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Growth Recovery in Southern Europe

A Dozen Lessons, Old and New

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Abstract

Greece, Ireland, Portugal, and Spain entered a period of severe economic and financial stress in the aftermath of the 2008 crisis. Their collective experience confirmed the primacy of total debt, private or public, in affecting the onset of, depth of, and recovery from economic crises. The year 2010 and the years following have demonstrated the ways in which policy responses to crisis-related downturns must be adapted when major international partners experience simultaneous growth slowdowns and markets exhibit increased risk aversion. This paper compares the recovery experience of these countries in light of recent policy debates and research on the impact of macroeconomic and structural reforms. It highlights that (a) the quality of the policies adopted to stabilize economies in the short run affects growth recovery in the long run; and (b) macroeconomic policies (fiscal and monetary) are most effective in supporting growth when they take into account structural differences between countries and when policies complement each other. The country experiences indicate that a holistic view of factors affecting investment, exports, and employment is needed to understand the impact of macroeconomic and structural reforms on output. In the absence of such a holistic view, policy may neglect to influence the binding constraints to growth.

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Introduction

*Economics is the science of thinking in terms of models joined to the art of choosing models which are relevant to the contemporary world.* – John Maynard Keynes

The financial crisis of 2008-09 and the subsequent European debt crisis of 2010 led to debates in many areas of economics as scholars and practitioners asked how the crisis may have been prevented, and how economies could be best supported in their stabilization and recovery paths. New papers revisiting economic theory or policy and new supporting evidence have been produced. The experiences of Greece, Ireland, Portugal and Spain (GIPS) during the 2010 crisis and the years that followed are studied in this paper in light of these policy debates. Their experience has reaffirmed the strong links that exist between public and private indebtedness in the assessment of credit risk, particularly where both are growing fast, that policies aimed at short term stabilization have long term growth consequences, that the long run impact of financial system growth are more complex than previously understood and that macroeconomic policies are more effective when they account for market structure and differences among economic agents.

When financial markets crashed in 2008, the ECB put in place measures to stabilize the financial system and many European governments, including those of the GIPS, undertook anti-cyclical fiscal policy. By 2010, with deteriorating public finances, and facing banking crises these countries entered the European sovereign debt crisis period. The four governments were faced with the need to manage their finances while their private sectors were doing the same. They reversed the expansionary fiscal policies they had adopted. In this period, a primary challenge of macroeconomic and financial policies was to simultaneously manage debt, while adopting policies to support growth. The task was complicated by the concerted slowdown in regional and global trade, financial flows and growth. The EC and the ECB were faced with new challenges in the form of deflation and high and persistent unemployment. The policies of pan-European institutions, in particular, the financial oversight and monetary mechanisms of the ECB, and the fiscal oversight of the EU were challenged and some underwent substantial changes, albeit slowly, during the last few years. This process affected the paths the countries took.

In some respects, the crises of GIPS had similar roots: a borrowing and spending boom in domestic and global markets. In 2010-2012, either a financial crisis quickly turned into an expensive fiscal one or a fiscal crisis into a financial/economic one. Ireland and Greece are opposite examples, as the former entered the crisis with a fast-rising and large private sector debt stock and the latter, with a high public debt ratio. The links between sovereign and banking crises are demonstrated first in Ireland. During the 2008 financial crisis, the authorities in Ireland responded to the revelation of problems in banks by proposing a blanket guarantee.\(^2\)\(^3\) Thus, Ireland, intending to calm financial markets, and stabilize its financial sector, put its public finances under a huge strain and its risk premium jumped. Strained public finances then put additional pressure on the financial system. Spain, with a private sector led credit boom and a strong fiscal position resembles Ireland. Portugal falls somewhere in-between, having both unhealthy fiscal accounts and a highly indebted private sector. It did not have the large boom experienced by the other countries in the years immediately preceding 2009, but both private and public sector debt had been high and rising steadily over a period of time. Large *deteriorations* in external and internal balances were observed for all, though only Greece and Portugal had consistent fiscal deficits.

As their experiences demonstrate, risks propagate swiftly from banks to the sovereign and vice

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\(^2\) Eichengreen (2015) contends that the Irish crisis was a classic case of contagion growing out of asymmetric information and the authorities’ desire was to make that asymmetry irrelevant.

\(^3\) Ireland recapitalized by issuing bonds to the ELA that required 3.1 billion euros annually to be paid as interest and principal.
versa. Financial sector meltdowns raise fiscal burdens, which also, in turn, raise risk premia for banks.\textsuperscript{4} Large holdings of sovereign debt by banks increase the links between sovereigns and banks while a larger banking sector, greater reliance on wholesale or foreign funding, and higher leverage are associated with deeper and longer post-credit boom recessions and larger increases in the fiscal deficit and public debt (IMF 2015a). Research covering the Eurozone countries during 2007-2010, confirms these strong interlinkages between perceptions of banking sector risk and sovereign risk, as examined through banks’ credit default swap (CDS) spreads and sovereign spreads. These two time series are driven by the same risk factors and there is co-movement of the two premia, even after controlling for individual banks’ equity performance, and after the bank bailouts (Acharya et al 2011) were done. Avino and Cotter (2014), looking at the period 2004-13, find that bank CDS spreads have clear leading roles as indicators of banking distress in countries such as Germany and Sweden an investor would have obtained a more timely indication of a bank’s default risk from the sovereign risk in Portugal and Spain.

Once an economic crisis is initiated due to debt accumulation, macroeconomic and structural policies must come together to both stabilize the economy and support economic recovery. This paper focusses on a number of policy areas that have been of primary concern in the recovery process after the onset of the European sovereign debt crisis and have been researched extensively since then. These include fiscal, monetary, and financial policies and selected structural policies used to address short run stabilization and/or medium-term growth. New research and country experiences have revealed new lessons or reaffirmed old ones. The crisis revealed that policy transparency, certainty in policy direction, and consistent application of policy matter for risk ratings and for investment recovery. These are more likely to signal commitment to reforms needed to set the economic recovery on track and influence expectations. However, it is not only national authorities’ actions that matter, but also creditors’ and supranational authorities’ actions. In this regard, perceptions are almost as important as reality in the short run.

For fiscal policy, research debated whether, and under what conditions, fiscal consolidation would be expansionary (and thus successful in reducing the debt burden) and reexamined the size of the Keynesian multiplier. As the recovery stalled, the discussion also moved towards the composition of fiscal policy needed to support growth and make stabilization credible. The role and impact of monetary policy in different contexts (deflation expectations, crisis in specific financial markets/instruments, global slowdown, structural and fiscal constraints) and the instruments that central banks should use to support recovery came under discussion. This period also highlighted the limitations of the European system to deal with financial crises and led to debates on needed changes in supervisory, regulatory and bank regulatory processes, some of which have been adopted. The complementarity of fiscal and monetary policy in supporting growth recoveries was highlighted. Financial sector reforms designed to maximize the growth supporting aspects of financial development were and are still being debated.

Some years into the crisis, attention shifted to sustained high unemployment rates, low employment, low investment rates in GIPS and impact on potential output. Studies discussed the pace and type of structural reforms (policies and institutions in product, labor and capital markets) needed to accompany supporting macroeconomic policies to re-start growth and minimize long run consequences of the crisis. The usefulness of internal devaluations based on wage reductions to promote recovery through export growth has been questioned. In addition, GIPS demonstrated that even with a common currency, more geographic diversification of trading partners and export commodities is desirable. Finally,

\textsuperscript{4} Segoviano and Espinoza 2014, derive the probability of sovereign distress conditional on bank stress (bank to sovereign contagion). The higher the ratio of bank loans to GDP, the share of sovereign debt instruments held on banks’ balance sheets, the higher is contagion. Higher capital to asset ratios and price to book valuations lower contagion. Projected GDP growth, the initial fiscal position, short term debt/GDP of government, global risk aversion – all positively affect contagion.
new studies show that potential output and structural fiscal balances were overestimated as they were not adjusted for the cyclical effect of financial markets on the real economy; better policy making means recognizing these effects explicitly.

Recovery from the effects of the crisis is ongoing to various degrees in GIPS. Public debt ratios are much higher than they were pre-2008; debt ratios can worsen significantly in one financial crisis yet it takes years of growth to regain the debt status of pre-crisis times. This is due to a combination of factors: contingent liabilities become actual ones, tax revenues fall relative to GDP, expenditures cannot fall as fast and may increase and growth recoveries may be slow. Moreover, for the GIPS fiscal policy (expenditure and tax choices and composition) has undergone substantial change and some refocusing is needed. At the same time, the private sector itself continues to deleverage, investment has been low, deflation concerns continue and there is increasing recognition about the long run negative effects of the crisis on employment and potential output. Labor and product market reforms have been implemented to various degrees in the GIPS, yet institutional frameworks can still hinder effective labor utilization and employment growth. Bank balance sheets are impaired; four years after the sovereign debt crisis and six years after the financial crisis, the pace and management of active restructuring remains a concern particularly because of the effect on smaller firms and households. Important aspects of the pan-European banking framework have yet to be implemented. The financial sector is adapting to new regulations and lower cross-border capital flows; but legal and institutional reform is still needed. Expansionary monetary policy and social transfers cannot solve the distribution problem: smaller and newer firms and households may need an additional boost to regain creditworthiness and incentives to invest. On the positive side, growth is coming back, unemployment is falling (though not in all) and the European Banking Authority was established. An EU-wide deposit insurance scheme and a search for alternatives to bank finance to promote innovation is underway and the European authorities are working towards a union of capital markets within the EU.  

This paper examines the differing performance of GIPS keeping in mind the factors discussed above and presents the conclusions in the form of “lessons”. Section 1 begins with a short analysis of the situation prevailing pre-2008-09. Section II discusses their economic performance during the sovereign debt crisis period. Research that sheds light on the GIPS’ economic progress, both theoretical and empirical, is discussed in the relevant sections.

**Section I. Leading up to the sovereign crises**

**Lesson 1. Debt is all important and structural factors irrelevant in provoking a sovereign debt crisis; particularly when global risk aversion rises.**

*Debt build-up, private or public, is all-important to market perceptions of risk and creditworthiness before a crisis and these perceptions can change suddenly, precipitating a crisis. Structural factors are not considered. High income levels and low initial public debt levels are not sufficient to prevent risk premia from jumping when debt rises fast.*

Before 2008-09, GDP growth was buoyed by low and declining interest rate spreads that supported credit growth: markets viewed these four countries as low risk investments. In a number of papers examining the determinants of spreads in the euro area before 2008, markets understated the role of some of the macro-economic fundamentals in the determination of sovereign risk in Europe (Bernoth et al, 2012, Von Hagen et al 2011, Afonso et al 2015, Figure 1). Sudden differentiation between

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5 This paper does not address Brexit-related impacts.
6 The paper mostly deals with developments until 2015 (and in some cases, 2014). However, the lessons and conclusions remain valid for the most part.
borrowers, by effectively stopping access to capital, affects policy choices and the pace of adjustment in each country. However, even when reforms are adopted, economic outcomes take time to change in the “real” sectors and market perceptions can continue to move in ways that worsen outcomes on the ground, despite reform initiatives having been begun.

**Figure 1: Sovereign credit default swap (CDS) spreads (basis points)**

![Sovereign credit default swap (CDS) spreads](image)

Monthly data for 5-year tenor. Values for Greece are on the right axis. 
Source: Bloomberg, CMA.

The interest differential with the German 10 year bund shows that spreads for the GIPS decreased dramatically until 2007 so that by that year, the interest rate differential was .28, .09, .21 and .09 respectively. Following the 2008 crisis, during the first part of 2009, the VIX index, reflecting global risk aversion and CDS spreads for GIPS had both fallen. Surprisingly perhaps, Greece’s risk premium, as measured by CDS spreads, was lower than Ireland’s until the end of 2009. Yet suddenly, from the end of 2009 until the middle of 2011, global risk aversion as measured by the VIX and CDS spreads for GIPS were moving in opposite directions, the latter having risen dramatically. These differentials were to rise to 21, 6.99, 9.05 and 4.35 during 2011-2012. At the time that each of these countries faced rising risk premia, all four had something in common: debt of various types was high (relative to others in the EU/Eurozone) and increasing fast.

**Figure 2.a: Real GDP per capita**

**Figure 2.b: Real GDP growth (%)**

![Real GDP per capita and growth](image)

Chain linked volumes, 2010 Euros. Values for Greece 2011-2014 and Spain 2012-2014 are provisional and 2014 value for Portugal is estimated.
Source: Eurostat.

*The private credit boom and rise in private debt*. Fueled by global liquidity, financial sectors grew...
fast in GIPS, but exhibited some important differences. In 2007/08, domestic credit to the private sector accounted for around 200% of GDP in Ireland and Spain, and almost 170% in Portugal. Greece, less financially developed than the others, is an outlier as this ratio was under 100% of GDP. However, Greece is not an outlier in terms of the rate of increase in the credit to GDP ratio; this ratio doubled for Greece, Ireland and Spain during 2000-2007. In this case, Portugal is the “outlier”, as its credit growth was substantially slower as shown in Figure 3 below, though it started at a much higher ratio.\(^7\) Portugal’s was a slow brewing crisis. High credit growth meant fast-rising private debt-GDP ratios. When the global financial crisis struck and GDP fell, debt ratios accordingly jumped.

*The public sector boom: a spending spree by government and rising public indebtedness.* Governments (to varying degrees) were also spending, though large differences are visible in the budget positions of Ireland and Spain on the one hand, and Greece and Portugal on the other. In 2007, Greece and Portugal had budget deficits of 6.7% and 3% while Ireland and Spain had budget surpluses of 0.3% and 2%, respectively. However, a warning bell in Ireland’s case was that real government expenditures grew 80% (11 pp of GDP) between 2000 and 2008, compared with 40% for GS and less than half of that for Portugal (the non-boom country).\(^8\) Greece and Ireland, the first two to enter IMF/ECB/EC programs had continually deteriorating budget positions, (11 and 5 pp of GDP respectively), Portugal’s attempts at budget control were intermittent, but Spain is distinguished by rising surpluses.

**Figure 3: Private debt to GDP (%)**

Consolidated debt covering debt securities and loans of non-financial corporations and households. EA-19 and EU-28 are simple averages. Source: Eurostat.

**Figure 4: Public debt to GDP (%)**

Consolidated debt covering gross general government debt. EA-19 and EU-28 are simple averages. Source: Eurostat.

Cyclically adjusted deficits show a similar pattern. However, estimates of revenue were biased upwards because the cyclical component of asset booms, particularly housing booms, was not accounted for in the estimates, meaning that the structural deficits were underestimated. Ireland and Spain’s rising tax revenues, overestimation of potential output, and underestimation of the structural deficit, covered the fact that fiscal positions were changing. Kanda (2010) finds that in Ireland, with house prices soaring, stamp duty, capital taxes and VAT on property grew well above GDP growth. After accounting for these factors, he finds an almost 4pp reduction in structural revenues between 2000-08; thus in reality, the structural primary deficit rose to over 10% of GDP in 2008, but was hidden by property revenues.\(^9\) Consistently high deficits meant public sector debt to GDP was the highest in Greece by far on the eve of

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\(^7\) The numbers are even higher if total credit from all sources is considered: during the years 2002-2008, credit from all sources to the private sector increased 163%, 189%, 60% and 133% respectively in Greece, Ireland, Portugal and Spain.

\(^8\) At the same time, the number of public servants increased 35%, and wages rose 60% during 2000-08 in Ireland. Relative to GDP, government size grew much less in the other countries, the next highest being 4.5pp in Greece.

\(^9\) See also Eschenbach and Schuknecht (2002), Girouard and Price (2004) and Morris and Schuknecht (2007) for more on biases in estimation of structural fiscal deficit without accounting for asset price bubbles.
the financial crisis at over 100% of GDP; it was over four times the ratio in Ireland. Portugal with 68% was a distant second and Spain was closer to Ireland (Figure 4). These debt ratios are much higher than either the EZ or EU averages. In the 2009 recession, debt ratios rose even faster.

**Figure 5.a: Current account balance as a share of GDP (%)**

![Graph of current account balance as a share of GDP for Greece, Ireland, Portugal, and Spain from 2000 to 2014.](image)

Source: Source: European Commission, Annual macro-economic database

**Figure 5.b: Real effective exchange rate (index 2000=100)**

![Graph of real effective exchange rate for Greece, Ireland, Portugal, and Spain from 2000 to 2014.](image)

Source: IMF, International Financial Statistics.

**Worsening external accounts and rising external debt for all.** The boom in aggregate demand led to strong import growth particularly in the two years immediately preceding the crisis; net exports were at a huge deficit in GIS (over 12% of GDP in Greece) and Ireland’s huge surplus halved, leading to substantial current account deterioration (Figure 4a). By 2007/8, the level of the overall current account deficit was particularly high in Greece (15% of GDP), followed by Portugal (9.7/12.1%) and Spain (over 9%), but the deteriorations in Ireland and Spain were dramatic, the current account deficit worsening by over 100%. In Ireland, a 2003 surplus changed to a 6% deficit. Increases in domestic demand, accompanied by rising wages and prices and consequent real effective exchange rate appreciation (Figure 5b) was associated with rising external imbalances.

**Figure 6: External debt to GDP (%)**

![Graph of external debt to GDP for Greece, Portugal, Spain, and Ireland from 2002 to 2014.](image)

Values for Ireland are on the right axis.

Source: The World Bank, Quarterly External Debt Statistics and World Development Indicators (for GDP data).

High private or public borrowing led to large increases in external debt (Figure 6); in Greece and Spain the gross external debt/GDP ratios rose by 50%, to reach about 150% of GDP in 2007. Portugal, 10 Transfers dropped from 6.5% of GDP in 1995 to 1.5% in 2008 in Portugal representing a secular trend; as Portugal became richer, remittances and transfers dropped (Felke and Eide, (2014)).

11 Net interest income/workers remittances and current transfers were important: the net outflow was large enough to turn the positive trade balance into a current account deficit.
highly indebted to begin with, only experienced half that increase. Ireland, with its booming financial services sector had the gross debt/GDP ratio almost doubling between 2004-07, to reach a whopping 793% in 2007. Though Ireland’s net debt was negative, at -202% of GDP, previous research indicates the need to consider gross external debt in order to assess vulnerability given the possibility of high risk in the presence of substantial maturity and currency differences for assets and liabilities.

Yet structural conditions varied substantially. Four very different countries- whether it be in terms of openness, export composition or labor market dynamics, entered the 2010 sovereign debt crisis. Real GDP growth averaged 4.1%, 6%, 1.5% and 3.8% respectively in GIPS during 2000-07, with large increases in GDP per capita, compared to 2.2% for the Eurozone and 2.5% for the EU (Figures 2a, 2b). Portugal clearly did not have a “boom” period, but had particularly high and rising debt ratios. Ireland is far richer than Portugal, the poorest, having a GDP per capita around 44% of Ireland’s. Spain’s GDP per capita is 63% of Ireland’s and Greece’s 58%. Ireland is also small relative to the others, being 1/10th the size of Spain and less than half the size of Greece or Portugal (measured by population). Correspondingly Ireland is also the most trade- integrated among all four countries at 153% of GDP in 2007- three times more than Spain or Greece.

Ireland’s economy is distinguished from that of the others by the presence of large multinational corporations and global financial institutions that produce much of value-added in the country. The economies of Greece, Portugal and Spain are much more reliant on domestically- owned and smaller firms. At the same time, substantial differences in the business climate or governance did not matter in terms of preventing or mitigating a crisis; the World Bank’s Doing Business ranking placed Ireland 7th and Greece 106th in 2008. On the Global Competitiveness Indicator, Ireland placed 22nd and Greece 65th. Portugal (46th, 40th respectively), with a lower GDP per capita and Spain (43rd, 29th), with a similar GDP per capita in 2007, had far better performance on several measures of the business climate and institutional quality than did Greece. The dynamic evolution of these indicators pre-crisis provide deeper insight into the situation prevailing in GIPS relative to other countries. The worldwide governance indicators show rankings of all countries declining for some measures: government effectiveness, and political stability. All except Ireland, have deteriorating regulatory quality and corruption. GPS also fell in the global competitiveness ranking.

Cost developments and export composition provide insight into domestic structural differences that affect the post (2010) crisis path the countries took. Labor costs, as measured by compensation per employee (in PPP US$) rose an amazing 47% in Greece during 2000-08, as compared with 27.3% for the Eurozone countries on average. Spain was the only one among the four to contain labor compensation around the Eurozone average- in Ireland the increase was over 48% and in Portugal, 32%. Data for 2008 indicate that the tax wedge on labor was the highest in Greece (42%), followed by Spain and Portugal (37%) –and lowest in Ireland (22%). However, Greece and Ireland had the strongest increase in average real wages (19%); in contrast, Spain with the best employment performance had no increase in real wages. Clearly, Ireland’s and Spain’s labor markets evolved in very different ways, though both had good employment growth. Spain’s economy created low wage and relatively more unskilled jobs. Rising labor supply may have put downward pressure on wages and given its export basket, industries that grew demanded more unskilled labor. However, Greece’s labor market was stymied by wage increases (the highest among the four) and a relatively inflexible regulatory structure: it was a relatively poor performer.

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12 The largest increase in GDP per capita terms was in Greece, the GIPS growing 28.4%, 20%, 6.2% and 14% respectively, compared with 10.6% for the Eurozone and 14.5% for the EU28.
in terms of employment growth\textsuperscript{13, 14}

The relationship between growth and employment varied substantially among the countries—confirming the presence of large structural differences. Table 1 shows the elasticity of employment creation with respect to GDP growth for the pre-crisis period. Spain and Ireland, with their fast expanding private sectors, stand out. Spain’s labor intensive growth is remarkable: the unemployment rate fell even as the population, and labor force participation and employment rates were growing. 15 Ireland’s performance was also quite remarkable – it had an even faster population growth rate, a remarkable increase of 5 pp in the LFP rate, and an increase in the employment rate. Greece had relatively poor labor market performance—particularly given that its GDP growth rate was the second highest. Portugal had a very low GDP growth rate, but also exhibits no significant relationship between GDP and employment growth. Portugal’s slow brewing crisis was clearly visible in the labor market long before 2007 as its UE rate increased by 4pp before the sovereign debt crisis.\textsuperscript{16, 17}

\textbf{Table 1: Relationship between Employment and GDP, 2000-2008 Period}

|                 | 2000-2008 Period |
|-----------------|------------------|
| Dep. Var.       | GRC_ Empl. IRE_ Empl. PRT_ Empl. ESP_ Empl. |
| GRC_GDP         | 0.39*** (0.00)   |
| IRE_GDP         | 0.64*** (0.00)   |
| PRT_GDP         | -0.01 (0.85)     |
| ESP_GDP         | 0.92*** (0.00)   |
| Constant        | 4.18*** 0.83*** 8.63*** -1.52*** (0.00) (0.00) (0.00) (0.01) |
| # of obs.       | 32 36 36 36       |
| R-squared       | 0.88 0.94 0.85 0.91 |
| Prob>F          | 0.00 0.00 0.00 0.00 |

Simple OLS model. Robust p-values in parentheses, and significance at the 1% (***) , 5% (**) , and 10% (*) levels indicated. GDP: log of quarterly GDP, chain linked values (2010), million Euro, Eurostat. Empl. : log of quarterly total employment, thousands of people, Eurostat.

Juxtaposing the evolution of labor compensation against the type of products exported by each country gives a broader picture of how structural differences and competitiveness evolved relative to the others and thus how recovery may have been affected. On the presumption that more complex products use more skilled (and thus more expensive) labor and/or more capital, higher labor compensation would tend to be associated with these products. Hidalgo and Hausmann (2009) divide products into 6 groups, with group 1 denoting the most complex products (Table 2). Using their ranking, for the period 2001-07, almost 40% of Germany’s exports are in group 1 and only 3.4% in group 6.\textsuperscript{18} It is also the most diversified

\textsuperscript{13} See Felipe and Kumar (2011) also for a discussion on average labor costs rising faster than labor productivity during 1995-2007 in Greece and Portugal. The highest increase in labor productivity was in Ireland.
\textsuperscript{14} During this period Germany’s average and unit labor costs fell.
\textsuperscript{15} However, employment rates were still very low in Spain (and still are), being second only to that of Greece.
\textsuperscript{16} The unemployment rate declined in both Greece and Spain, with Spain’s decline being almost 6pp between 2000 and 2007 and Greece’s about 3pp.
\textsuperscript{17} Despite the differing dynamics, Greece, Portugal and Spain had similar UE rates on the eve of the crisis – around 8%. Ireland, with its flexible labor market, had 4.7%.
\textsuperscript{18} Germany has second place in terms of complexity, following Japan.
exporter in the sample below, (second only to Italy in the original sample). Ireland resembles Germany closely, with 39% of its exports in group 1 and only 1.3% in group 6. By contrast, Greece has 3.8% in group 1 and a whopping 33% in group 6. Spain and Portugal are in-between, Spain having substantially more exports that are complex than Portugal. The complexity of Greece’s exports lags behind that of China.19

Table 2: Share in a Country’s Total Exports by Complexity of Products

| No. of products (RCA>=1) | Complexity Rank | Share in country’s exports |
|-------------------------|----------------|---------------------------|
|                         | Top 10 | Top 100 | 1    | 2    | 3    | 4    | 5    | 6    |
| Greece                  | 1,060  | 52      | 0.01 | 0.39 | 3.82 | 14.78| 12.5 | 17.21| 18.6 | 33.09|
| Ireland                 | 421    | 12      | 0.13 | 2.28 | 39.06| 26.27| 15.6 | 13.79| 3.97 | 1.32 |
| Portugal                | 1,188  | 53      | 0.02 | 0.42 | 15.32| 9.84 | 22.09| 15.57| 15.53| 21.66|
| Spain                   | 1,745  | 28      | 0.02 | 1.89 | 24.18| 20.8 | 16.53| 12.77| 14.46| 11.25|
| China                   | 1,962  | 51      | 0.02 | 0.53 | 5.71 | 13.9 | 20.75| 19.52| 15.59| 24.53|
| Germany                 | 2,113  | 2       | 0.19 | 7.9  | 39.62| 24.5 | 16.01| 10.85| 5.61 | 3.4  |
| Belgium                 | 1,470  | 10      | 0.23 | 3.84 | 27.81| 20.3 | 15.55| 11.26| 12.12| 12.96|

i) Figures are based on the averages of export values for 2001-2007.
ii) Top 10 and Top 100 correspond to the most complex products; products are divided into six groups, 1 is the most complex product group. An RCA >1 implies that the product accounts for a larger share of a given country’s export basket than it does in the world export basket.

Source: Felipe and Kumar (2011) based on Abdon et al (2010) using a measure of complexity based on Hidalgo and Hausmann (2009).

Structurally different, at different levels of GDP per capita, yet GIPS demonstrate decisively the primacy of debt, whether public or private in effecting economic/financial crises. Large increases in either one are cause for concern, no matter how rich or structurally flexible is the country.

**Lesson 2. Signaling policy commitment at the national and supranational levels has value in financial markets.**

In the recovery from crisis, signaling commitment of both national and supranational parties to a credible debt strategy is essential in stabilizing market risk perceptions. It is not enough to embark on reforms, but to present a coherent package. Such a package will involve measures to reduce the debt burden directly, but also credible policy measures to support growth recovery.

The adoption of fiscal consolidation programs endorsed by the ECB, IMF and EC did not reduce risk perceptions at the time that the programs were adopted (Figure 1). The delayed response of markets may be explained by the following: (a) fiscal consolidation (and structural reforms) still had to be implemented; (b) markets were not convinced that monetary conditions would be conducive to growth recovery until 2012; (c) Eurozone growth was weak making it harder for GIPS to improve debt ratios; and (d) perceptions for different market participants (e.g. rating agencies versus others) were mutually reinforcing, enhancing volatility. The ECB announcement of 2012, signaling its commitment to stand behind the Eurozone members, and the implementation of fiscal and structural reforms served to reduce spreads. Yet, by the third quarter of 2015, again Greek CDS spreads had risen to levels not seen before as a result of continued uncertainty regarding its future in the Eurozone. Moreover, lack of transparency regarding Greek fiscal outcomes, intermittent and widely politicized trouble with creditors, and some discontinuity in the pace of reforms caused shifts in sentiment regarding government credibility and

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19 Yet, in terms of costs, labor compensation in euros was higher in Greece than in Portugal, and 78% of Ireland’s. Minimum wage regulation as well as taxes affected labor compensation. Though Greece exported the simplest of products, by 2008, its minimum wage in euros was higher than that of either Spain or Portugal.
capacity for reform and resulted in widening and volatile risk premia, despite the fact that Greece actually implemented substantial policy changes, particularly on the fiscal front. Investor perceptions of risk were probably heightened by past actions. For example in 2009, the stated value of the Greek deficit underwent several modifications, a situation that affected market perceptions of the credibility and transparency of government. During 2009, the large deficit and uncertainty led to a sharp spike in its risk premium (Featherstone, 2011). In mid-November 2009, the Greek deficit was revised to more than double the initial value stated to reach 12.7% of GDP. In April 2010, it was revised again to 13.6% of GDP and finally stood at over -15% of GDP.

In contrast, by 2014, Ireland’s spread had dropped almost to levels seen before 2008; surprisingly, Spain’s and Portugal’s had not. Ireland’s much swifter growth recovery, even as it reduced government deficits (cutting expenditures substantially), probably mitigated market concerns about the sustainability of its economic framework. Employment recovery is expected to follow faster in countries where growth recovers faster, bolstering confidence that political commitment to reforms will be easier to maintain, backsliding will be less likely, and that reforms have begun to take effect. Gibson, Hall and Tavlas (2014) study the impact of economic fundamentals, sovereign credit ratings, political uncertainty and the ECB’s securities markets program on Greek sovereign spreads. They find that sovereign downgrades and political uncertainty appear to have been drivers of the sharp rises in Greek sovereign spreads from 2008-09 onwards, over and above “fundamentals”. Studies for Greece, Portugal and Ireland, (Kazanas and Tzabalis, 2014) find that credit ratings seem to significantly influence future changes in credit spreads, independently of economic fundamentals.

Section 2. The recovery years and the economic debates that influenced policies

In the last several years, a number of “lessons” have (re-)surfaced and some new questions raised about the best way to handle the economic recovery from crises. Each of these can be bundled into three basic “truths”: (1) Short term choices affect long-term outcomes; (2) The macro and micro perspectives need to be integrated for effective policy making. Market structures and initial distributions (for example, the distribution of loans among smaller banks, households and firms) matter for the choice of policies; (3) Policies need to be assessed as a (complementary) package and in the specific context in which they are adopted. For example, the impact of monetary loosening will depend on the state of play of fiscal policy or position in the business cycle. In this section, the growth outcomes of GIPS are first presented (part A below). The remainder of the paper then discusses these stylized facts in terms of the economic debates that emerged and the lessons (re)learned.

**Part A. Patterns of growth and employment recovery after the crises**

All four countries adopted fiscal stimulus packages in 2009 in response to the global financial crisis. In May 2010, Greece entered an ECB/EC/IMF program; in December 2010, Ireland followed and in May 2011, so did Portugal. Spain fared much better and the explanation lies in its substantially better fiscal position- public debt was 60% of GDP in 2010, even after the post-2008 expansionary fiscal policy, though it jumped the most in 2012 (15pp of GDP). In 2012, Spain did not borrow from the IMF/EU, but did receive support from the EU for its banking sector.20

2009 was the worst recessionary year for IS, yet for the two countries that began with the highest public debt and deficits, GP, the largest GDP drops were in 2011 and 2012 respectively. As of end-2014, none of the countries had regained their 2007 GDP per capita levels. In fact, the size of Portugal’s economy

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20 Spain used about EUR 38.9 billion for bank recapitalization, under restructuring and resolution plans approved by the European Commission (EC) under State-aid rules, and around EUR 2.5 billion for capitalizing Sareb (the Spanish asset management company). See also Veron (2016).
was back to around the 2000 level, and Greece was 1.6% smaller. Ireland and Spain had large financial sector booms, but, they entered the crisis with very low public debt ratios, and low measured deficits. Low public debt made recovery easier because market perceptions of default risk were lower / confidence in government programs higher. Ireland recovered the fastest, avoiding an outright recession in 2010, as did Spain (Table 3), though the latter had several years of recession thereafter- possibly due to a slower recognition of and recapitalization of the banking sector’s problems. Since 2011, Ireland’s growth has been higher than those of the EU19 or EU28 (averages) while GPS performed worse until 2014. Consistent with the lack of a similar asset price cycle, Portugal had the smallest decline in GDP (-3%) in 2009, but has had the second worst performance since 2008 (Greece having the worst); Portugal continued its historical pattern of unimpressive macroeconomic performance with ever-worsening debt indicators. In other areas of the world, debt to GDP ratios came down as GDP rose, but in the euro area there was a vicious cycle of deleveraging causing low demand among households and firms, in turn causing low growth and more deleveraging; while at the same time, banks were building their capital buffers. Some features of their growth performance are described below, followed by aspects of their policy packages and economic structure that explain differences in their growth paths.

### Table 3: Real GDP growth and projections (%)

|       | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 IMF | 2016 EC | 2017 IMF | 2017 EC |
|-------|------|------|------|------|------|------|------|----------|--------|----------|--------|
| Greece | -4.3 | -5.5 | -9.1 | -7.3 | -3.2 | 0.7  | -0.2 | -0.6     | -0.7   | 2.7      | 2.7    |
| Ireland| -5.6 | 0.4  | 2.6  | 0.2  | 1.4  | 5.2  | 7.8  | 5        | 4.5    | 3.6      | 3.5    |
| Portugal| -3.0 | 1.9  | -1.8 | -4.0 | -1.1 | 0.9  | 1.5  | 1.4      | 1.6    | 1.3      | 1.8    |
| Spain  | -3.6 | 0.0  | -1.0 | -2.6 | -1.7 | 1.4  | 3.2  | 2.6      | 2.8    | 2.3      | 2.5    |
| EA-19  | -4.5 | 2.1  | 1.6  | -0.9 | -0.3 | 0.9  | 1.6  | 1.5      | 1.7    | 1.6      | 1.9    |
| EU-28  | -4.4 | 2.1  | 1.8  | -0.5 | 0.2  | 1.4  | 1.9  | 1.8      | 1.9    | 2.0      | 2.0    |

Sources: Eurostat; IMF, World Economic Outlook April 2016; EC, European Economic Forecast Winter 2016.

A uniform investment collapse. The double crisis led to a sustained reduction in investment in all countries, beginning in Ireland in 2007, and by 2014, no country had recovered the public and private investment ratios seen at the beginning of the decade. While Greece’s investment collapse is striking, private investment having fallen over 60% as a ratio to GDP between 2007-14, the others have also had declines of 30% or more from peak to trough (in IS the peak was in 2006- at the height of the housing boom). Portugal’s experience is different in that it is the only country where the (public and private) investment rate has been falling since 2000 with the decline accelerating in the crisis. Non-residential investment did not increase in the Euro area after the financial crisis as it did in other advanced countries in 2011; as the sovereign crises struck, there was a continued drop in investment. Banerjee, Kearns and Lombardi (2015) contend that in advanced countries such as Italy, Germany, France and Japan, investment had not recovered to its pre-recession level, because profitable investment opportunities were lacking. Lower interest rates have not been sufficient to raise investment; at the same time, the cost of bank credit has also declined by less than might have been expected by looking at the monetary policy stance because of tightening standards by banks and regulators. On the demand side, firms with high debt levels may choose not to invest so recapitalizing banks is not sufficient. Thus, an early withdrawal of fiscal stimulus, slow regional growth, deleveraging, and reduced investment in an environment of high unemployment and falling wages, damped aggregate demand so that expectations of low growth ended up being self-fulfilling\(^\text{22}\) (see below).

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\(^{21}\) European Commission, 2015b.

\(^{22}\) Summers, 2014.
Larger construction investment pre-crisis, larger services expansion post-crisis. In all countries, the decline in the construction share has been so large to date that it is now much smaller than it was in 2000; it fell 9pp of GDP in Greece and Ireland. Greece had the most pronounced cycle in construction, partly explaining its harder recovery. In all four countries, the share of industry had been declining in the years leading up to the crisis and continued after the crisis, with the greatest decline in Ireland (where it fell 6pp from 2000-14). The decline in construction was reflected in an increase in services. Recent research (see below) has shown that this trend is to be expected; the decline of the industrial sector may be hastened by construction booms. There is an acceleration of resource transfer from industry to construction during the boom period, and an expansion of services in the post-boom period (see below).

Slow consumption recovery. An IMF study (2015c) finds that private consumption growth typically becomes positive about 3 years after the peak of a boom period. In Spain, private consumption fell back to around 2000 levels and consumption growth has just turned positive after 7 years, while in Ireland and Portugal consumption turned positive 6 years after the peak of 2008. Both public and private sectors have contained wage growth and low real wage growth has added to deleveraging pressures; fiscal consolidation during the last few years has also constrained public sector wage and employment growth.

Varying export performance. An important source of variation in growth performance in GIPS is export performance. Greece had the largest drop in exports (measured in constant US$) in 2009 – almost double that of Portugal and four and a half times that of Ireland. It had almost no growth in exports in real terms (0.3% during 2008-14), compared with 3.6% for Ireland, 2.7% for Portugal and 2.1% for Spain. What might be the reasons? All four countries diversified export destinations after the crisis, but Greece’s adjustment is remarkable in this measure and far larger than that of comparators. The share of Greece’s exports to EU28 countries was the same as Ireland’s in 2007 (64%), but fell 25% between 2007 and 2014.23 Ireland shows a similar trend with the share falling 14%. Moreover, the top 5 export destinations in IPS amount to 60% of their exports, whereas for Greece, the number is generally under 40% over the years. Thus Greece was not only initially diversified in terms of trading partners relative to the other three countries, it also diversified faster in the wake of the crisis.24 Ireland is distinguished by the fact that 40% of its exports go to the UK and USA – the two countries that rebounded the fastest from the financial crisis. It also exports to other resilient non-euro countries such as Switzerland and Ireland’s export to GDP ratio rose an amazing 32 pp during 2008-14. Though Portugal’s most important trading partner is Spain,
a country with a banking crisis, Portugal has had much better export performance than Greece. Portuguese exports recovered immediately and have risen 9pp of GDP: reforms to boost exports were important in Portugal (Gros et al (2014)).

**Figure 8: Share of exports going to EU28 countries**

![Figure 8: Share of exports going to EU28 countries](image)

Sources: Eurostat.

A number of factors help explain Greece’s dismal performance, among them: deteriorating institutional quality (including political uncertainty), a substantial decline in access to finance, specifically trade credit, increased taxes on producers during fiscal adjustment, and real exchange rate appreciation well into 2012. The real effective exchange rate depreciated the least for Greece during this period. These factors raised the cost of exporting.

How did this play out in the labor market? GIPS had large changes in UE and LFP rates. By 2014, LFP had fallen steeply in Ireland (4pp) and Portugal (3pp) compared to 2007 levels. Only Spain had a slight increase. At the same time, unemployment rates rose steeply (though levels differed)- rising the most in Greece, from 8.4% in 2007 to 27.5% by 2013 (229% rise), where output also fell the most. Remarkably, the increase in the UE rate in Spain, where the decline in growth was much lower than that in Greece, and where recourse to the IMF and EU bailout schemes was not necessary, was similarly astronomical- rising from 8.2% to 26.1% by 2013 (217%). UE rates also rose significantly in Ireland and Portugal (200% or more -since 2006 and 2008 respectively), though, with labor force participation falling steeply, the levels were lower. Table 4 shows the relationship between GDP and employment for the four countries. Noteworthy is the changed relationship between growth and employment in 3 of the 4 countries. In Portugal, there is a strong positive relationship after the crisis, picking up the effect of continuously falling employment, in contrast to the lack of a relationship before the sovereign crisis. Accordingly, labor intensity of output post-crisis, fell markedly. For Greece, the relationship also strengthened substantially during the crisis and interestingly, in Ireland’s case-the country with the strongest growth recovery (the only one with a positive average growth rate) and a strong record of employment growth- there was no significant association between employment and GDP growth (Table 4). Only Spain maintained the relationship between employment and output.

**Employment and productivity moving in opposite directions.** The increase in GDP pc during the pre-crisis period was associated with large increases in labor productivity and a relatively small increase in employment. In the post crisis period, most of the changes in GDP per capita have been reflected in employment declines, rather than productivity declines. Labor productivity per hour worked is higher in

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25 Exports are about 30% of GDP in Portugal. With 30% of GDP in exports, 6% growth in exports alone would contribute 1.8% of GDP.

26 Ireland’s growth recovery in 2014, close to 5%, was impressive compared with that of the others, being more than 4-5 times greater and occurred much earlier. However, its unemployment rate continued to increase until 2013 as the link between growth and employment changed from that in the pre-crisis period.
all countries (and for the whole euro area) in 2013 than it was during the peak of the crisis, except in Greece, which is an outlier.

Table 4: Relationship between Employment and GDP across GIPS

| Dep. Var: | 2000-2014 Period | 2009-2014 Period |
|-----------|------------------|------------------|
| GRC_Gdp   | GRC_Empl. | 0.54*** (0.00)   | GRC_Empl. | 0.68*** (0.00)   |
| IRE_Gdp   | IRE_Empl. | 0.61*** (0.00)   | IRE_Empl. | 0.065 (0.56)     |
| PRT_Gdp   | PRT_Empl. | 0.40*** (0.00)   | PRT_Empl. | 1.02*** (0.00)   |
| ESP_Gdp   | ESP_Empl. | 0.92*** (0.00)   | ESP_Empl. | 0.93*** (0.00)   |
| 2009-14   |               | -0.01 (0.31)     | 0.92*** (0.00)   |
| Constant  |               | 1.54*** (0.60)   | 1.15*** (0.00)   |
| # of obs. |               | 60               | 60               |
| R-squared |               | 0.84             | 0.84             |
| Prob>F    |               | 0.00             | 0.00             |

Simple OLS model is used. Robust p-values are shown in parentheses, and significance at the 1% (**), 5% (*), and 10% (**) levels are indicated. GDP : log of quarterly GDP, chain linked values (2010), million Euro, Eurostat_Empl. : log of quarterly total employment, thousands of people, Eurostat. 2009-14: dummy for the years in 2009-2014 period

Part B. and the policy packages that accompanied this growth pattern

Lesson 3. “Expansionary” fiscal consolidations are not so common after all; Keynesian effects of fiscal consolidation are very much alive... (and sometimes large).

The fiscal debates governing the impact of fiscal consolidation on growth have concluded that Keynesian multipliers are larger than previously thought and that conditions that would have strengthened the risk reducing and wealth enhancing effects of pro-cyclical consolidation (non-Keynesian effects) were not strong. Fiscal restraint should be moderated when private sector led aggregate demand revival is unlikely; complementary policies are needed to support output revival during periods of fiscal restraint.

Anti-cyclical fiscal policy turns procyclical for GIPS. At the start of the financial crisis, in 2009, all four countries undertook expansionary fiscal policy. The general government deficit to GDP ratio jumped dramatically in 2009—ranging from just over 15% in Greece to just under 10% in Portugal, reflecting a jump in expenditures, a large decline in GDP, and a fall in revenues to GDP. Table 5a below shows that the budget deficit (and particularly the primary balance, Table 5b) deteriorated substantially for GIPS (8.5, 14.1, 6.8 and 13 percentage points of GDP respectively for GIPS), Ireland and Spain showing the worst deterioration during 2007-09, though both had surpluses in 2007. From 2009-14 (except for the case of Ireland, where the deficit rose above 30% of GDP in 2010 due to bank recapitalization expenditures), deficits have been falling. The total adjustment during 2009-14 was 11.6pp of GDP for Greece, 10pp for Ireland (not including recapitalization of banks; including it makes the adjustment from 2010, 28.4 pp), 2.6pp for Portugal (which had an increase in 2014) and 5.1 pp for Spain. Greece had a large adjustment and the most front-loaded one, while Spain had a relatively slower one. Ireland’s adjustment on this measure was comparably large, but less front-loaded; also its large consolidation between 2011-2012

27 The deficit fell 8.8pp between 2013 and 2014.
occurred after growth had recovered (Table 3).

Table 5a: General government net lending (+) or net borrowing (-) as a share of GDP (%)

|        | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Greece | -4.1 | -5.5 | -6.0 | -7.8 | -8.8 | -6.2 | -5.9 | -6.7 | -10.2 | -15.2 | -11.2 | -10.2 | -8.8  | -13.0 | -3.6 | -7.2 |
| Ireland| 4.9  | 1.0  | -0.3 | 0.4  | 1.3  | 1.6  | 2.8  | 0.3  | -7.0  | -13.8 | -32.3 | -12.6 | -8.0  | -5.7  | -3.8 | -2.3 |
| Portugal| -3.2 | -4.8 | -3.3 | -4.4 | -6.2 | -6.2 | -4.3 | -3.0 | -3.8  | -9.8  | -11.2 | -7.4  | -5.7  | -4.8  | -7.2 | -4.4 |
| Spain  | -1.0 | -0.5 | -0.4 | -0.4 | 0.0  | 1.2  | 2.2  | 2.0  | -4.4  | -11.0 | -9.4  | -9.6  | -10.4 | -6.9  | -5.9 | -5.1 |
| EA-19* | -0.3 | -2.0 | -2.7 | -3.2 | -3.0 | -2.6 | -1.5 | -0.6 | -2.2  | -6.3  | -6.2  | -4.2  | -3.7  | -3.0  | -2.6 | -2.1 |
| EU-28* | -2.6 | -3.2 | -2.9 | -2.5 | -1.6 | -0.9 | -2.4 | -6.7 | -6.4  | -4.5  | -4.3  | -3.3  | -3.0  | -2.4 |

*: weighted average.
Source: Eurostat.

Table 5b: General government primary fiscal balance (% of GDP)

|        | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Greece | 2.8  | 0.8  | -0.5 | -2.9 | -4.0 | -1.5 | -1.5 | -2.2 | -5.4  | -10.1 | -5.4  | -3.0  | -3.7  | -9.0  | 0.4  |
| Ireland| 6.8  | 2.4  | 1.0  | 1.6  | 2.4  | 2.6  | 3.8  | 1.3  | -5.7  | -11.8 | -29.3 | -9.2  | -3.9  | -1.4  | 0.2  |
| Portugal| -0.2 | -1.8 | -0.5 | -1.8 | -3.6 | -3.6 | -1.6 | -0.1 | -0.7  | -6.8  | -8.2  | -3.1  | -0.8  | 0.0   | -2.3 |
| Spain  | 2.1  | 2.4  | 2.2  | 1.9  | 1.9  | 2.9  | 3.8  | 3.6  | -2.9  | -9.3  | -7.5  | -7.2  | -7.5  | -3.5  | -2.5 |
| EA-19* | 3.5  | 1.6  | 0.7  | 0.0  | 0.1  | 0.3  | 1.3  | 2.2  | 0.8   | -3.5  | -3.4  | -1.2  | -0.6  | -0.2  | 0.1  |
| EU-28* | -1.8 | 0.5  | -0.3 | -0.2 | 0.1  | 1.0  | 1.7  | 0.3  | -4.1  | -3.8  | -1.6  | -1.4  | -0.6  | -0.4 |

*: weighted average.
Source: European Commission, Annual macro-economic database

By all measures, the countries undertook substantial fiscal adjustments, but Greece has done the most by some measures as shown in Tables 5c and 5d. Greece’s primary structural budget was actually in better shape than that of IPS in every single year AND the pace of adjustment was faster during 2010-2012. The heavily front-loaded Greek adjustment, on the heels of the financial crisis induced recession, and tightening monetary policy (the ECB raised its reference rate during this time (Figure 10a)), had all the conditions for a strong negative impact on output. Comparison with the EU and EZ averages shows the much larger adjustment the GIPS adopted.

Another way to look at the size of the adjustment governments made is to consider actual expenditure decisions (a policy variable), abstracting from the fall in GDP (not a policy instrument). Greece’s performance is striking. In 2010-2014, real expenditures fell by 35 percent- to a level lower than that in 2000. Only if the spike in bank related expenditures in 2010 is included does Ireland match this rate of decline. Without this item, Ireland’s expenditures saw the lowest decline of the three and Spain’s the second highest (-11.6% and -14.4% respectively). In contrast, Portugal had an even lower decline at 8.6%. Greece also had the largest revenue decline since 2009 - another indication that its post-2009 fiscal adjustment has been very large. Portugal’s deficits continue to be much higher relative to their magnitude in the pre-crisis period and the government began running arrears in 2014. Finally, despite these adjustments, debt ratios remain elevated.

It is clear that fiscal adjustment of these magnitudes would have large output effects. Slower fiscal adjustment probably partly explains better output out comes in IPS. It is important to note that Greece’s adjustment showed “bumpiness”. A large deterioration is visible in 2013 when the other countries were showing consistent improvements. A more consistent pattern of adjustment in Greece might have been better in terms of raising confidence and reducing the eventual output cost. A slower adjustment would

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28 If Ireland’s adjustment is taken from the 2010 peak when expenditures rose due to bank recapitalization, it is 36% and Portugal’s is 14.9%.
29 They were reduced by end 2014 and rose again in early 2015 (IMF, 2015f).
also have been easier, more politically acceptable, and (thus) strengthened market perceptions of “commitment”, encouraging investors. It is noteworthy that relative to 2007, Greece’s debt ratio when the sovereign crisis struck in 2010 had risen by 42% (the lowest increase among the GIPS). In contrast, Ireland’s by 2011 had risen 354% (though the level was much lower than Greece’s). Spain’s debt ratio in 2012 had increased by 136%, but the actual level (Table 6) was lower than Greece’s in 2007. These numbers indicate that both the level and rate of increase in debt ratios matter in their impact on risk premia substantially – and countries are particularly vulnerable when global risk is high.

Table 5c: General government structural balance as a share of potential GDP (%)  

|          | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|----------|------|------|------|------|------|------|
| Greece   | -10.2| -6.3 | -0.3 | 1.6  | 1.0  | 0.5  |
| Ireland  | -8.9 | -7.5 | -6.2 | -4.0 | -2.7 | -2.2 |
| Portugal | -8.0 | -6.2 | -3.1 | -2.5 | -1.4 | -2.0 |
| Spain    | -7.1 | -6.4 | -3.4 | -2   | -1.9 | -2.9 |
| EA-19*   | -4.2 | -3.6 | -2.1 | -1.4 | -1.0 | -1.0 |
| EU-28*   | -4.6 | -3.8 | -2.7 | -1.8 | -1.7 | -1.6 |
| EA-19**  | -3.9 | -3.6 | -2.3 | -1.3 | -1.5 | -1.4 |
| EU-28**  | -3.9 | -3.6 | -2.2 | -1.2 | -1.6 | -1.8 |

*: weighted average. **: median. Adjustment based on potential GDP excessive deficit procedure. Estimates start after 2014.

Source: European Commission, Annual macro-economic database.

Table 6: General government consolidated gross debt as a share of GDP (%)  

|          | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Greece   | 104  | 107  | 105  | 101  | 103  | 107  | 104  | 103  | 103  | 109  | 127  | 146  | 172  | 159  | 177  | 179  |
| Ireland  | 36   | 33   | 31   | 30   | 28   | 26   | 24   | 24   | 24   | 42   | 62   | 87   | 109  | 120  | 120  | 108  |
| Portugal | 50   | 53   | 56   | 59   | 62   | 67   | 69   | 68   | 72   | 84   | 96   | 111  | 126  | 129  | 130  |
| Spain    | 58   | 54   | 51   | 48   | 45   | 42   | 39   | 36   | 39   | 53   | 60   | 70   | 85   | 94   | 99   |

Source: Eurostat.

**Expansionary consolidation.** What was the underlying rationale for these adjustments? In the 2008-09 crisis, policy debate centered on (a) whether fiscal consolidations could be expansionary when countries had high debt levels, market perceptions of default risk were very high, and risk premia had jumped, constraining borrowing and investment; or (b) whether fiscal consolidation would lead to such a sharp drop in output in the short term that debt sustainability could not be achieved by lowering deficits. Later, as the growth recovery stalled and regional growth slowed, the debate moved to the possibility of hysteresis or the impact of short term adjustment on potential output and eventually potential growth. The debate on whether fiscal consolidations are expansionary is relevant to the extent that countries have a choice about the size and phasing of consolidation packages; the role of official creditors is key to supporting a fiscal adjustment that is not so strong as to undermine short term growth to such an extent that it undermines medium-term growth prospects as well. However, creditors may be short sighted, governments may lack commitment, and Keynesian effects may be underestimated - in these instances, governments are required to adopt more stringent consolidation packages than might be appropriate in terms of the effect on output and employment.

A number of empirical studies have examined the impact of fiscal consolidation episodes on private aggregate demand and thus growth in the short and long runs, and specifically on debt sustainability, as well. They have tried to identify conditions under which non-Keynesian effects outweigh Keynesian ones, so that consolidations are expansionary. Non-Keynesian effects are more likely to be in evidence when risk premia on government debt substantially reduce confidence in macroeconomic stability; risk premia fall in response to fiscal consolidation and reduce public borrowing requirements.
For example, tax increases at high levels of government indebtedness or a sustained reduction of government expenditures may lead to higher private wealth (Blanchard 1990, Sutherland 1997) and lower interest rates and improved business confidence. In this case, consumption and investment may both rise (Giavazzi et al 2000). Empirical work has uncovered some evidence of these effects. For example, Giavazzi and Pagano (1990), Alesina and Ardagna (1998) among others, find a positive relation between fiscal consolidation and output growth. If fiscal consolidation is read by the private sector as a signal that the debt ratio will be permanently reduced, then their estimate of permanent disposable income rises and both temporary and permanent consumption should increase. The size of this wealth effect depends on whether households are liquidity constrained and on the efficiency of the financial sector. For non-Keynesian effects to dominate investment behavior, the credibility argument must apply so that the fall in risk premia is sufficiently large to raise demand. They also contend that the monetary stance (which may take the form of a small devaluation) is critical for the expansionary impact. While several studies have attempted to discover overall positive output effects of consolidation, the empirical evidence is not strong.

Disagreement on the size of the Keynesian multiplier. The overall effects of fiscal consolidation depend on the size of the Keynesian multiplier. Recent papers estimating fiscal multipliers for the four countries find substantially varying magnitudes depending on the timeframe and method used. In a recent paper, Blanchard and Leigh (2013) conclude that fiscal multipliers had been underestimated in the IMF’s 2012 (WEO) projections in which they had assumed a multiplier of 0.5 on average for advanced economies. The actual values were in the range 0.9-1.7 in the post-financial recession period. Fatas and Summers (2016) find that the multipliers for the 2011 fiscal consolidations were 1.8 for Europe overall and 2 for the Euro members. EC research on the topic finds more modest multipliers between 0.5-0.7 for a balanced composition adjustment, although they conclude that where the private sector is liquidity constrained, multipliers tend to be larger.

Revisiting the conditions under which output multipliers are larger is important to understanding the impact of consolidation on GIPS. Among recent papers, Ilzetski et al (2011), for a sample of 44 countries, find that the effect of changes in government consumption is small in the immediate run, but in economies with fixed exchange rates or those that are closed to trade, these multipliers are large over the long run. Baum et al (2012) find that fiscal multipliers vary according to the business cycle- being larger in downturns. Larger values dominate when countries are in recession, when monetary policy is constrained by the zero lower bound, when there is synchronized fiscal adjustment among a group of countries, and when there is substantial economic slack. Christiano et al (2011) have shown that when the lower bound on the nominal interest rate is binding, multipliers can be as large as 3. Cugnasca and Rother (2015) find fiscal multipliers around 1.6 for 27 economies when the interest rate was at or near the lower bound. In addition, a poorly functioning financial system means that demand is more dependent on current income and multipliers are larger (Eggertsson and Krugman, 2012). Fatas and Summers (2016) also note that their estimate of the magnitude of multipliers would be boosted by the fact that the latest recession occurred with either monetary policy was at the zero lower bound or exchange rate policies were not available (Euro area countries). They discuss conditions under which fiscal consolidations are self-defeating, defining a “hysteresis parameter” or the degree to which potential output changes in relation to changes in temporary output falls. The larger the value of the fiscal multiplier and the tax rate, the larger will be the loss in permanent tax revenues, and the more likely that fiscal consolidations will be self-defeating: they will increase the debt to GDP ratio. Aghion et al (2009) find that anti-cyclical fiscal

30 Bertola and Drazen (1993) and Perotti (1999) provide a theoretical perspective while Briotti (2005) provides an overview.
31 Their analysis pertains to the short run effects of fiscal consolidation; they do not analyze the long run growth effects of fiscal policies.
32 Auerbach and Gorodnichenko, 2012; Batini et al, 2012; IMF, 2012b; Woodford, 2011.
policy will boost productivity enhancing investment when firms are credit-constrained.

Moreover, recent research found that the magnitude of the Keynesian/non-Keynesian impacts depend on the level of debt. When debt is high, and during a fiscal consolidation period, social transfers are found to have a negative (non-Keynesian), effect on private consumption in both the short and long runs. Some research (e.g., Ko, 2015) indicates that the expansionary (contractionary) effect of tax reductions (increases) and expenditure increases (decreases) are muted when debt/GDP is high. Among other papers, Perotti (1999) shows that a higher level of debt makes fiscal consolidation more expansionary though Giavazzi et al (2000) find it does not. Giavazzi et al (2000) examine the experiences of OECD countries (fiscal consolidation episodes from GIPS are included) and find nonlinearities in the household response to tax increases. They find that when the public debt to income is low, an increase in taxes increases national savings (Keynesian), but when it is high, the response of national savings can be negative. They explain this by concluding that households revise their expected net lifetime income upwards and so they increase consumption. Alesina et al (2014) find that spending cuts are less costly in terms of output losses than are tax increases, the difference being due to the responses of business confidence and investment, rather than accompanying monetary policy.

In general, the evidence on the expansionary effect of contractions is weak (EU2006, IMF 2011) and Keynesian effects on output are found to dominate. In fact, the recent spate of fiscal consolidations are estimated to have had a persistent and even permanent negative effect on output (see below) and are thus self-defeating.

**Lesson 4: Successful fiscal consolidations are differentiated by the composition of the package.**

*During fiscal consolidation, current expenditure reductions are the most effective in minimizing output costs, cuts in public investment and increases in (labor/investment related) taxes do not minimize output/employment costs. The composition of fiscal consolidation should be adapted to support growth recoveries in the short and long runs.*

*Changing composition of government expenditure.* All four countries had the largest declines in capital expenditures, relative to social transfers, subsidies or compensation. From their peaks in 2008-2010, capital expenditures fell around 60% for Ireland, Spain and Portugal, so that in 2014, both Ireland and Spain have real capital expenditures below the level supported in 2000, while Portugal’s is about 40% lower. Greece also reduced capital expenditures more than other categories, by just under 45%. These declines come after a period during which capital expenditures rose substantially (except in Portugal, where they increased little). In contrast to capital expenditures, social transfers have risen dramatically. From 2009 to 2014, they have fallen a small 2% in Ireland and Portugal. These developments are remarkable, in that in the preceding years 2000-07, social transfers had increased by 144%, 70% and 60% in Ireland, Portugal and Spain and they increased further during the financial crisis and the onset of the sovereign debt crisis. Only in Greece, the worst hit country, have social transfers declined substantially since the start of the financial crisis- by 22%. All four countries reduced compensation of public employees in the aftermath of the crises- Greece having the largest decline (over 30%) by far.

Figure 9(a-d) below shows the change in the composition of government expenditures over the years. Though most research finds that the multiplier effect on output is largest for capital expenditures, these are also the most likely to be cut during fiscal consolidation phases. An indication of how much fiscal flexibility the countries have lost in the crisis is provided by the much higher share of interest expenditures

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33 In the absence of consolidation episodes, the short run effect of social transfers is positive on private consumption. However, in the presence of fiscal consolidation and high debt, even the short run effect is negative.

34 They cover 17 OECD countries, not including Greece, during the period 1978-2009.

35 However, as a ratio to GDP, compensation of employees is still quite high in Greece.
in IPS. In Greece, the share of interest expenditures rose until 2011, then fell as debt was restructured so that its share is much lower now, below the level of 2000 and comparable to that of Spain whose debt ratio is about half. In terms of its impact on the economy however, Greece transfers 4% of GDP, as does Ireland. (Portugal transfers 5% and Spain, less.)

**Figure 9: General government expenditure by function as a share of total general government expenditure, %**

**Figure 9.a: Social transfers**

**Figure 9.b: Compensation of employees**

**Figure 9.c: Capital expenditures**

**Figure 9.d: Interest payments**

Source: Eurostat for all data. ESA 2010 definitions

*Changing tax structures and rising tax rates.* In an effort to reduce deficits in the face of lower tax revenues and high expenditures, GIPS’ tax structures and rates have been changed in all countries. GIPS raised VAT rates, excise taxes and personal income taxes to bolster revenues, with Spain having the largest adjustment in the VAT rate and Ireland a large adjustment in the PIT over time. Ireland and Spain did not alter their corporate tax rates, but Greece and Portugal did. Ireland’s rate continues to be far lower than that of the others (Figures 10a-c). Ireland, with a smaller government and better tax collection, has much lower income tax rates than the others; its VAT rates are comparable to those of the others. Greece stands out again for its non-monotonic behavior with respect to tax policy. The Greek government reduced the corporate and personal income tax rates in 2010, only to raise them substantially as the crisis hit them later. Implicit tax rates on labor increased in all countries after 2009 (Eurostat estimation). Personal income tax rates fell shortly thereafter again, while corporate taxes rose by 2013. Importantly, in order to improve taxation related incentives that bolster asset price cycles, property taxes were changed too. For example, Ireland had abolished the residential property tax in 1978, and since 2013 has adopted a residential property tax (Slack and Bird, 2014). 36 Spain restored the wealth tax. Portugal completed a

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36 In 2006 an OECD report recommended the introduction of a property tax. The absence of a property tax, apart from stamp duty on purchases of second-hand homes, the halving of capital gains tax to 20%, significant tax incentives which favored...
The major revaluation of 4.9 million properties for the new property tax regime and the base value for real estate property tax purposes was raised. In Greece, where the construction sector grew the most, and subsequently fell the most, the Unified Property Tax (ENFIA) entered in force in January 2014. The tax base has now been broadened to include urban and non-urban land as well as residential, commercial, and industrial buildings. A capital gains tax on property sales, a special tax on property income and a property transfer tax were introduced.

In terms of tax revenue structure, despite the fact that corporate and personal income tax rates are much lower for Ireland than for Greece or Portugal, these together account for a much larger share of revenues in Ireland (40%) than in Greece (24%) or Portugal (31%). Spain’s tax rates are higher, and the share is also higher. These higher shares for income and corporate taxes probably reflect their better tax collection capability and/or threshold or exemption effects. Greece and Portugal rely more heavily on indirect taxes. Spain has the highest share of social security contributions in revenues and Greece and Portugal have the highest share from indirect taxes, particularly the VAT (which are easier to collect than income taxes).

Table 7: Efficiency of tax collection, 2008, %

|                | Effective rates | Statistical rates | Tax efficiency (Tax collection ratio) |
|----------------|-----------------|------------------|--------------------------------------|
|                | VAT/ CP¹ | SSC/ WSSS² | Corporate/GDP | VAT | SSC³ | Corporate | VAT | SSC | Corporate |
| Greece         | 9.74     | 15.8      | 2.48       | 19  | 28.06 | 25        | 0.51 | 0.56 | 0.10      |
| Ireland        | 13.94    | 7.41      | 2.82       | 21  | 10.75 | 12.5      | 0.66 | 0.69 | 0.23      |
| Portugal       | 12.55    | 15.14     | 3.63       | 21  | 23.75 | 25        | 0.60 | 0.64 | 0.15      |
| Spain          | 9.04     | 18.07     | 2.80       | 16  | 30.15 | 30        | 0.57 | 0.60 | 0.09      |

¹: Ratio of the revenue from value added taxes to private consumption.
²: Ratio of revenue from employers’ social security contributions to compensation of employees.
³: Employer’s social security contributions.

Source: OECD Economic Surveys: Greece. August, 2011.

Where high tax rates in GPS are resulting in a relatively low share of revenues in taxes, improving collection, reducing exemptions, or increasing the base would help. Table 7 shows a measure of efficiency in tax collection, comparing tax revenues that would be obtained from application of statutory tax rates and actual collection rates. The most “efficient” is Ireland, followed by Portugal and Spain. With relatively lower statutory income tax rates, Ireland has higher corporate income taxes relative to GDP than either Spain or Greece. While tax rates have risen, tax revenues in real terms have not risen relative to 2007 in any country, being 78%, 88%, 96% and 80% of their 2007 levels respectively in GIPS. Only in 2014 is an upward movement visible, save in Greece. Figure 10 shows the relative importance of social security taxes, corporate taxes and VAT for GIPS.

Composition affects “success” in the long term. A line of research related to the longer run impact of fiscal consolidation asks if the composition of the adjustment package (Giavazzi and Pagano, 1990, Alesina and Ardelegna 1998) stabilizes or reduces the debt ratio. Alesina and Perotti (1995) and Alesina et al (1998) find that fiscal consolidations are more likely to stabilize the debt/GDP ratio when the budget improvement occurs through cuts in public wages and transfers. They explain that cutting these items affects expectations: government’s efforts become more credible, signaling a regime shift. Large spending

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investors and the availability of generous mortgage tax relief all further influenced an increase in demand and hence prices. (Drudy and Collins, 2011).

37 Note that the tax wedge on labor stands at over 40% for GPS compared to 28% for Ireland.
38 Total taxes less cash benefits at the average wage, no child. IPS are much lower for married couples with children.
cuts on current expenditures tend to be more successful, especially if preceded by a large increase in the deficit prior to adjustment (Lambertini and Tavares, 2003). For the EU15 countries, Afonso (2006) finds fiscal contraction is expansionary in the long run, if done through cuts in government consumption but not tax increases. They also find that non successful adjustments rely mostly on public investment cuts. He also finds that social transfers have a negative effect on output during fiscal consolidations in the long run, but with debt above the EU threshold, social transfers have a negative effect on output both in the short and long runs, during fiscal consolidations.39

![Figure 10.a: Standard VAT Rate (%)](chart1.png)

![Figure 10.b: Corporate Income Tax Rate (%)](chart2.png)

![Figure 10.c: Personal Income Tax Rate for Average Wage Earners (%)](chart3.png)

![Figure 10.d: Social security contributions as a share of total taxation (%)](chart4.png)

Source: OECD, Revenue Statistics- Comparative tables.

Given the need to support growth, encourage labor force participation and maintain export competitiveness, particularly in countries where the export basket may be in direct competition with lower wage countries (probably also producing lower complexity products as shown in Table 1), GIPS may want to rethink the composition of the taxes and expenditures of their systems. For example, lower taxes on labor in GPS, by reducing labor costs, could promote export competitiveness. Another area where further consideration is desirable is corporate taxation. Given low investment rates, corporate taxation/ exemptions and tax collection could be further rationalized where tax rates are high and collection rates low. At the same time, public expenditure composition has been shifting dramatically since the crisis. With capital expenditures at a low not seen in over a decade, government size as a share of GDP larger in every single country relative to the 2007 values, social transfers consistently higher, and the share of interest expenditures in GDP having risen, it is time to think about what growth enhancing fiscal policy should look like. To conclude, despite the substantial adjustments that have occurred, fiscal adjustment by GIPS is not

39 The negative effect is ascribed to the non-Keynesian impact of consumers reducing spending as they expect higher taxes in the future.
complete. While managing debt ratios, GIPS need to ensure that fiscal policy is supportive of growth.

**Lesson 5. Exports do not just depend on lower wages, (and may not even be strongly affected by changing them).**

*Export growth to counter the lower domestic demand during fiscal consolidation is a good idea, but wage cuts may not support export recovery when other structural factors (such as financial markets and the regulatory framework) constrain exports.*

**Exchange rates during consolidations.** During the post-sovereign debt crisis period, the role of monetary and exchange policies during fiscal consolidation came under the spotlight. Policy makers grappled with how to support the economic recovery which stalled in the wake of the sovereign crisis. Several papers have examined the impact of relative prices on supporting export led growth during these periods. Research on expansionary consolidations stresses the importance of exchange rate depreciation in promoting exports and output during fiscal consolidation. Recent IMF research (IMF, 2015d) confirms the importance of real exchange rate dynamics in this regard, but also its complementarity with other policies. It finds that globally, a 10% real effective depreciation is associated with a rise in net exports of 1.5 percent of GDP on average; however, there is substantial cross-country variation. Countries that have the greatest slack - output below potential- and those with normally functioning domestic financial sectors should get the largest effects from real depreciation.\(^40\)\(^41\) Examining fiscal adjustment in OECD countries, Lambertini and Tavares (2003) find that successful adjustments (ones where debt/GDP falls) are preceded by large nominal depreciations and that depreciations have a significant and quantitatively large impact on fiscal adjustment. Giavazzi and Pagano (1990) highlight the important role played by monetary and exchange rate policies in Denmark and Ireland in earlier fiscal consolidation episodes. In Ireland for example, devaluation of the currency enhanced the credibility of government reforms and also boosted net exports. In Denmark, monetary/ exchange rate policy was used to enhance the credibility of government reforms as well. GIPS did not have recourse to nominal exchange rate depreciation nor could they implement monetary/exchange policies in the timeframe, direction and magnitude needed to support their specific fiscal and economic situations.

Research by Farhi et al (2011) and others considers situations in which a *fiscal devaluation* may be used to simulate effects similar to an exchange rate devaluation. For example, an import tariff combined with an export subsidy could mimic a devaluation.\(^42\) A fiscal devaluation is generally of two types: (a) a uniform increase in the import tariff and an export subsidy or (b) a uniform increase in the VAT with a reduction in the payroll tax.\(^43\)\(^44\) The authors do a calibration based on the features of Spain’s economy in 2008, and find fiscal devaluation to mimic a nominal devaluation in terms of welfare effects (changes in composition). The higher the wage rigidity, the larger the benefits from a fiscal devaluation (either full or incomplete), relative to no intervention. However, none of the countries adopted this policy, instead, the focus was on wage reductions to achieve internal devaluations. In this regard, the average annual wage fell 20% in Greece during 2009-14; P and S had much lower falls. At the same time, Greece was the only country where the minimum wage was substantially reduced.\(^45\) Figure 5b shows the real

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\(^{40}\) The effect varies between 0.5% and 3.1% of GDP. Their estimates refer only to the direct effects of depreciation and do not include the impact of indirect effects, such as inflation expectations and interest rate movements, domestic demand etc.

\(^{41}\) Guajardo et al (2011) find fiscal contractions to have contractionary effects on domestic demand in OECD countries regardless of exchange rate systems. Note that this does not imply that exchange rate adjustment may not mitigate the effects.

\(^{42}\) There are instances where additional measures, such as a reduction in the consumption tax and an increase in the income tax may be needed as well.

\(^{43}\) In order to mimic a full fiscal devaluation, generally an investment subsidy and a capital income tax are also needed (otherwise firms have an incentive to substitute labor for capital).

\(^{44}\) Depending on the circumstances, as discussed in the paper, other tax adjustments may also be needed.

\(^{45}\) Euro depreciation also helped vis a vis non-euro using trading partners.
effective exchange rate adjustments (of which wage costs were a part) of GIPS. Ireland was back at its 2004 value by 2010. By 2012, Portugal which had the lowest appreciation had undone the appreciation witnessed since 2003. Spain, by 2010 was back to the level in the mid-2000s with a depreciation of 3.4%. Despite these wage reductions, Greece’s real exchange rate continued to appreciate the longest, and its minimum wage continued to increase, before finally depreciating 6% from 2011 to 2014. Greece also exports the least “complex” products among the four, and substantially less than Portugal, for example, yet its average annual wage and its minimum wage were both higher than that of Portugal in every year before and after the crisis; by 2014 they were however, at similar GDP per capita. Nonwage labor costs were also lower (except in 2014) in Portugal.

However, movements in the real exchange rate (and wages) are not the only important factor for export growth. Not only did Ireland’s real effective exchange rate adjust substantially, but other factors also supported export growth. It was the only one among the four where export financing was not substantially affected in real terms; in this regard, Greece’s case is noteworthy as trade credit, a major input to trading- fell dramatically. As Figure 11a below highlights, GIPS show substantial increases in export credit during 2006 and 2007 while during 2008-09, export credits (a proxy for the availability of trade finance) fell substantially in GPS, -13% /year on average, and much more than for the EU28 (7% on average). Only Ireland, whose economy is dominated by multinational corporations (that were presumably less affected by domestic financial market conditions), had a relatively small fall in export credits. The most striking differences occur in later years. During 2010-2012, at the height of the sovereign debt crisis, trade finance fell around 30% a year in dollar terms for Greece, while it fell a bit more than 1% per year in Portugal, and rose on average in Ireland and Spain. This dramatic decline in trade finance is probably a significant reason for Greece’s worse export performance. Looking at levels compared to 2007, Greece has less than half its original value (Portugal has 30% less and Spain 20% less) in 2014. Only Ireland has more. The evolution of trade finance may also explain some of the diversification in partner countries; following the 2009 and 2010 crises, the share of Greece’s exports going to Turkey rose and Bulgaria, Italy, Cyprus and Germany were also in the top 5. The US and UK shares dropped substantially. In contrast, both Portugal and Spain maintained their top 5 destinations (each being in the other’s top 5 countries with banking sector links) and exports to the UK were maintained (for Spain, the USA followed closely). The US, UK and Belgium remained the strongest export destinations for Ireland.46

Another factor explaining Greece’s relatively worse performance in exports is its weaker institutions; Figure 11b shows weakening institutional quality relative to other countries. Bower et al (2014), using a rich data set of exports of goods and services, find that Greece exports 1/3 less than what would be predicted on the basis of Greek GDP, the size of its trading partners and geographical distance. Mitsopoulous and Pelagidis (2015) note that Greek wages in competitive tradable sectors such as food and manufacturing are much lower than in state-controlled sectors such as electricity production or water utilities and that there is rent-seeking, concluding that oligopolistic market structures are the main factors holding back growth/exports, not wages. Also new risks overcame gains from lower wages. For example, Greece had to raise excise taxes on energy substantially, so that industry in Greece had to pay 80% more for energy than companies pay in other EU countries, while the path of further fiscal reforms was not certain.

**Lesson 6: Monetary policy’s impact on output is stronger than originally envisaged; and central banks have many tools.**

*It is better to overshoot and incur inflation costs than to undershoot and incur long-term output costs, especially when fiscal policy is tightened. In crisis recovery periods, monetary policy should* 

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46 The US and UK also provided more wholesale/arms-length financing- a source more likely to dry up in risky times.
(consistently) focus on output growth and strengthening the impact and credibility of other government reforms.

Monetary policy: a slow awakening, delaying recovery. The ECB’s primary mandate is price stability and the main tool through which the ECB traditionally conducted monetary policy was the refinancing rate it charged banks on short term loans. However, like other central banks post-2008/2009, it also changed the size and composition of its balance sheet through direct interventions. During the financial and sovereign crises, the ECB intervened to stabilize financial markets, but shifted to combating potential deflation in the Eurozone. It engaged in both credit easing (to improve the transmission of monetary policy in specific markets) and quantitative easing (providing additional accommodation when short term interest rates are effectively zero or negative), and when traditional policy tools were not sufficient to bring normalcy into financial markets and inflation expectations. Before the sovereign debt crisis struck in 2010, the ECB had already cut its main refinancing rate by 325 basis points, down to 1% (Figure 11a). It also launched its covered bond purchase program (CBPP). The Fed’s balance sheet expanded at around the same rate in 2008-09.

Figure 11.a: Insured export credit constant (2005) Euros

Figure 11.b: Institutional quality rank

![Graph showing insured export credit and institutional quality rank](chart.png)

Values for Spain are on the right axis. Source: Berne Union via Joint BIS-OECD-IMF-WB External Debt Hub.

Corruption perception index. Source: Transparency International.

After the 2008-09 crisis, Fed and ECB policies diverged. ECB policy was relatively tight in comparison (Fig 11a, 11b) when GIPS entered the sovereign crisis. In 2010, in response to the sovereign debt crisis, the ECB launched its Securities Market Programme (SMP) and the European Financial Stability Facility (ESFS) was announced by the European Council. SMP purchases began in 2010, and were mostly effected during May 2010 and end 2011: the period when GIP were under stress. In 2010, the ECB bought Greek, Irish and Portuguese bonds and by 2011, it was buying Spanish bonds. However, SMP purchases were sterilized to avoid the risk of inflation and the ECB monetary base did not increase for a year - between July 2010 and July 2011- even though the sovereign debt crisis had begun. Between January and August 2011, SMP purchases were put on hold and the Fed’s balance sheet expanded much faster than the ECB’s until end-2011. Though its reference rate was already higher than that of the US Fed, the BOJ or the BOE (Figure 12a), the ECB, to counter rising inflation in core countries, raised its reference

47 In contrast, the Fed has an explicit dual mandate: price stability and full employment. The Fed has also had a wide range of supervisory and regulatory powers over financial institutions and activities. [http://www.federalreserve.gov/pf/pdf/pf_5.pdf](http://www.federalreserve.gov/pf/pdf/pf_5.pdf)
48 ECB 2015a has a detailed treatment of the ECB’s various policies.
49 See also Fawley and Neely, 2013, Micossi, 2015 for a full discussion.
50 The SMP allowed the ECB to buy distressed sovereign bonds in secondary markets.
51 There was some disagreement among members about the program; Panico and Purificato (2013) concludes that the ECB did not do enough to indicate commitment to member countries.
rate twice (Rodriguez and Carrasco, 2014), effectively tightening monetary policy. This happened despite growth remaining elusive and unemployment high in Europe, particularly in the periphery countries. Around the same time, in Oct. 2011, European heads of state and governments decided that banks would have to adopt a 9% regulatory capital ratio. Eurozone banks were now required to raise their regulatory capital at the same time as monetary policy was being tightened. Meeting higher capital requirements was difficult for banks (Dagher et al, 2016) find that transitioning to higher capital standards can have significant costs in terms of reduced lending volumes. To counter the added stress, the ECB reduced reserve requirements (from 2% to 1%) and, announced another CBPP, the 36 month Long Term Refinancing Operations (VLTRO). Market perceptions of risk remained high. The Outright Monetary Transactions—OMT—were finally announced in September 2012 to replace the SMP, but were delayed in implementation due to disagreement among members. However, arguably, the ECB saved the situation by publicly reaffirming its commitment towards bolstering the Eurozone countries and the system.

**Finally: quantitative easing.** From end-2013 onwards, the ECB has faced a new problem: deflation. Even though financial market tensions abated somewhat by 2013, banks did not use the additional cash to lend. Both demand and supply factors were important. To counter potential deflation, the ECB adopted new measures. For the first time, in mid-2013, it began giving forward guidance to markets and it cut its reference rate so that, by the latter half of 2014, the ECB’s reference rate matched the federal funds rate. From June 2014, it introduced another series of measures to combat deflation, and by January of 2015, the ECB had launched its 60 billion euros of quantitative easing (QE) per month, buying private and government securities.

The prolonged period of distress in Eurozone financial markets and the ECB’s role in the sovereign debt crisis has lessons. Predictably perhaps, the measures adopted by the ECB in 2010 and 2011 did not succeed in lowering risk premia in financial markets. In comparison with the central banks of the other major financial markets, the ECB was slow to act and did not signal its commitment to monetary /lender of last resort support, even though the financial crisis, recession, and the sovereign debt crisis had successively cast severe blows to the countries. The disagreements among member countries about the degree and mode of support that would be provided to sovereigns under stress had significant externalities in that it generated substantial uncertainty in markets. On several occasions, it responded with measures that did not create the liquidity or confidence financial markets needed to stabilize. Differing conditions in the members of the Eurozone stymied policy making: a lack of agreement on fundamental principles during the crisis and an overly strong concern for inflation when economies were just recovering from the twin crises, dampened growth prospects, weakened investor confidence and retarded the recovery.

Greece’s experience demonstrated that risk premia remain high when markets consider national governments’ commitment to reform or the strength of the reform package insufficient to reduce debt ratios. Similarly, negative assessments regarding supranational authorities’ commitment, and their delay in adoption of a consistent and comprehensive framework in times of market stress, also affected financial markets. The monetary policy framework aimed at both easing overall liquidity but also reduction in risk premia in particular markets and for particular borrowers helps support growth in crisis recovery. Theoretically and empirically, the effectiveness of monetary policy in raising output during recessions has been re-examined during the crisis. For example, Aghion et al (2012) show how monetary policy anti-

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52 Micossi (2015). The increased capital requirements amounted to about 100 billion euros.

53 The OMT was designed such that the ECB would only purchase sovereign bonds of those who had aid from the ESM and abided by its conditions. It targeted short term bonds and was held up because Germany challenged this policy as monetary financing of sovereigns to which it was opposed.
cyclicality has a positive and significant impact on labor productivity when industry is credit-constrained.\textsuperscript{54} A recent report, Ball et al (2016), assesses past theories and recent empirical evidence on the tools available to central banks and their effectiveness, concluding that it remains effective in raising aggregate demand (even in the presence of deleveraging), and easing credit supply. Both the bank credit channel and the bond market/risk premia channels (portfolio balance channel) are important for output recovery. Romer and Romer (2013) demonstrate that it is dangerous to assume that monetary policy should not be used as it is not effective.

**Figure 12.a: Official interest rates (%)**

Weekly data.
FED: FED, Federal funds (effective) rate
ECB: ECB, Main refinancing operations interest rate
BoJ: Bank of Japan, Basic discount rate and basic loan rate
BoE: Bank of England, Official bank rate
Source: FED, ECB, BoJ, BoE.

**Lesson 7: Monetary policy is only as good as the transmission mechanism.**

As growth recovery struggled, debates surrounding the effectiveness of different types of monetary instruments and the desired “looseness” of policy abounded. Over time, the ECB’s policies became looser, but were hindered from having a commensurate effect because of structural features of financial markets and/or incomplete restructuring of balance sheets among firms, households and banks.

Monetary policy is transmitted through the financial system to borrowers and thus its ability to stimulate demand and manage inflation depends on the structure and incentives in the financial system as well as in the economy at large (firms and households). Structural factors in the financial system include the degree of market competition, the extent of information asymmetries present, volatility and uncertainty, credit risk in the economy, or on the consumer side, costs for bank switching.\textsuperscript{55} They also include changes in household preferences or the financial health of borrowers, expectations of global demand and government finances. For example, in a study of interest rate pass through in Portugal, Rocha (2012) finds that there is incomplete long run pass-through from interbank rates (an indicator of the monetary policy stance) to corporate lending rates in the long run. The ECB, studying the four largest euro area countries, France, Germany, Italy and Spain, has also found that policy rate cuts since late 2011 have broadly lowered interest rates to NFCs in France and Germany, but the pass-through has been much less in the other two countries studied, Spain and Italy. This is in contrast to the situation in 2008-09 when

\textsuperscript{54} The large literature on monetary policy non-neutrality is not considered here, but mostly its impact on financial markets through the credit channel.

\textsuperscript{55} More competitive financial sectors, alternative sources of finance, good enforcement procedures, and good growth prospects would reduce lending rates.
bank lending rates in these countries tracked the ECB’s main refinancing rate closely. A recent study of the Portuguese experience (Iyer et al, 2014) finds that bank fundamentals have amplified the impact of liquidity shocks. Moreover, banks that were more stressed tended to hoard the additional liquidity provided by the ECB. During the freeze of the European interbank market, banks that relied more on interbank borrowing before the crisis decreased their credit supply, particularly towards smaller and younger firms with weaker banking relationships (as measured by credit volume before the crisis). They also find that this period of bank illiquidity had a stronger effect on credit supply in banks that had a higher ratio of non-performing loans. In situations of high debt, the pass-through of monetary policy is also affected (see debt section). In a study of US banks, Santos (2011) found that loan spreads increased more for banks with larger losses and those which faced higher capital requirements. Another study (Di Maggio et al 2016) demonstrates that the transmission of unconventional monetary policy depends critically on the assets purchased and on the segmentation of asset markets. For example, significant purchases of certain mortgage classes increased mortgage originations in that class. Moreover, there were important complementarities between monetary policy and macroprudential housing policy. A recent study of low productivity growth in the UK cites bank forbearance as a channel by which delayed financial sector restructuring may distort resource allocation between firms (see also Caballero et al 2008) and dampen the productivity enhancing effects of job reallocation (Riley et al 2015). These experiences indicate that policy makers must actively address structural aspects of a country’s financial (and fiscal) system at the same time as monetary policy is changed in order to maximize the intended effect of monetary policy (see also discussion below).

Lesson 8: Stabilization is only the first step in crisis recovery; distributional effects-the condition of smaller firms and households- matter for a faster recovery.

In financial crises, stabilization of the large financial institutions and of public finances is a critical first step only; swift, active debt restructuring is necessary in situations of debt overhang. Simply dealing with large players’ debt will not hasten recovery as deteriorated balance sheets of small banks and firms, and households, can together be large and retard the recovery.

Active stabilization and smaller financial sectors. Since 2008-09, Ireland has restructured, recapitalized and downsized its domestic banks, liquidating the banks that were insolvent so that domestic banking sector assets fell from 305% of GDP at end-2010 to 138% of GDP in 2014. Foreign banking collapsed in Ireland – deposit money banks’ assets fell from 179% of GDP in 2009 to 103% in 2014. At the same time, Ireland’s public debt ratio jumped as the government recapitalized banks. Greece lost most of its foreign banking- these assets fell from 44% to 6% of GDP (Figure 11). The decline in foreign banking was lower in Spain and Portugal and the sector was small to begin with (fell from 30% of GDP to 22%, and from 62% to 51% respectively). Domestic credit to the private sector as a ratio of GDP fell in all countries during 2009-14 except in Greece where the decline in GDP was faster. When credit from domestic banks only is considered, Ireland, with its very large financial sector, tops the list with a 50% decline in real credit outstanding, followed by Spain with a 36% decline in credit; G and P, with less of a financial sector led boom pre-2009, had lower declines (25%).

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56 There is both a theoretical literature and recent empirical literature that shows that banks hoard liquidity during crisis periods, e.g., Acharya et al 2011, 2012.
57 A 10% higher interbank borrowing before the crisis leads to a further 4% reduction in firm credit availability during the crisis.
58 The non-bank financial sector, the largest in Ireland, also collapsed.
59 Typically credit growth is expected to lag the recovery in economic activity, even though narrower monetary aggregates may recover.
60 Considering credit from all sources, a somewhat different picture is presented. In this case, credit outstanding is fairly stable for Ireland and falls the most for Greece.
However, banking credit indicators do not tell the whole story. While net credit growth may be negative for large segments of the population, there is diversity among banks, firms and individuals (see below). Some firms borrow directly from international capital markets, though capital market financing, particularly debt financing is generally limited to a small subset of firms in each country. Distressed domestic markets have ended up constraining those firms that are less likely to get credit on international markets (EC, 2015).

Financial sectors still need help. In Ireland, several years of recession took their toll on banks with nonperforming loans still high at around 25% in 2014. Ireland’s deterioration was dramatic as in 2007 it had an NPL ratio of 0.6. Banks had yet to restructure their household and SME debt, which at end-2013 accounted for 60% of the NPL stock. Unsurprisingly, Greece’s banks were in the worst position when considering the ratio of nonperforming loans- estimated at over 33% in 2014, rising from 4.6% in 2007. Gross NPLs in GIPS are shown in Figure 13b. High as they are, NPLs on the books are not the whole story. Table 8 shows Gross Nonperforming Exposure, a measure that includes both on and off balance sheet liabilities (not considering the impact of collateral, which would reduce net exposure). Among the countries listed, Ireland and Greece are in the most vulnerable position after Cyprus. Of particular note is the fact that Greece is the only one among the four where retail (including household debt) NPLs are higher than corporate ones. Portugal (under 11% NPLs) and Spain (under 10%) have also seen very large increases since the crisis. Spain and Portugal are also above the median in terms of the NPL ratio.

Traditionally, financial regulation and supervision was, for the most part, the purview of the national central banks; the ECB was responsible for payments system functioning and, together with the national central banks, financial stability of the overall euro area. The ECB’s modus operandi changed substantially as a result of the twin crises and it now has direct supervisory authority over systemically important banks in the Eurozone (the Single Supervisory Mechanism oversees 130 banks). In January 2016, it also adopted the Single Resolution Mechanism, which is centered on a Single Resolution Board, endowed with a Single Resolution Fund. The financing for the Fund is still to be determined. National authorities, not the SRB, will oversee implementation (Veron, 2016) of bank resolution. The third pillar of the banking union, the deposit insurance scheme, is yet to be negotiated and established. Also, an important factor is that about 3,500 banks remain supervised by national authorities. A recent study (Mody and Wolff, 2015) finds that small and medium sized banks holding about half of the euro area’s assets could be a significant source of systemic instability in case of a negative shock- GIP continue to be vulnerable. The level and distribution of capital across the whole banking sector has real effects on overall lending and the macroeconomy, particularly when there are externalities and informational asymmetries that prevent credit reallocation leading to self-fulfilling equilibria (Bebchuk and Goldstein (2009), Dagher et al, 2016). Banks’ lending practices are influenced by their expectations of overall banking behavior. For example, if large banks expect overall lending to be lower because of deteriorated financial conditions in

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61 In Spain, for example, overall credit was still declining (IMF, 2015c) in 2014, but the pace has slowed and new credit is being extended outside real estate and construction.
62 Didier et al (2015), show that in the median country, only about 20 listed firms per year issue securities in either their domestic capital market or in an international financial center. Moreover, the median equity issuing firm is twice as large as the median non-equity issuing firm and the median bond issuing firm is more than 36 times as large as the median non issuing firm. Of the few debt and equity issuers, the top 5 firms receive 66% of the funds raised through bonds and over 77% of the funds raised through equity.
63 For example, SMEs in Spain (for loans below 1 million euros) since end 2013.
64 IMF (2015g).
65 The NPL data are reported on a consolidated basis for banking groups and include the value of collateral; the NPE data use locational data on impaired loan exposures and are weighted by total assets.
66 This is also true for some other EU countries, but the ratio in Greece is a multiple of these other countries’ ratios.
67 9 more banks were assessed at end-2015.
smaller banks and that this will affect economic conditions, they will also reduce lending, exacerbating the situation further (Acharya et al, 2012). The financial crisis has highlighted the fact that smaller banks can increase risk premia in financial markets and have real effects on the economy.

**Figure 13.a: Total assets of domestic banking groups and foreign-controlled subsidiaries and branches as a share of GDP (%)**

Note: Figures for Luxembourg are not fully shown in the chart. End of year values for 2008 and 2013, and June value for 2014. Source: European Central Bank and Eurostat.

**Figure 13.b: Gross NPLs, 2008-2015 (% of total loans)**

| Country   | Total Corporate | Retail | % of GDP |
|-----------|-----------------|--------|----------|
| Ireland  | 32.2            | 50.2   | 21.7     |
| Greece   | 25.3            | 23.2   | 26.9     |
| Spain    | 12.2            | 18.8   | 6.8      |
| Portugal | 7.9             | 11.1   | 5.7      |
| Belgium  | 3.4             | 5.1    | 2.4      |
| France   | 3.2             | 2.9    | 3.4      |
| Finland  | 1.7             | 1.8    | 1.6      |

Source: IMF, Global Financial Stability Report and Financial Soundness Indicators.

**Credit access, firm size and real effects.** The decline of the banking sector and associated credit crunch tends to have a disproportionate effect on smaller and younger firms. SMEs, employ around 2/3 of the euro area workforce and generate around 60% of value added on average (ECB, July 2014).68 In Germany and Ireland, they account for half of value-added and in Italy, Spain and Portugal, more than 65%. The ECB has found that short term lending rates (spreads) for loans to SMEs increased relative to other loans after the onset of crisis.70 Younger and smaller firms in Portugal, for example, which also tend to be the more entrepreneurial ones were unable to substitute credit and faced a credit constraint, unlike

68 SME contribution varies from sector to sector, ranging from 24% in energy to more than 80% in construction and real estate.

69 They use the category of small loans (up to 1 million euros to approximate for loans to SMEs).

70 They also find that as firms become larger, banks become less important.
larger firms (Iyer et al 2013). Balduzzi et al (2013), in a study of the 2008-09 US-led financial crisis and the 2011 sovereign debt crises period, find that, in Italy, higher funding costs for banks meant that young and small client firms faced higher borrowing costs, borrowed less and thus invested less, and hired fewer workers. At the aggregate level, they find that the 2008 crisis, and especially the 2011 crisis, led to sizable reductions in not just the level, but also the allocative efficiency of capital accumulation and employment growth (see also Riley et al, 2015 and Caballero et al, 2008, for the UK). Santos (2011) shows loan spreads increased more for borrowers that were bank-dependent, than for those that were not dependent on them. Moreover, loans made during the crisis period are larger on average; larger firms, which tend to be safer (they were older firms, had higher interest coverage, lower leverage and higher profits), took these loans.

Delay in resolution has high costs: high NPL ratios tend to constrain the monetary policy transmission mechanism, and credit supply conditions remain tight. The result is low investment and low growth expectations, with the ultimate impact being on employment and/or wages. Policy focus on resolution is needed with more balance in the efforts expended to prevent future crises (when the crisis has already occurred) and more in the speedy resolution of crises—especially since prediction (of financial crises) is impossible. Stabilizing large systemic banks is important, yet fast growth recovery is supported by giving attention to, smaller banks, smaller firms and households as well. Macro efforts to stabilize need to be supplemented by customized efforts to deal with distributional impacts which may stymie the macro recovery—as evidenced by the extended process of household and firm deleveraging. A new IMF report assessing the constraints to NPL resolution finds that poor supervision, legal obstacles and distressed debt markets are all contributing to slow resolution of problem loans (Aiyar et al, 2015). The study finds that NPL resolution could lead to a substantial increase in loanable funds. In fact, they estimate that as a ratio to GDP, loanable funds could increase as much as 10% of GDP for Greece, and 9% for Ireland. The analysis assumes there is a 5% haircut is due to factors such as the effectiveness of debt enforcement and the rate of return demanded by distressed debt investors, among other things. However, if these costs are very high, the capital relief may end up being negative. Thus, structural reforms are critical to reduce the cost of NPL resolution.71

The demand for credit: private sector debt; firm and household perspectives. High debt and high NPL ratios have also adversely affected the demand for credit. Over-indebted firms’ and households’ portfolios worsened as GDP fell and prices fell in the wake of the financial and sovereign crises. In the pre-crisis period, all countries had large increases in private debt/GDP ratios as credit growth boomed faster than GDP growth. Around the financial crisis, private debt/GDP ratios peaked even though households and firms were deleveraging. Only in Spain was deleveraging fast enough immediately after 2009 to reduce debt ratios, but by 2011, they were improving for Ireland and Portugal too. Greece, with its large fall in GDP has struggled. Household net debt to disposable income ratios are very high (Table 9), peaking at 241% in Ireland and 154% in Spain. In Greece, this ratio increased three-fold by 2010 and is now 5 times its level in 2000. The condition of household balance sheets affected the intensity and duration of the macroeconomic impact of the crisis. ECB (2014b) examines household financial conditions and asset price evolution together to analyze how interest rate developments may affect consumption of households. Defining households to be in distress if (a) household income net of taxes, debt payments and basic living costs is negative and (b) debt flow over time is greater than the household’s liquid assets, they find very high levels of household distress in Spain, Greece and Portugal. Deleveraging started earlier among Irish households than among corporations so that the household debt/GDP ratio started declining in early 2010

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71 They find that in the EU, NPLs stood at over 9% of the region’s GDP at end-2014, more than double the level of 2009.

72 However, there is great sectoral variation as a third of SMEs (EC 2015) do not have any debt; the construction and retail sector tends to be heavily indebted. As in Spain, household debt levels remain high and deleveraging continues.
while corporate indebtedness continued to rise for another two years. The EC estimated that the additional deleveraging need is about 30% of GDP for the private sector.73 Rising house prices will help households; in Ireland and Portugal prices started increasing again in 2013, Ireland began to see some large increases in 2014-2015, amounting to 14% per quarter, and in Spain as late as mid-2014. Recent analysis has shown that firms’ employment and investment decisions in response to positive or negative shocks depend on their level of indebtedness (Goretti and Souto, 2013). High leverage firms tend to raise employment and investment less in response to positive shocks than low leverage firms.

Table 9: Debt of households as a percentage of net disposable income (%)

|        | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Greece | 33   | 38   | 44   | 48   | 55   | 67   | 74   | 83   | 87   | 88   | 105  | 112  | 120  | 122  | 115  | -    |
| Ireland| -    | 111  | 126  | 147  | 170  | 201  | 226  | 236  | 232  | 241  | 237  | 236  | 229  | 225  | 207  | -    |
| Portugal| 107  | 118  | 122  | 124  | 127  | 136  | 141  | 146  | 149  | 151  | 154  | 145  | 144  | 140  | 141  | 138  |
| Spain  | 84   | 87   | 94   | 102  | 114  | 128  | 144  | 154  | 150  | 145  | 148  | 142  | 141  | 134  | 127  | -    |

Includes non-profit institutions serving households.
Source: OECD, Financial Indicators.

Lesson 9: Finance: too much of a good thing may not be a good thing for households or firms; but too little is also bad.

_The relationship between finance, productivity and innovation is complex. Policies to support growth need to account for these complexities. Also, who borrows, when and how much matters for growth composition and stability._

_A complex relationship between finance, productivity growth and innovation._ New research is reassessing the impact of financial sector growth on overall productivity and GDP growth and some work is mentioned here. Finance is a critical input to investment and firms’ growth yet the financial system’s growth needs to be managed so that its contributions do not destabilize economies or undermine the growth process by not allocating resources to their most productive use. One main theme is that financial system growth contributes to growth, but up to a point and/ or under certain conditions. Easterly et al (2000), and Islam (2016) among others show that there are limits to the consumption smoothing abilities of financial systems and that growth beyond this point may increase growth volatility. Arcand et al (2012) find a nonlinear impact of banking depth on growth, as depth increases to very high levels, the additional impact on growth becomes weaker.

Research has found that when private credit outstanding exceeds 110 percent of GDP, the marginal effect of additional financial sector deepening on economic activity becomes negative, both at the economy and industry level. Cecchetti and Kharroubi (CK, 2012) show that when private credit grows to the point where it exceeds GDP growth, it becomes a drag on productivity growth. CK also show that where the financial sector has represented more than 3.5% of total employment, further increases in financial sector size tend to be detrimental to growth. In their empirical work on advanced countries covering the past three decades, they find that compared with a situation where the financial sector’s share in employment is stable, financial booms (employment growth of 1.6% per year) reduce growth in aggregate GDP per worker by roughly one half of 1 percentage point. The authors claim that during 1995-99, for example, the Irish financial sector’s share in total employment (3.84%) was near the maximizing value, but rose to more than 5% in the next five years. They estimate that Irish trend GDP per worker growth could have been as much as 0.4pp higher over the past decade, if employment growth had been

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73 Intra-group cross border lending is very high in Ireland where multinational activity is much greater than in the other countries. The difference between consolidated and non-consolidated debt is around 26%.
slower in finance. They also estimate that had financial sector employment been constant in Ireland and Spain, during the five years, beginning in 2005, the decline in Ireland’s GDP would have been 1.4pp lower and in Spain, 0.6pp lower during the crisis.

The reasons that researchers have given for the negative correlation between too fast financial sector growth and productivity growth are instructive. Cecchetti and Kharroubi (2015) examine two reasons: the disproportionate benefit given to low productivity/high collateral sectors by banks and the possible misallocation of resources such as skilled labor. They contend that high productivity sectors tend to be more innovative (and more risky sectors); thus, projects in these sectors tend to have higher collateral risk. When funding costs are low, entrepreneurs have an incentive to invest in projects with higher pledgeability but lower productivity (expected net returns can be maintained at lower interest rates by taking on lower return but lower risk projects), reducing their demand for skilled labor. Entrepreneurs that hire skilled labor tend to invest more in low pledgeability and high return projects (often with more R&D). Recent research by Benigno et al (2015) finds that the shares of employment in both investment and manufacturing drop during periods of large capital inflows and credit growth. This is true of the GIPS experience. In their sample of countries, they find that though investment reallocation across sectors is a general phenomenon that occurs over time, the reallocation of labor occurs especially swiftly during episodes that begin when international liquidity, proxied by low US interest rates, is high. Spain is cited as a typical economy that demonstrates this phenomenon. They also find that the stronger the shift of labor out of manufacturing during the capital inflow period, the sharper the contraction after the crisis. ECB (2014c) found that when governments collected foreign assets and tried to limit cross border inflows productive resources allocated to manufacturing fell less. Policies to limit credit growth have been discussed in the wake of the 2009 crisis. In fact, output composition changed in all four countries (as did consumption) and services grew. Moreover, financial deepening has differential growth effects across countries, depending on income per capita, the quality of bank supervision and openness to trade (Barajas et al, 2013; Beck et al, 2014).74

It may also matter who borrows at the country level. Another branch of research (Angeles, 2015) finds that credit expansion to households is not associated with growth and contends that fast credit growth to the household sector is more likely to beget financial crises. Credit expansion to households tends to encourage borrowing financed consumption or investment in real estate; at the same time, savings may decline as liquidity constraints fall. Islam (2016) finds that manufacturing sector growth is adversely affected by increases in the relative importance of household credit and that financial sectors contribute to consumption and GDP smoothing up to a point. When they are too large, they are associated with increased consumption and GDP per capita volatility. IMF (2006) also warns against the current account impacts of household credit expansion and the risks associated with household debt during downturns. IMF (2011) establishes links between asset market booms and busts and household mortgage credit growth with the two reinforcing each other. The accumulation of household debt should have served as a warning light (IMF, 2015b). Rising credit to households has been more likely to lead to lower savings and greater financial vulnerability particularly when households are not particularly well equipped. A number of countries provide various incentives for household borrowing, particularly mortgages (IMF 2011). These additional insights into the impact of financial booms on employment, productivity growth and longer term welfare give food for thought in terms of future policy directions.

For all countries except Ireland, the increase in household credit was larger than the increase in credit to nonfinancial corporations. In the case of Greece, the difference is striking, as credit to households

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74 Arcand et al (2012). Phillipon and Reshef (2012, 2013) discuss the large earnings premium in finance- an explanation for the labor reallocation to finance.
grew twice as fast as credit to corporations and Greece was the country with the fastest increase in construction. In 2007, Greece and Portugal had around 45% of the stock of total credit with households, with Ireland and Spain close behind.

**Lesson 10a:** Structural reforms before and after crises have different effects.

**Lesson 10b:** Wage cuts in a downturn and during fiscal consolidation may not promote growth recovery (particularly when employment also falls).

*While the short run effects of negative shocks may be equally strong in countries with more and less flexible economic systems and strong institutions (see Section 1), the recovery is faster in the former. This is because resources reallocate faster and creditor perceptions are more favorable, and it often takes time for reforms to have a net positive impact on output. Structural reforms to make markets more flexible during or in the immediate aftermath of a downturn can have unexpected (even negative) effects.*

*Falling real wages during fiscal consolidation and household deleveraging, aggravate declines in domestic demand and worsen the downturn.*

**Figure 14.a:** Global competitiveness ranking

![Global competitiveness ranking](image)

Source: World Economic Forum, Global Competitiveness Reports.

**Figure 14.b:** Resolving insolvency ranking

![Resolving insolvency ranking](image)

Higher rank means less cumbersome regulation

Source: The World Bank, Ease of Doing Business Database.

**Figure 14.c:** Control of corruption score

![Control of corruption score](image)

Source: The World Bank, Worldwide Governance Indicators.

**Figure 14d:** Product market regulation

![Product market regulation](image)

Source: OECD

Business climate and governance: when policy, institutions and perceptions follow each other. In comparative terms, Ireland, by far the richest country in the group, has always had the best business

75 In Portugal the number was 16 pp higher and in Spain, 10 pp higher.
climate and governance performance, and Greece the worst. Portugal and Spain fall in between and their performances mirror each other’s. Poor performance on these indicators is likely to have a negative impact on growth (Olson et al, 2000). Figure 14a-d shows GIPS’s most recent global competitiveness ranking (GCR) and other related measures. The evolution of these indicators provides insight on outcomes. Greece’s performance is 3 times worse in the GCR in 2012-2014 than it was at the beginning of the decade (Figure 14a). On almost all measures of institutional quality (Figures 14b, c, d), government effectiveness, rule of law, regulatory quality, the strength of auditing and accounting, resolving insolvency and, in particular, corruption, Greece shows a widening difference with the other countries and a much worse deterioration. Table 10 below shows how GIPS compare with other countries at similar or lower GDP per capita. Portugal outperforms Greece, despite being poorer. Since 2012, some indicators show that Greece’s relative performance is improving. For example, the doing business indicator shows the largest improvement in Greece and Portugal’s relative rankings and a deterioration in Ireland’s and Spain’s. The OECD’s product market regulation index also shows an improvement for Greece, but both Portugal and Spain’s changes outperform it. Yet, a net positive output response to structural reforms takes time, particularly after crisis, when the rate of firm destruction is hastened. Despite, these selected improvements in GPS, they clearly have a substantial reform agenda ahead.

### Table 10: GDP per capita and Governance

|                | GDP per capita (constant 2010 US$) | Control of corruption¹ | Global competitiveness rank | Doing business rank |
|----------------|-----------------------------------|------------------------|-----------------------------|---------------------|
|                | 2007 | 2014 | 2007 | 2014 | 2007 | 2014 | 2007 | 2014 |
| Ireland        | 53,975 | 52,257 | 93 | 92 | 22 | 25 | 10 | 15 |
| Austria        | 47,243 | 47,645 | 96 | 90 | 18 | 21 | 30 | 30 |
| France         | 41,699 | 41,050 | 92 | 88 | 15 | 23 | 35 | 38 |
| Spain          | 32,462 | 29,595 | 82 | 70 | 29 | 35 | 39 | 52 |
| Greece         | 30,057 | 22,558 | 65 | 51 | 61 | 91 | 109 | 72 |
| Israel         | 29,634 | 32,673 | 76 | 76 | 14 | 27 | 26 | 35 |
| Slovenia       | 24,675 | 23,247 | 81 | 75 | 40 | 62 | 61 | 33 |
| Portugal       | 22,819 | 21,537 | 80 | 79 | 43 | 51 | 40 | 31 |
| Korea, Rep.    | 20,421 | 24,479 | 73 | 70 | 23 | 25 | 23 | 7 |
| Estonia        | 17,595 | 14,540 | 79 | 88 | 26 | 32 | 17 | 22 |
| Slovak Rep.    | 15,827 | 17,883 | 67 | 60 | 36 | 78 | 36 | 49 |
| Croatia        | 14,480 | 13,539 | 59 | 62 | 56 | 75 | 124 | 89 |
| Hungary        | 13,629 | 13,933 | 73 | 61 | 38 | 63 | 66 | 54 |

¹: Percentile Rank (0 lowest rank, 100 highest rank).

Source: The World Bank; World Development Indicators; Worldwide Governance Indicators; Global Competitiveness Dataset; Doing Business Reports.

Poor business environment, large productivity dispersion. Another structural factor explains why GPS’s business environments need to be improved for growth: they have a large share of small, low productivity firms. The average size of firms is smaller than in other European countries. Over 90% of firms have less than 9 employees (micro firms) and more than half of the workers are employed in firms with fewer than 50 employees (comparable numbers are 23% of workers in Germany, and 32% in France). The smaller firms are less productive and more labor intensive; moreover, more than 85% of total exports in European countries are from the largest 5,000 companies (European Economy, 2015). Obstacles, such

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76 Note that some of these indicators being “subjective” partly reflects worsening of perceptions than worsening on the ground.

77 See also Freund (2016) for the relationship between firm size and exports.
as poor regulation, that prevent firms growing to take advantage of economies of scale are believed to hamper output and productivity growth (Conway et al, 2006), particularly in export markets (IMF 2015c). For example, in Spain, the productivity gap between small and large firms is very large. Yet low productivity firms stay in business- when they might exit or make productivity enhancing investments. Obstacles to growth may be regulatory, for example, size dependent thresholds in business regulation, labor regulations (see below) or financial constraints.

**Figure 15.a: Labor market regulation rank**

(higher rank means less regulation) (1= most flexible)

**Figure 15.b: Flexibility of wage determination rank**

**Figure 15.c: Hiring and firing practices rank**

**Figure 15.d: Redundancy costs (weeks of salary)**

Source: Fraser Institute, Economic Freedom of the World Database, b-c-d: World Economic Forum, Global Competitiveness Index. The redundancy cost indicator measures the cost of advance notice requirements, severance payments and penalties due when terminating a redundant worker, expressed in weeks of salary.

**Changing labor market regulation.** The evolution of structural indicators shows that the overall labor market regulation ranking, which had deteriorated for GPS, showed improvements in Portugal and Spain. Hiring and firing practices have improved substantially since 2010 for all. In this regard, the evolution of severance pay merits some attention. Surprisingly, even before the 2008 crisis, GI cut their severance pay requirements dramatically- it was not until 2012 that PS reduced theirs. The period 2012-2014 shows continuing adjustment. All four countries made labor market adjustment easier by allowing firms to fire workers at low cost. Combined with large declines in wages in Greece, these changes, unsurprisingly, had long-lived effects on the economy. Employment losses have been large. Recent research by the IMF addresses the impact of structural reforms in different economic contexts (IMF July 2016). They contend that the degree of slack in the economy should influence the choice of policy; job protection reforms (making it easier to sack people) can promote employment and output in good times, but further unemployment and output loss in bad times. In addition, together with wage declines, such reforms during fiscal contractions can be self-defeating by depressing demand and output (and raising debt ratios).
**Lower real wages.** In terms of wages, Greece stands out in relation to the others, having a 21% decline in the minimum wage (9a) and a 20% decline in the average wage during 2009-2014. Greece’s real wage levels are now at their 2000 levels. Portugal and Spain increased protection for the lower income earners and had increases in their minimum wages (while the average real wage fell around 7%). Ireland was different in that both were relatively stable (the real wage declined only 1.5%). Lower labor costs were not reflected in higher employment, but rather in compressed consumption, particularly as households deleveraged and expectations of global growth recovery were muted.

**Table 11a: Monthly minimum wages, Euro**

|        | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Greece | 540  | 552  | 582  | 607  | 631  | 668  | 710  | 768  | 794  | 863  | 863  | 877  | 684  | 684  | 684  | 684  |
| Ireland| 945  | 1009 | 1009 | 1073 | 1183 | 1293 | 1293 | 1462 | 1462 | 1462 | 1462 | 1462 | 1462 | 1462 | 1462 | 1462 |
| Portugal| 371  | 390  | 406  | 416  | 426  | 437  | 450  | 470  | 497  | 525  | 554  | 583  | 566  | 566  | 566  | 589  |
| Spain  | 496  | 506  | 516  | 526  | 573  | 599  | 631  | 666  | 700  | 728  | 739  | 748  | 748  | 753  | 753  | 757  |
| EU-28* | 476  | 511  | 526  | 541  | 569  | 593  | 611  | 655  | 681  | 698  | 709  | 719  | 733  | 751  | 807  |      |

*: Simple averages of EU member states excluding Austria, Cyprus, Finland, Denmark, Italy, and Sweden.
Source: Eurostat.

**Table 11b: Non-wage labor cost as a share of total labor cost (%)**

|        | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Greece | 38.2 | 39.3 | 39.9 | 41.4 | 41.2 | 42.3 | 42.1 | 41.5 | 41.3 | 40.1 | 43.2 | 42.9 | 41.6 | 40.4 |
| Ireland| 25.9 | 24.4 | 24.4 | 24.1 | 23.5 | 23.0 | 22.2 | 22.3 | 24.7 | 25.8 | 25.9 | 27.1 | 28.2 |      |
| Portugal| 36.4 | 37.6 | 37.4 | 37.4 | 36.8 | 37.5 | 37.3 | 36.9 | 36.5 | 37.1 | 38.0 | 37.6 | 41.4 | 41.2 |
| Spain  | 38.9 | 39.1 | 38.6 | 38.8 | 39.0 | 39.1 | 39.0 | 38.0 | 38.3 | 39.7 | 40.0 | 40.6 | 40.7 | 40.7 |
| EU-28* | 42.9 | 42.7 | 42.7 | 42.8 | 40.7 | 40.6 | 40.4 | 40.9 | 40.5 | 40.4 | 40.9 | 41.1 | 41.0 | 41.0 |

*: Simple average.
Source: Joint European Commission-OECD project, Tax & benefits indicators database.

Recent ECB research notes that wages and prices have begun to be more flexible in these countries, responding to underlying conditions. However, when comparing levels and ranking across countries, Figures 15a-c show that GPS still have very restrictive labor markets- their ranking remains very poor, while the tax wedge remains high.

**Lesson 11: The short term affects the long term.**

**Hysteresis effects are real and can be large:** “stabilization” policies have short and long-run effects. **Labor and product market reforms are effective when they reduce the length of time that resources remain unemployed or underused.**

**Large losses in employment, lower labor intensity of GDP.** Employment between 2008-2014 has fallen 18% for Greece, followed closely by Spain at 16%. Portugal and Ireland have had 11 and 10 percent declines in these six years. As Table 12 shows, the relationship between growth and employment seems to have changed in at least three of the countries. It is significantly weaker in Ireland, where growth has been the strongest and significantly stronger in Portugal, where recession has been mirrored in much larger employment losses than might have been expected given the growth-employment relationship of the pre-crisis years. The lower demand for labor has been the result of a slow growth recovery, expectations of more of the same. Even Ireland, with a relatively flexible labor market, has seen poor labor market performance. The consumption dampening effect of internal devaluation was underestimated. Barkbu et al (2012) note that internal devaluations usually end up in drawn out recessions.

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78 ECB, 2015b.
Table 12: Relationship between Employment and GDP across GIPS

|                | 2000-2014 Period     | 2009-2014 Period     |
|----------------|-----------------------|-----------------------|
| Dep. Var:      | GRC_Empl.  IRE_Empl.  PRT_Empl.  ESP_Empl. | GRC_Empl.  IRE_Empl.  PRT_Empl.  ESP_Empl. |
| GRC_GDP        | 0.54*** (0.00)        | 0.68*** (0.00)        |
| IRE_GDP        | 0.61*** (0.00)        | 0.065 (0.56)          |
| PRT_GDP        | 0.40*** (0.00)        | 1.02*** (0.00)        |
| ESP_GDP        | 0.92*** (0.00)        | 0.93*** (0.00)        |
| 2009-14        | -0.01 (-0.31)         | -0.08*** (0.00)       |
| Constant       | 2.54*** (0)           | 0.98* (0.09)          |
| # of obs.      | 56 60 60 60 60        | 24 24 24 24 24        |
| R-squared      | 0.84 0.86 0.76 0.84   | 0.84 0.56 0.65 0.42   |
| Prob>F         | 0.00 0.00 0.00 0.00   | 0.00 0.01 0.00 0.00   |

Simple OLS model is used. Robust p-values are shown in parentheses, and significance at the 1% (***) 5% (**), and 10% (*) levels are indicated.

_Gdp _ : log of quarterly GDP, chain linked values (2010), million Euro, Eurostat.
_Empl _ : log of quarterly total employment, thousands of people, Eurostat.
2009-14: dummy for the years in 2009-2014 period

How do GIPS compare to other Euro area countries? Euro area employment overall remains 4% below its pre-crisis peak. Almost all euro area countries had some UE in the first recession (2008-09), but over the course of the second euro area recession (3Q 2011 to end 2012), job losses were mostly in the “stressed economies” (Ireland, Greece, Spain, Italy, Cyprus, Portugal and Slovenia). In the first recession, publicly provided activities supported employment and in the second recession, public sector employment took a downturn in countries affected by the second crisis. The EC, the OECD and the IMF estimate that there was an increase in the structural UE rate in the euro area of around 1.6 pp between 2008 and 2013.

The long term cost of unemployment. Blanchard et al (2015) looking at 122 recessions over the past 50 years in 23 countries find that, for 2/3 of the cases, recessions have been followed by lower output relative to trend and even lower growth in many cases. They contend that the probability of hysteresis argues for more aggressively expansionary monetary and fiscal policies. They also find that the elasticity of inflation with respect to the unemployment rate has increased over time, in the aftermath of crises. The implication of this change would be that monetary policy should put more emphasis on the unemployment gap rather than on inflation as the focus on inflation becomes more costly in terms of foregone output. Other studies suggest that financial crises can permanently reduce potential output by 1.5-4%, though per capita growth can eventually return to the pre-crisis rate (e.g. Furceri and Mourougane, 2009). However, the time it takes to return to the previous path is uncertain and empirical studies find that capital and employment suffer enduring losses relative to trend. For example, in the countries they analyze, EC (2009) find that employment does not recover even after 10 years. Policy matters in this regard. Fatas and Summers (2016) find that the global financial crisis has permanently

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79 ECB, 2014c.
80 This is an average across the estimates of the three institutions.
lowered the path of GDP in all advanced countries. Further, the policy responses were not appropriate in that strong hysteresis effects of fiscal consolidation have likely led to a long term negative effect on output, particularly for Euro area countries. For their group of advanced economies, they contend that every 1% fiscal policy induced decline in GDP during 2010-2011 has meant a 1% decline in potential output by 2015 and even more by 2021. Long recessions and slow recoveries lead to persistent short run dynamics that leave large effects on permanent output— in the aftermath of these recessions, these affects are seen both because of sustained unemployment of labor but also because of sustained drops in investment.

In conclusion, there is no such thing as a policy that simply stabilizes an economy, as all such policies also have implications for longer term growth and even potential output. Examining microeconomic developments, at the bank, firm or household level, and identifying reasons for sustained low output and growth (e.g. deleveraging, changed expectations, high rates of unrestructured loans), policy should maintain momentum for active restructuring and limiting the time that resources remain idle. The financial conditions of banks, households and corporations have real effects on current and future output because of the direct impact on consumption, investment (innovation and capital accumulation) and the labor market. A long period of depressed demand and output can raise long term unemployment rates while also lowering the labor force participation rate as workers become discouraged. Reforms facilitating redundancy may be anti-productive in low growth contexts with fiscal consolidation (IMF 2016). Structural unemployment in the Eurozone countries is estimated to have increased. Recent research also concludes (IMF 2016) that the larger a country’s output gap, the more policy should prioritize growth in the short and long runs. While the IMF focusses on infrastructure investment and product market deregulation, this recipe holds for monetary and other structural policies/regulations. Finally, as countries consolidate, it is important to remember that the concept of fiscal space is not an immutable one. It is partly endogenous and partly can be influenced by policy (official creditors) and by market expectations.

Lesson 12: Consider the windfall (in output and deficits) temporary in the presence of asset market booms.

Unless potential output and structural fiscal balances are corrected for asset price booms, policy mistakes will be greater. While precision in applying these concepts is difficult, simple adjustments can be made. Fast and sustained increases in real government expenditures (and government size) should be a warning signal and extra revenues during asset market booms should be saved.

Potential output, structural fiscal balances and the design of policy. The estimation of potential output, never an easy task, differs substantially across studies (and policy making units). However, in pre-crisis years, potential output estimates did not include an adjustment for the impact of (temporary) asset market led booms on current output. Kanda (2010), Athanasopoulou (2009), and Borio et al (2016) show how, after correcting for the impact of the financial cycle, the output gap preceding the financial crisis is much larger than without the correction. At the same time, structural fiscal balances were not really “structural” in the sense that revenue streams were not corrected either for the impact of asset market booms.81 Borio (2010) estimates that in 2007, when the headline fiscal deficit was in slight surplus for Ireland, the properly adjusted structural balance was -7 % of potential GDP (and -13% in 2008). In 2007, the EC measured the output gap in Spain to be 2% of potential output. Borio et al (2013) estimate a “finance-neutral” measure of potential output and find the positive output gap for Spain to have been 4-5% of potential GDP in 2007. Using alternative methodology, but including financial factors, Alberola et al (2013) find the output gap to have been 6%. Conversely, after the crisis, the output gap was overestimated

81 IMF (Selected Issues, July 2014, CR 14/193); Kanda (2010).
after the 2009 meltdown: the EC estimate of the output gap was -4% in 2011, Borio et al have an estimate of -2% and the OECD -3%. Just as potential output tended to be overestimated before the crisis, it still runs the risk of being overestimated now.

Had potential GDP and structural fiscal balances been more accurately measured, policy makers may have looked at economic developments differently. For example, while Kanda (2010) estimates a deterioration of 3.8 pp in structural revenues to GDP during 2006-08, he finds an 8 pp increase in structural expenditures to GDP in the same period. Had the numbers been presented as such, different choices would have been made. Another paper (Liu et al., 2015), studying OECD countries, finds the average fiscal impact of housing and equity prices before the crisis to have been around 2.25% of GDP. For Ireland, the housing effect was 3% of GDP and in Spain the equity effect was 4% of GDP. Perhaps additional revenues during asset price induced booms should be thought of in the same way as are revenues from commodity price booms -and saved.

Fiscal revenues can be notoriously volatile rising faster than GDP growth in good times and falling faster in bad times. Sometimes they take a long time to recover while expenditures tend to be much more “sticky”. Thus, despite efforts at fiscal consolidation since 2010, years of increasing fiscal expenditures before, during and just after the financial crisis when tax revenues and output fell have played havoc with the debt ratios of GIPS. Ireland’s real expenditures grew 60% in the 7 years leading up to 2008 (in contrast, they only fell 12% in the 7 years 2008-2014), Spain’s grew 35%, Greece’s 38% and only 11% in Portugal. In relation to GDP, Ireland’s government grew an amazing 11pp.82 The second largest increase was Greece at 4.5pp. In the adjustment period since 2009, what is striking is that Greece has had a commensurately large expenditure decline (35%) even as tax revenues fell the most. Portugal has had no decline in real terms. 83 With growth being slow to recover, every country’s debt ratio is now around 100 or above, but the increases in the debt ratios in seven years are particularly striking, being 76, 84, 72 and 64 pp respectively. The increases are spectacular in view of the dynamics of the preceding years when, even with high growth boosting tax revenues (in Greece and Ireland) and low interest rates, debt ratios fell a small amount (only Spain had a 22 pp decline); Portugal had a small increase.

Conclusions

Seven years after the 2008 financial crisis, economic recovery is fragile. Adjustments in fiscal, monetary, structural and financial sector policies continue to be needed. Fiscal positions are weak, with substantially elevated debt ratios and the policy composition has changed, with social transfers and interest expenditures gaining at the expense of investment. Tax burdens, especially on labor, remain high and could be more supportive of labor market performance and investment. Monetary policy has become supportive of output growth over time, and its support is still needed. The modalities of financial restructuring and the status of bank resolution in the Eurozone continue to be a source of uncertainty. Financial intermediation has not recovered and substantial fragilities remain. The plight of smaller firms and banks is still poor in many countries. Current account adjustments still tend to reflect weak domestic demand more than vigorous export economies, particularly where there is high unemployment. Investment recovery is lagging, households and nonfinancial corporations continue to deleverage, most labor productivity gains have been at the cost of employment, and the employment rate is low. Adding to the troubles of Europe is the prospect of slower global growth, risks from the results of the Brexit vote, and more uncertainty in financial markets. There are ways in which GIPS and Europe, acting swiftly, can best protect growth and employment. This paper, reaching into new research and studies, has highlighted some “lessons”, old and new, in economic policy making that should shed some light on policy choices.

82 At the same time, the number of public servants increased 35%, and wages rose 60% during 2000-08.
83 Ireland and Spain had 12 and 14 percent declines.
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