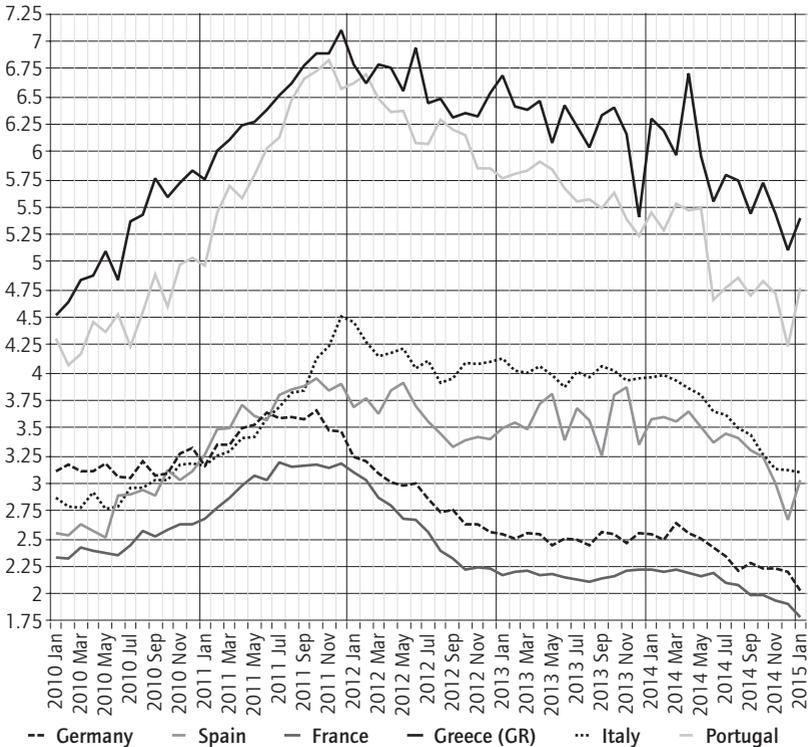
Source: ECB (MFI interest rate statistics).

competition and makes it possible to maintain the profit margins of incumbents at a high level. Barriers to entry in service sectors – including professional services – also remained relatively high by OECD standards and changed marginally between 2008 and 2013. Barriers to trade and investment were generally low and were reduced further across the board with regard to the dimensions measured.

The increase in other production costs – for example, capital borrowing costs or energy consumption costs – could also be a reason. Pelagidis (2014) documents that energy – both electricity and natural gas – prices for industrial use have risen by over 60 per cent since 2009 due to a combination of large increases in electricity costs and the imposition of high excise tax rates in the context of fiscal adjustment. He estimates that

Greek industries have to pay up to 80 per cent more for energy than others in the EU.

Moreover, the combination of uncertainty until 2012 on whether Greece would remain in the euro zone and the fragility of the Greek banking system, exacerbated both by the deep and ongoing recession and doubts concerning the solvency of the Greek state, meant that the costs of borrowing for Greek business rose and remained high from the outbreak of the crisis (see Figure 8). Given that the main exporting sectors are not labour-intensive, it is no surprise that the squeeze on nominal wage/labour costs has not managed to make up for these developments.

The relative price of Greek exports and tradable goods did not improve, not only because of domestic economic developments but also because the evolution of the respective relative prices in the other euro-zone member states has not been favourable. Figure 9 shows that although the Greek real effective exchange rate (REER) calculated by using the (relative) nominal unit wage costs in manufacturing declined markedly after 2011, the REER calculated by the export prices deflator shows that there have barely been any gains in relative prices vis-à-vis the rest of the euro zone, despite considerable adjustment in the respective price

Figure 9 **Real effective exchange rates using different relative price/cost indexes, Greece vs EA18, 2005–2013 (2005=100)**
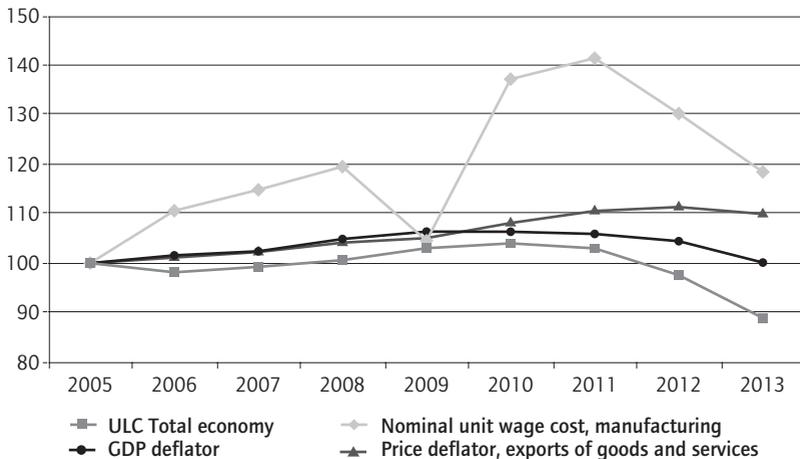
Note: ULC - Unit labour costs.
Source: DG ECFIN price and cost competitiveness database (REER annual data series Eurozone).

deflator since 2011. The difference between the two can be accounted for by price developments in other countries. This comes as no surprise as the pursuit of internal devaluation that has been imposed in member states with current account deficits has been asymmetric: in other words, member states with a current account surplus were under no obligation to pursue internal revaluation in order to share the burden of adjustment of intra-euro-zone imbalances.

In short, therefore, we see that, although the strategies of internal devaluation have had a visible effect on labour costs, this effect has not been passed on sufficiently to the prices of manufactured goods and Greece's real effective exchange rate with the rest of the euro zone.

5.3 Internal devaluation and the Greek trade balance

Figure 10 shows the contribution of exports and imports to the improvement of the trade balance as a share of GDP in Greece, Spain, Portugal and Ireland between 2010 and 2013. Greece registered the second highest improvement. On top of that, however, it was also the country that reduced imports the most, which was a relatively more important driver than the increase in exports in improving the trade balance. This suggests that the improvement in the trade balance in Greece was achieved by lowering domestic demand, far more than has

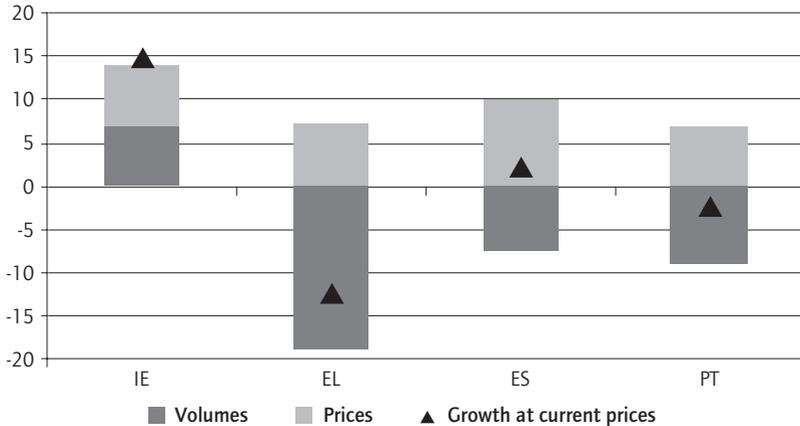Figure 10 **Development of exports and imports, Greece, 2010–2013**
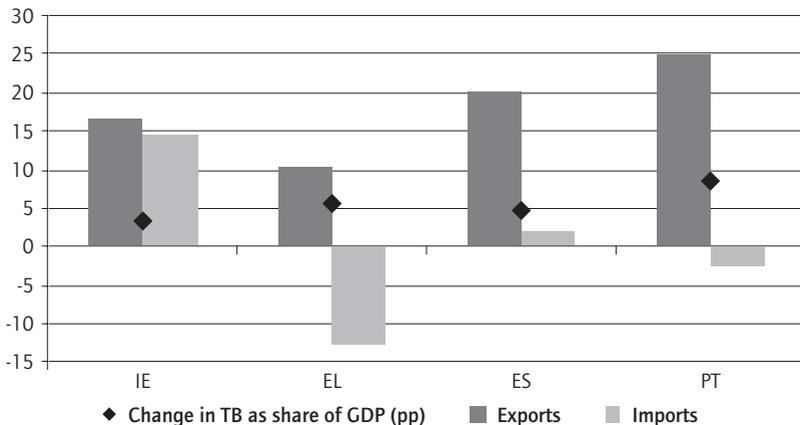
Source: Author's calculations based on AMECO data (UXGS, UMGS, UBGS, UVGD series).

been the case in the other euro periphery countries. This is consistent with what we would expect given that internal devaluation was pursued at the same time as an unprecedented fiscal adjustment, which, as it turned out, has had a devastating – and larger than originally anticipated – effect on domestic demand.

A closer look at the development of imports and exports (Figures 11 and 12) reinforces the bleak picture. Between 2010 and 2013, the fall in imports (at current prices) in Greece was close to 15 per cent; the fall in the volume of imports was even larger, at close to 20 per cent.

Figure 11 **Change in import prices and volumes, selected countries, 2010–2013**
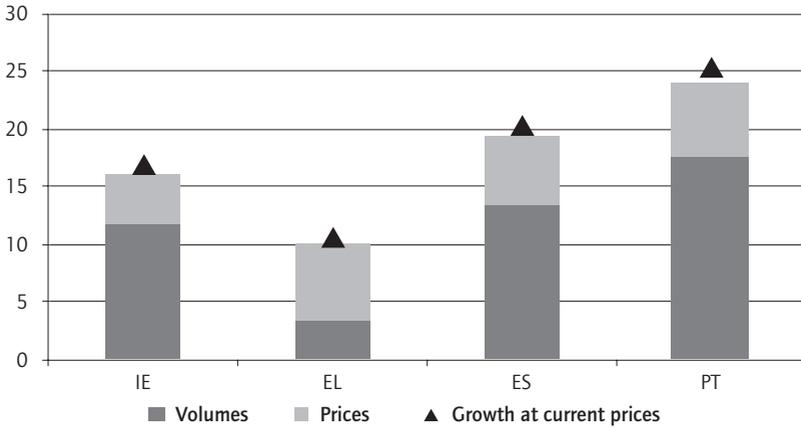

Source: Author's calculations based on AMECO data (UXGS, UMGS, UBGS, UVGD series).

On the other hand, the increase in exports (at current prices) between 2010 and 2013 was mainly nominal, due to an increase in prices, rather than real and due to volume. In both respects – exports and imports – Greece exhibited a worse performance than Ireland, Portugal and Spain.

In other words, the improvement of Greece's trade balance was due primarily to lower real domestic demand, with barely any increase in external demand through real exports. This is clearly illustrated in Figure 13, which shows that the positive effect of the trade balance – that is, of positive net exports – on GDP growth has been driven by the positive contribution of imports, which occurs when imports actually fall.

Figure 12 **Growth in export volumes and prices, selected countries, 2010–2013**


Source: Author's calculations based on AMECO data (UXGS, UMGS, UBGS, UVGD series).

Figure 13 **Contributions to GDP growth of imports, exports and the trade balance, Greece, 2006–2014 (forecast)**
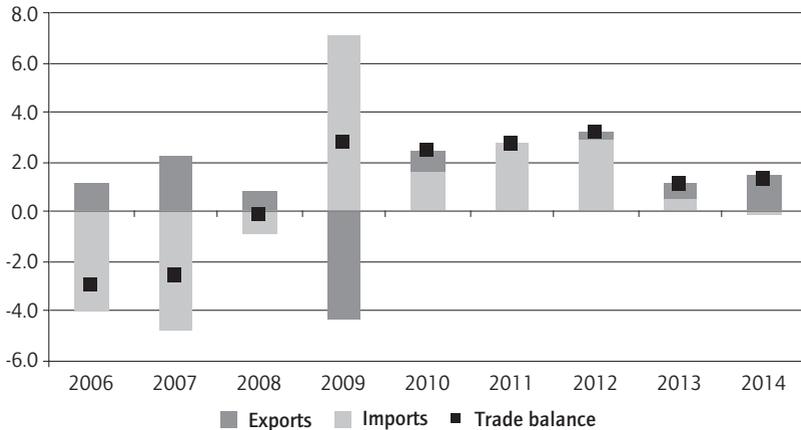
Source: AMECO (UMGS, UXGS, UBGS series).

Figure 14 **Contribution of the trade balance and domestic demand to real GDP growth**

Legend: Domestic demand (incl. stocks) ■ Trade balance ■ Real GDP growth ●
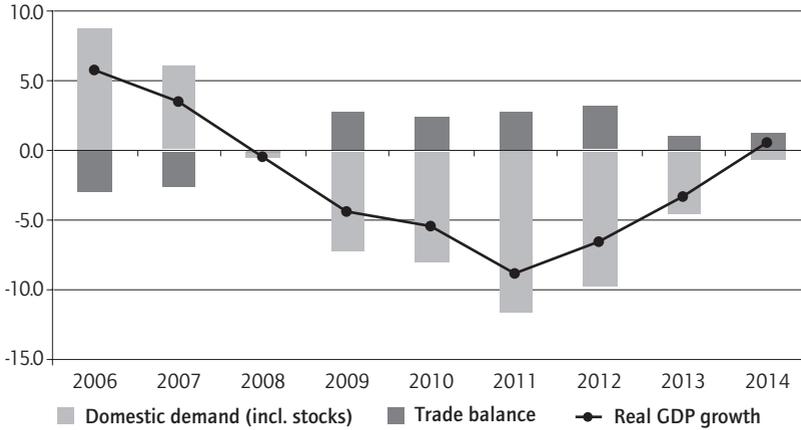
Source: own calculations using AMECO data (CVGD3,CVGD9, OVGD series).
Note: TB — Trade balance; DD — Domestic demand.

Figure 15 **Contribution of domestic demand and its components to GDP growth, 2006–2014**

Legend: ■ PUBC ■ I ■ PRIVC ● DD (incl. stocks)
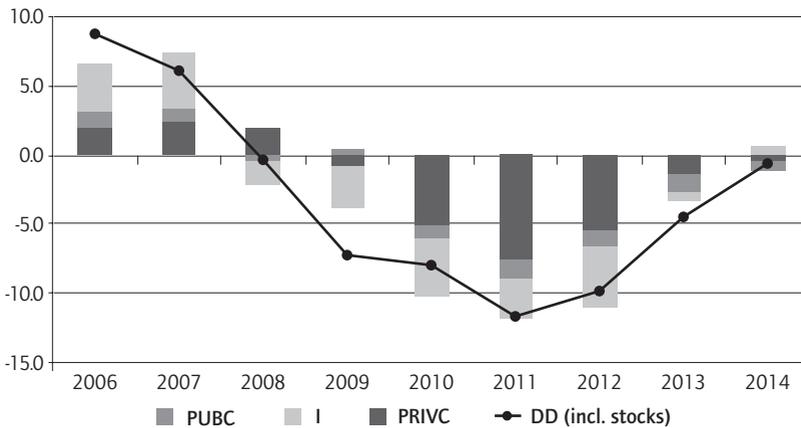
Source: AMECO (CVGD5, CVGD0,CVGD2, CVGD3 series).
Note: PrivC — Private consumption; PubC — Public consumption; I — Investment (Gross fixed capital investment); DD — Domestic demand.

5.4 Internal devaluation and domestic demand

Figure 14 shows that from 2009 onwards, when the recession began in Greece, it was (negative) domestic demand that drove (negative) real GDP growth; the trade balance contributed relatively little.
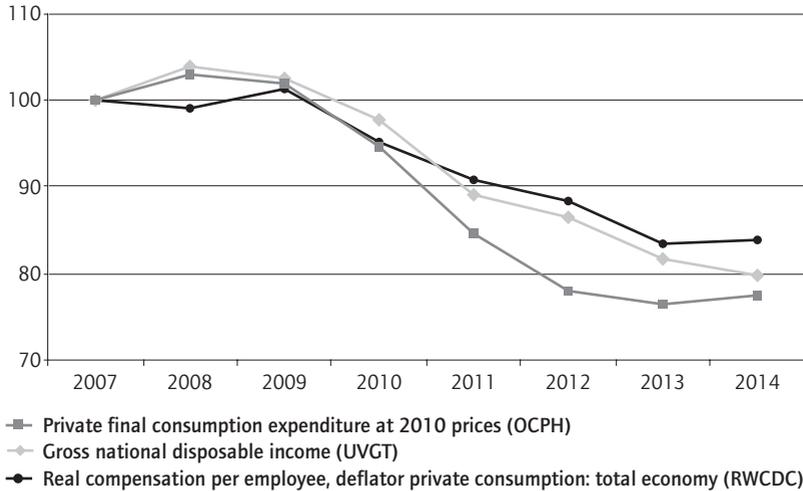
The components of domestic demand made negative contributions to GDP growth from 2009 onwards (see Figure 15). Private consumption was the leading negative component, followed by investment. The negative effect of private consumption accelerated from 2010 onwards, when the economic adjustment programme was first adopted and wages started falling.

As Figure 16 shows, private consumption expenditure followed the evolution of disposable income and real compensation per employee relatively closely. As the effects of internal devaluation pressures on labour costs developed, disposable income fell. In the early years of the crisis, it seems that households and firms tried to smooth out their consumption. However, starting in 2010, private consumption fell faster than disposable income, suggesting that households increased their savings, either servicing debt or as a precaution in the face of uncertainty about their employment and income prospects in the near future. Of course, both deleveraging (paying back debt) and precautionary savings tend to reduce demand even further. It has been reported that between 2010 and 2014, deleveraging took place to the tune of 35 billion euros, funds which, however, were not rechannelled into the economy through new bank loans (Zografakis and Kastelli 2015, 11).

The Greek banking sector has gone through major turbulence during the crisis due to its exposure to sovereign risk, the 'haircut' on Greek government bonds in 2012 and the dramatic increase in non-performing loans. According to World Bank data, the share of non-performing bank loans to total loans in Greece went up from 4.6 per cent in 2007 to 9.1 per cent in 2010 and to 33.4 per cent in 2014. Moreover, since 2010, Greek banks have had to face episodes of large deposit withdrawals, when uncertainty about Greece's continued membership of the euro heightened.

This development points to one of the reasons why internal devaluation has not achieved the hoped-for results in Greece. In principle, lower unit labour/wage costs should have led to increased profitability and

Figure 16 **Private consumption, gross disposable income and real compensation per employee, Greece, 2007–2014 (2007=100)**

--■-- Private final consumption expenditure at 2010 prices (OCPH)
--◆-- Gross national disposable income (UVGT)
--●-- Real compensation per employee, deflator private consumption: total economy (RWCDC)

Source: Author's calculations based on AMECO data (UVGT, OCPH, RWCDC).

investment, which should then have stimulated demand and growth. However, the protracted recession in the Greek economy, itself the result of fiscal adjustment and lower wages, had repercussions on expectations. The dismal macroeconomic conditions have also impacted on the stability of the banking system and the availability of credit, including to finance investment. According to Eurostat data, private sector credit flows between 1999 and 2008 averaged 12 per cent of GDP. The same figure for the period 2009–2013 was −1.06 per cent of GDP, meaning that the level of loan repayments was higher than that of new loans. The fiscal adjustment programme did not spare public investment expenditure, which, between 2008 and 2013 was reduced by almost 60 per cent (in current prices). A similar reduction also occurred in the private sector (corporations).

These developments resonate with some of the factors mentioned in Section 4 as increasing the responsiveness of unemployment rates to recessions, namely, the relatively greater fall in domestic rather than external demand and financial stress. In that respect, although internal devaluation policies may have led to an improvement in the current account, they have created perverse effects for domestic demand. The lack of investment has probably slowed down the transformation of the Greek economy from a domestic-demand to an export-led one.

6. Conclusions

This chapter has sought to explore unemployment development in Greece since the beginning of the crisis and the adoption of the economic adjustment programmes that were attached to the country's bailouts. Unemployment in Greece has risen as a result of the unprecedented recession in output growth but not only due to the sheer scale of the recession. The collapse in domestic demand that was first caused by the balance of payments crisis that followed the global credit crunch and then further fuelled by the massive fiscal adjustment that the country had to undergo in a given period of time and an internal devaluation strategy that de facto disproportionately affected labour costs more than prices or productivity aggravated the responsiveness of the unemployment rate to the recession.

The characteristics of the Greek labour market and economy, with its chronic heavy reliance on the state for driving demand and employment creation, exacerbated this over-responsiveness. The de facto high external flexibility in the labour market, a result of low enforcement of employment law, particularly in sectors hardest hit by the recession (construction, services), meant that firms adjusted to the fall in product demand primarily by shedding jobs. The policy responses did not do much to counteract this and mitigate its effects. Fiscal austerity put a sudden brake on a major source of demand in Greece and labour market deregulation made it easier to fire people during a downturn, while the reforms of collective bargaining eliminated any chances of building a consensus around the distribution of real exchange rate adjustment costs, which in the case of Greece have been borne disproportionately by wages and labour.

Internal devaluation had a discernible effect on labour costs, but in many cases this was not passed on to prices. Although Greece undertook some reforms in product markets, it seems that they were not always enough to squeeze profit margins to follow the adjustment of labour costs. Moreover, in the context of fiscal austerity, indirect and excise taxes rose, increasing energy consumption costs for Greek firms. Last but not least, the lack of any effort by member states with current account surpluses to pursue internal *re*valuation meant that the effects of lower labour costs on the real exchange rate were in some cases completely nullified.

Not surprisingly, internal devaluation did not do much to improve the trade balance at a higher level of output. Instead, adjustment took place through much lower imports. For the trade balance to be achieved at a higher level of output (and lower unemployment), the Greek export base would have had to expand and upgrade. However, this has not happened and the unfavourable conditions for investment – high uncertainty and credit constraints – and the lack of progress in reforms that would support the transformation and specialisation of the Greek economy in dynamic, high value added sectors, account for this. Under these circumstances, internal devaluation failed to spur higher growth and lower unemployment.

What policy implications can we draw from the case of Greece? The experience of Greece seems to suggest that certain conditions should be avoided. First, in the short-run, when increasing productivity growth is not feasible, measures that promote the even adjustment of costs and prices should be pursued. If nominal wages and prices had adjusted similarly, the real spending power of households would not have suffered and the slump in domestic demand would have been contained. Concerted action by the social partners, possibly with the participation of the government, can be a way forward to ensure that price and nominal wage developments allow for any necessary real exchange rate adjustments without imposing counter-productively uneven costs on wage- and price-setters. This is also the only way to link such developments to policies aimed at productivity growth and a continuous transformation of economies towards high value added production. Second, real exchange rate adjustments should be as symmetrical as possible, especially as the inflation target in the euro zone is fairly low (BlanchardBlanchard *et al.* 2010). Last but not least, the importance of correctly sequencing policies aiming at repairing multiple problems, from fiscal and current account deficits to the balance sheet health of the national banks, the importance of considering the possible side-effects of policies aiming at one of these objectives for the others, and the appropriate sequencing of measures cannot be overstated for their effectiveness and efficiency.

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