

IV. Deleveraging and adjustment

The global economic crisis and the euro area sovereign debt crisis have highlighted the aggravating influence of excessive leverage and related internal and external macroeconomic imbalances on the exposure of Member States to common shocks when financial markets are not fully integrated. This chapter reviews different mechanisms implied by the presence of high levels of indebtedness which were not sufficiently considered in the pre-crisis view. The reduction of high levels of indebtedness, both internal and external, private and public, tends to be very slow and the adjustment in flows (credit flows, current account) takes time to translate into a significant reduction in vulnerabilities and risks. The adjustment process implies constrained domestic demand and growth for a protracted period of time, which makes deleveraging more difficult and exacerbates vulnerabilities, especially in a context where creditor countries continue to record large current account balances on the back of weak domestic demand. In addition, the necessary reallocation from non-tradable to tradable activities is hampered by rigidities in the capital allocation process, especially when high levels of non-viable debt are not addressed efficiently. The set-up of adequate insolvency frameworks turns out to be of major importance to foster the adjustment in the euro area.

IV.1. Introduction ⁽⁹³⁾

Excessive indebtedness and its implications on adjustment capacity were not sufficiently appreciated in the pre-crisis debates about the resilience of the euro area. The discussions on the capacity of euro area economies to withstand shocks generally centred around three main avenues: the 'competitiveness channel' and the 'interest rate channel' (see previous chapters), quantity adjustment through cross-border labour mobility and financial risk sharing, as well as fiscal transfers. Surprisingly, little attention was paid to the large current account divergences that were emerging, ultimately feeding large stocks of external and internal liabilities in the private and public sectors. ⁽⁹⁴⁾ The implicit assumption was that current account balances do not matter in a complete monetary union, as is the case of the United States. Large current account deficits in poorer countries concomitant with large current account surpluses in richer countries were even considered a natural consequence of closer linkages in goods and financial markets, with no specific worries with regards to the external sustainability of the deficits. ⁽⁹⁵⁾

The crisis that broke out in 2008 highlighted the negative consequences of excessive indebtedness accumulated in the past on output, employment and the adjustment process. The euro area proved to be far from complete, in particular regarding the functioning of the capital markets. During the pre-crisis period, capital was mobile but the financial markets and the banking system were not fully integrated across Member States. As discussed in Chapter I, high exposure to shocks due to excessive indebtedness and policy mistakes combined with the lack of integration of financial markets and faults in the design of EMU meant that the propagation of the global financial crisis was very asymmetric across Member States. In particular, some of them faced sudden stops in foreign capital inflows and negative feedback loops between banks and sovereign.

Seven years after the outbreak of the global financial crisis, large current account deficits have reversed. However, the adjustment has mainly occurred at the expense of output and employment, and debt levels are still concentrated at unprecedented levels in a number of euro area economies. In addition, the impact of high debt levels on the recovery and the adjustment is still perceptible. Not only do elevated debt levels make a country vulnerable to macroeconomic shocks, but the deleveraging pressures related to their necessary unwinding result in a persistent drag on domestic demand, including investment, eventually

⁽⁹³⁾ The section was prepared by Alexis Loublier.

⁽⁹⁴⁾ See Giavazzi, F. and Spaventa, L. (2010), 'Why the current account may matter in a monetary union: lessons from the financial crisis in the euro area', *CEPR Discussion Papers*, No. 8008.

⁽⁹⁵⁾ For example, Portugal and Greece were even considered examples of 'good' imbalances in that they were seen as countries with attractive investment opportunities and buoyant growth prospects capitalising on the advent of the euro and the deeper financial integration.

See Blanchard, O. and F. Giavazzi (2002), 'Current account deficits in the euro area: the end of the Feldstein-Horioka

puzzle?', *Brookings Papers on Economic Activity* 2, pp.148-186, and Gourinchas, P.-O. (2002), 'Comment on current account deficits in the euro area: the end of the Feldstein-Horioka puzzle', *Brookings Papers on Economic Activity* 2, pp.196-206.

leading to lower potential output. Moreover, current account adjustment in the euro area has been asymmetric, as current account surpluses in creditor countries persist and look unlikely to correct in the near future. At the euro area aggregate level, the persistence of a high current account surplus is a reflection of the weakness of aggregate domestic demand, which does not help ease the trade-off faced by highly indebted countries between the need to deleverage and boost growth simultaneously. Furthermore, large debt levels have also been associated with a surge in non-performing loans, reflecting the presence of rigidities in the debt restructuring process, which eventually lead to a misallocation of capital. This, in turn, further impedes the recovery but also to the structural shift from non-tradable activities with low productivity to more productive and tradable ones.

This chapter reviews the main channels through which high debt levels hamper the recovery and the adjustment process. The first part presents how large liabilities, both external and internal, private and public, are persistent in a number of economies despite a major adjustment in flow variables (current account, credit). The second part describes how, in a context of simultaneous deleveraging processes, the adjustment has so far been mainly the result of reduced domestic demand and to a lesser extent of enhanced export capacity, leading to significant output and employment losses. The third part highlights how high debt levels have in general been associated with capital market rigidities hampering an efficient financial intermediation as evidenced by the rise in non-performing loans, leading to an inefficient allocation of capital, and ultimately slowing down the structural shift from non-tradable to tradable activities.

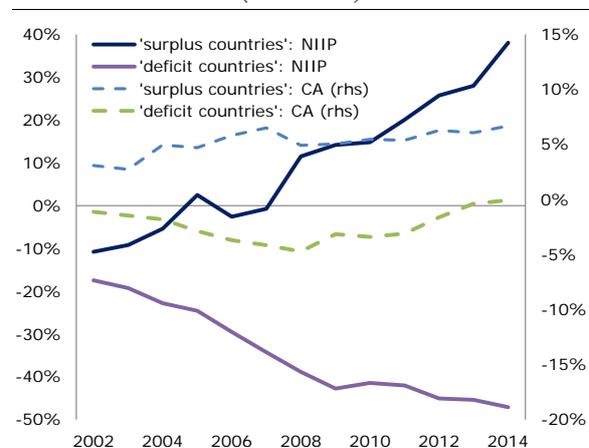
This chapter focuses on a selected number of euro area economies that used to be identified as the main 'deficit' countries in the late 2000s, namely Spain, Portugal, Cyprus, Greece, Italy, Slovenia, Ireland and Estonia. For the sake of comparison, Germany is also looked at in some cases. ⁽⁹⁶⁾

⁽⁹⁶⁾ Latvia and Lithuania are not included as they joined the euro area in 2014 and 2015.

IV.2. An adjustment marked by the persistence of high levels of indebtedness

The first decade following the launch of the euro was marked by a growing current account divergence between 'surplus' countries and 'deficit' countries in a context of diverging cost competitiveness (see Chapter II – 'Revisiting the competitiveness channel'). Since the outbreak of the global financial crisis, current account balances have in general adjusted significantly in 'deficit' economies (see Graph IV.1).

Graph IV.1: **Current account and net international investment position (1)**
(% of GDP)



(1) 'surplus countries': Belgium, Germany, Luxembourg, the Netherlands, Austria and Finland. 'deficit countries': Estonia, Ireland, Greece, Spain, France, Italy, Cyprus, Malta, Portugal, Slovenia and Slovakia.

Source: AMECO (except Italy: BPM6)

Between 2008 and 2014, current account balances improved by more than 10 pps. of GDP in Portugal, Greece, Cyprus, Slovenia and Spain. In Ireland and Italy, an improvement of nearly 10 pps. and 5 pps. respectively was also observed. With the exception of Greece and Cyprus, these countries are now registering moderate surpluses (Spain, Portugal, and Italy) or somewhat larger surpluses (Ireland, Slovenia) and large and unsustainable balances look unlikely to return. Cyclically-adjusted figures are in general lower than the headline balances (Spain, Italy, Portugal, Greece, Cyprus), suggesting that further increases in current account balances are not to be expected as the recovery brings back output close to potential (see Table IV.1).

The accumulation of current account deficits during the first ten years of the euro resulted in the build-up of very large net international investment

positions (NIIPs), as depicted in Graph IV.1. In 2009, the NIIP was below -100% of GDP in Ireland, Cyprus and Portugal and around -90% of GDP in Spain and Greece. However, seven years after the first signs of the crisis, large net external liabilities in general show no clear sign of adjustment despite the marked improvement in the current account balances. In 2014, the majority of the countries analysed here were still plagued with net external liabilities of the same magnitude or in the case of Greece and Cyprus, even higher (see Table IV.1).

Table IV.1: Current account balance required for external sustainability (1), (2)

		CY	EL	PT	IE	ES	SI	EE	IT
2014 actual figures	NIIP	-141	-125	-113	-105	-96	-44	-43	-28
	NED (neg)	-129	-133	-104	468	-96	-39	11	-61
	CA	-3.8	-2.9	0.3	3.6	1.0	6.5	1.3	2.0
	Cycl.-adj. CA	-7.0	-7.0	-0.7	4.1	-1.4	5.6	3.8	0.9
	TB	0.7	-2.6	0.4	18.3	2.5	7.9	3.4	3.0
KA	0.2	1.8	1.4	0.1	0.6	0.5	1.1	0.2	
stab. NIIP over 2015-16	req. CA	-0.9	0.1	-4.7	-7.4	-3.8	-2.1	-2.9	-0.8
	req. TB	-3.2	-0.1	-3.5	8.3	-3.0	-0.1	-0.7	0.1
reach -35% NIIP in 2024	req. CA	8.4	5.8	3.9	3.6	3.4	-1.3	-2.2	-
	req. TB	5.8	4.8	5.0	18.6	3.8	0.5	1.8	-

(1) NIIP: net international investment position; NED: net external debt (negative sign); CA: current account balance; TB: trade balance; KA: capital account; req. CA and req. TB: required current account and trade balances. (2) Cyclically-adjusted balances are calculated using the output gap estimates underlying the Commission Autumn Forecasts 2015. Current account and trade balances required for external sustainability rest on the following assumptions: nominal GDP projections stem from the Commission Autumn Forecasts (up to 2017) and the Commission T+10 methodology projections beyond that; valuation effects are conventionally assumed to be zero; capital account balances are assumed to remain constant as a % of GDP at a level that corresponds to the median over 2014 and 2015-2017 projections.

Source: Current account is displayed in the national account concept. NIIP and net external debt are in balance of payments concept. Own calculations.

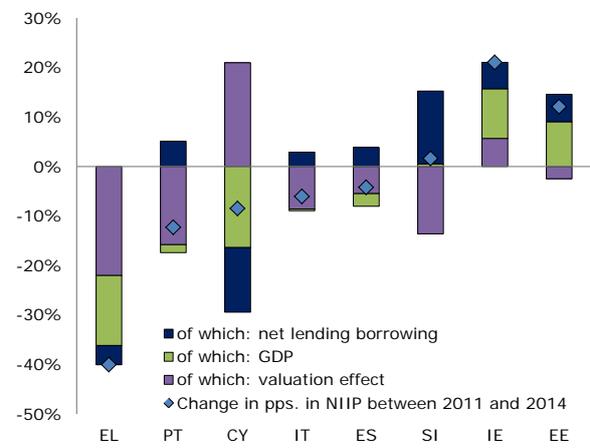
Moreover, in all these countries, volatile forms of investment like portfolio debt make up a large proportion of gross and net foreign liabilities.⁽⁹⁷⁾ In countries which benefited from financial assistance programmes, a non-negligible share of the net marketable debt is accounted for by loans granted during the programmes.⁽⁹⁸⁾ Even the

⁽⁹⁷⁾ Sustainability risks and vulnerabilities are in general judged higher when a large share of the liabilities is accounted for by fixed-income instruments (debt) implying payment of principal or interests. Conversely, equity instruments are less likely to cause payment incident as dividends payments can be more easily adjusted during downturns. They are, however, not immune to a rapid withdrawal of capital.

⁽⁹⁸⁾ In 2014, the *other investment* balance of general government, a financial account entry that mainly records the outstanding loan amount granted in the context of financial assistance programme, amounted to -126% of GDP in Greece, -54% in Cyprus, -46% in

recent developments between 2011 and 2014 do not point to a marked adjustment. Despite a positive cumulated net lending position in Portugal, Spain and Slovenia, the NIIP-to-GDP ratios deteriorated or stagnated. In particular, in a macroeconomic environment characterised by weak growth and low inflation, the contribution of nominal GDP growth to the change in NIIP has been either negligible (Spain, Portugal, Slovenia) or significantly negative (Greece, Cyprus) (see Graph IV.2). This suggests that the adjustment of current account balances has been insufficiently combined with efforts to generate nominal growth robust enough to allow for a smooth adjustment of the NIIP-to-GDP ratio. Ireland and Estonia stand out as exceptions. In all countries except Cyprus and Ireland, negative valuation effects, mainly on portfolio liabilities, probably resulting from sovereign spreads movements, have also weighed, sometimes significantly, on the reduction of the negative NIIP.⁽⁹⁹⁾

Graph IV.2: Evolution of the net international investment position (NIIP) between 2011 and 2014 (in pps.)



Source: Eurostat, own calculations.

Looking ahead, much higher trade and current account balances than those observed so far would in general be required to bring down NIIPs to safer levels (see Table IV.1). For example, for the NIIP to reach -35% by 2024, an average trade balance of 5.8%, 5.0%, 4.8% and 3.8% in 2015-2024 would be required in Cyprus, Portugal, Greece and Spain.

Portugal, -29% in Ireland and -5% in Spain. The corresponding flows helped to cover the financing needs of these countries.

⁽⁹⁹⁾ In Cyprus, the positive valuation effect between 2011 and 2014 mainly comes from a cumulated positive valuation effect on long term debt instruments.

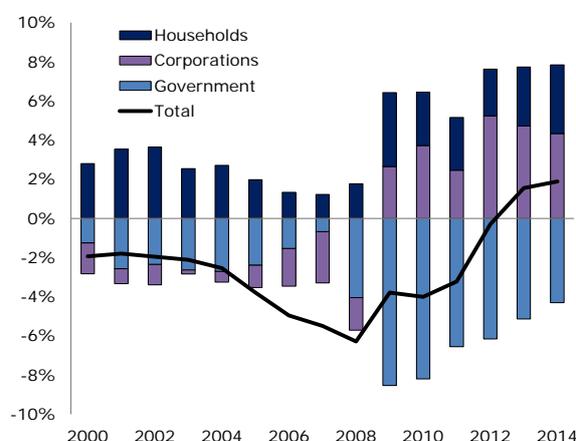
The figures recorded in 2014, by contrast, were only 0.7% for Cyprus, 0.4% for Portugal, -2.6% for Greece and 2.5% for Spain. In the case of Ireland and Slovenia, the current account and trade balances need to be maintained in order to obtain a significant reduction of their NIIP close to -35% within a decade. Italy does not face the same external pressure since its NIIP was relatively contained in 2014 (above -35%). However, it seems to be running trade surpluses that are higher than what is necessary to stabilise its NIIP. This suggests that the surpluses observed in Italy until 2014, which were less needed from a purely external sustainability perspective compared to other countries analysed here, may be more a reflection of constrained domestic demand than a boost in productivity and export potential. ⁽¹⁰⁰⁾

The large and negative NIIPs in the countries analysed here partly mirror the build-up of internal imbalances during the pre-crisis period in all sectors (households, corporations and government). Such imbalances were in general permitted by an easy access to credit through cross-border capital flows after the introduction of the euro. ⁽¹⁰¹⁾ In Cyprus, Ireland, Portugal, Spain and Greece, household debt amounted to 129%, 84%, 82%, 73% and 63% of GDP in 2014 (consolidated terms), often reflecting the legacy of housing bubbles and distortionary housing-related tax incentives in the past. Corporate debt amounted to 220%, 180%, 108%, 93%, 76%, 72% of GDP in Cyprus, Ireland, Portugal, Spain, Italy and Slovenia, partly as a result of tax incentives favouring debt versus equity and financial deregulation. In general, loose fiscal policy after the introduction of the euro and the impact of the crisis, including banking system rescues and the effect of the double dip recession on taxes and revenues, have sent public debt to levels ranging from 81% in Slovenia and 99% in Spain to nearly 180% in Greece. ⁽¹⁰²⁾

The current account adjustment observed in 'deficit' countries is a reflection of the deleveraging

pressures related to the necessary unwinding of all these internal imbalances. One way to put in evidence this deleveraging process is to look at the net lending/borrowing positions of these economies by sectors. As depicted in Graph IV.3, private sector deleveraging started early on, when the crisis broke out, and the process is still ongoing. In 2014, households in the 'deficit' countries had a net lending position twice as high as in 2008. Corporations, which often record net borrowing needs in normal times, were still posting a positive net lending position in 2014. In Portugal, Spain, Slovenia and Ireland, deleveraging has occurred mainly in an *active* mode, through negative credit flows, which adversely affects economic activity. Despite negative credit flows to the private sector, Cyprus and Greece saw indebtedness rise due to weak nominal GDP growth. ⁽¹⁰³⁾ Government deleveraging started later, as the first phase of the recession prompted stimulus packages in 2009-2010. Since then, governments have entered a consolidation phase, and budgetary policy has led to a progressive reduction in the public deficit.

Graph IV.3: Net lending/borrowing position of "deficit" economies (2000-2014, in % of GDP)



Source: AMECO.

All in all, this section shows that the adjustment that has taken place in 'deficit' economies since the onset of the crisis is characterised by the persistence of elevated levels of debt affecting all

⁽¹⁰⁰⁾ Since 2012, declining consumption has been a major driver of current account developments in Italy. See Box I.3 in 'European Economic Forecast-Spring 2015', *European Economy*, 2015(2).

⁽¹⁰¹⁾ For an example of analysis documenting the dominant role of 'core' countries in financing the euro area periphery's current account deficits before the financial crisis, see: Hobza, A. and S. Zeugner (2014), 'Current accounts and financial flows in the euro area', *Journal of International Money and Finance* Vol. 48, Part B, pp. 291-313.

⁽¹⁰²⁾ For evidence regarding the procyclicality of public finances in the pre-crisis period, see for example: Fatas, A. and Mihov, I. (2009), 'The euro and fiscal policy', *NBER Working Paper Series*, 14722.

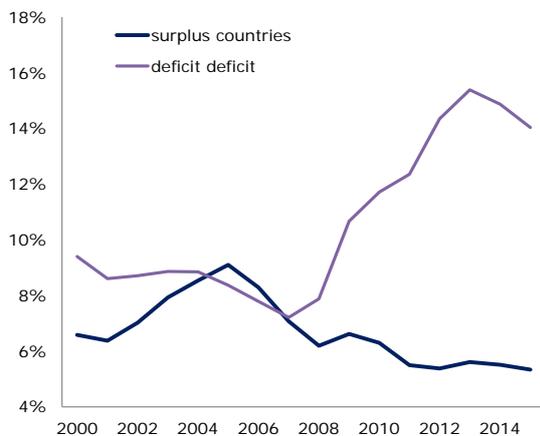
⁽¹⁰³⁾ For an analysis of the private sector deleveraging, see Pontuch, P. (2014), 'Private sector deleveraging: where do we stand?', *Quarterly Report on the Euro Area*, Vol. 13 (2014), No 3, or European Commission (2015), 'Macroeconomic imbalances, main findings of the in-depth reviews 2015', *European Economy-Occasional Papers*, 228.

economic actors. Moreover, these stock imbalances are unlikely to significantly deflate in the near future. While an adjustment in flows (current account, credit flows) can be undertaken relatively rapidly, the legacy of high indebtedness accumulated in the pre-crisis period is proving much more difficult to reverse, even more so in a low inflation environment, with negative implications for economic growth and exposure to shocks as well as a slow shift to more profitable activities, as the next two subsections will highlight.

IV.3. Excessive debt and the quality of the adjustment

Economic developments observed since the crisis show that as long as deleveraging pressures linked to private and public debts remain, economic activity may struggle to pick up, with negative implications for employment (see Graph IV.4).⁽¹⁰⁴⁾

Graph IV.4: Evolution of the unemployment rate in the euro area (1)



(1) 'surplus' countries: Belgium, Germany, Luxembourg, the Netherlands, Austria and Finland. 'deficit' countries: Estonia, Ireland, Greece, Spain, France, Italy, Cyprus, Portugal, Slovenia and Slovakia.

Source: AMECO

First, in the short run, high external liabilities imply high refinancing needs which make a country vulnerable to country-specific macroeconomic shocks such as a fall in income, an interest rate shock, or a sudden stop in capital inflows. This was confirmed by the euro area sovereign crisis that culminated in 2012. The crisis, which eventually set in motion the process of establishing a proper

banking union, made it clear that countries are even more vulnerable in the absence of a fully integrated banking system or common backstops for the banking sector.⁽¹⁰⁵⁾

Second, even in less tense situations such as the present, the weight of existing debt held by corporations and households can prevent them from undertaking new investments and hold back consumption for a long period of time.⁽¹⁰⁶⁾

Third, when deleveraging pressures affect many economic actors simultaneously, the negative impacts on economic activity tend to reinforce each other. Corporate deleveraging occurs via a combination of lower investment and higher savings, the latter generally implying wage moderation and/or labour shedding. The consequential reduction in disposable income may in turn make household deleveraging more difficult with further knock on effects on consumption and growth. Conversely, household deleveraging affects corporate deleveraging via reduced consumption and demand. In addition, private sector deleveraging is made harder by government deleveraging via a negative impact on household disposable income and corporate profitability.⁽¹⁰⁷⁾ Empirical evidence shows that the impact of the debt overhang on aggregate investment can be quite sizable. Ozcan et al (2015) argue that the debt overhang explains about a third of the decline in investment observed during the crisis in the euro area.⁽¹⁰⁸⁾

⁽¹⁰⁵⁾ Note that since 2008, the adjustment in current account balances has been somewhat smoothed out by the ample liquidity provided by the Eurosystem (e.g. full allotment, LTROs, SMP, covered bond purchases) as evidenced by the emergence of TARGET2 imbalances allowing for a shift from private to official capital flows. See Loublier, A. (2015), 'Recent developments in cross-border capital flows in the euro area', *Quarterly Report on the Euro Area*, Vol. 14 (2015), No 1.

⁽¹⁰⁶⁾ This problem is known as the debt overhang problem. Debt overhang is originally defined as a situation where a firm's high levels of debt act as a disincentive to new investment (Myers, Stewart C. (1977), 'Determinants of corporate borrowing', *Journal of Financial Economics*, 5 (2), pp. 147-175). When a firm has outstanding debts that make default likely, it becomes reluctant to engage in new investments, even if the latter are economically viable and profitable. Similar arguments apply to households, whose incentives to supply labour are reduced if a large part of their income is used to repay debt. The compression of consumption of highly indebted households is a further drag on short-term growth prospects.

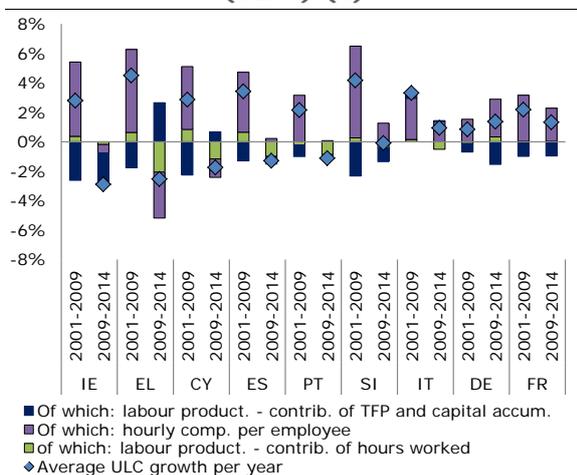
⁽¹⁰⁷⁾ Empirical evidence of these various channels can be found in Bricongne J.-C. and Mordonu A. (2015), 'Interlinkages between household and corporate debt in advanced economies', *European Commission Discussion Papers*, No 17 (October 2015)

⁽¹⁰⁸⁾ Ozcan, S. K., L. Laeven and D. Moreno (2015), 'Debt overhang in Europe: evidence from firm-bank-sovereign linkages', manuscript, March.

⁽¹⁰⁴⁾ See Bank for International Settlements (2014), '84th Annual Report', June 2014.

Since the onset of the crisis, deleveraging pressures in the private and public sectors have coincided with wage moderation and a considerable slowdown in the evolution of unit labour costs (ULCs) in the 'deficit' countries. Chart IV.5 presents a comparison of average annual ULC growth in 2001-2009 and 2009-2014 allowing for a decomposition based on the standard breakdown of ULC growth into hourly compensations and labour productivity, the latter being further broken down into the contribution of hours worked, total factor productivity and capital accumulation using a standard growth accounting framework. In the 'deficit' countries analysed, wage moderation appears to be the most important driver of the slowdown in ULCs compared to pre-crisis dynamics. An overall decline has even been recorded in Greece, Cyprus and Ireland. Wage growth is now lower in 'deficit' economies than in core countries. Furthermore, consistent with the rise in the unemployment rate in recent years, productivity gains through labour shedding have been reducing ULC growth in most of the countries looked at here. For example, in Spain, ULCs decreased at an annual rate of 1.3 % between 2009 and 2014, of which 1.0 % is attributable to labour shedding.

Graph IV.5: Evolution of unit labour costs (ULCs) (1)



(1) The decomposition is based on the standard breakdown of ULC growth into hourly compensations and labour productivity, the latter being further broken down into the contributions of hours worked, total factor productivity and capital accumulation using a standard growth accounting framework.

Source: AMECO, own calculations.

The adjustment in cost competitiveness in the 'deficit' countries has first coincided with a current account reversal mirroring a demand compression. As is now well documented, the early phase of

rebalancing was largely driven by the contraction of private domestic demand components across the board. The contraction was particularly pronounced in construction investment (see also next section). Only recently have exports started to pick up.⁽¹⁰⁹⁾ Overall, in euro area economies, between 2009 and 2014, lower ULC growth coincided on average with an increase in current account balances, as evidenced by a correlation coefficient of -0.5.⁽¹¹⁰⁾ However, over the same period, the correlation of ULC growth with real import growth was positive and elevated (+0.4), while the correlation with real export growth was also positive (+0.1). Various factors may have affected export performance during the adjustment period (e.g. an export market evolution constrained by the euro area-wide recession).⁽¹¹¹⁾ Nonetheless, this tends to show that reduced ULCs took time to translate into a durable improvement in export dynamics, with the presence of rigidities in the adjustment process possibly being one important limiting factor (see next subsection). This is in the same vein as the findings of Gaulier and Vicard (2012) and Gabrisch and Staehr (2014) who show that changes in ULCs are not well correlated with or do not precede changes in exports.⁽¹¹²⁾

All in all, this section shows that high levels of private and public debt have certainly affected the quality of the adjustment process. The deleveraging pressures related to their necessary unwinding and the much-needed improvement in cost competitiveness have mainly, at least during the first years of adjustment, coincided with a compression in domestic demand and a surge in unemployment, rather than a boost in exports. Furthermore, as discussed in the next section, high levels of debt not only represent a drag on demand and growth, but are also likely to weigh on the more structural rebalancing of the economy towards more productive or export-oriented activities.

⁽¹⁰⁹⁾ See Box I.3 in 'European Economic Forecast-Spring 2015', *European Economy*, 2015(2).

⁽¹¹⁰⁾ The correlations presented in this paragraph are calculated as the cross-sectional correlations between the growth rate of ULCs between 2009 and 2014 and the pp. change in current account balance, the growth of real exports and imports over the same period. All euro-area Member States are included in the calculations.

⁽¹¹¹⁾ See Chapter I.

⁽¹¹²⁾ Gaulier, G. and Vicard, V. (2012), 'Current account imbalances in the euro area: competitiveness or demand shock?', *Quarterly Section of Articles*, No 27, Autumn 2012, Banque de France;

Gabrisch, H. and K. Staehr. (2014), 'The Euro Plus Pact: competitiveness and external capital flows in the EU countries', *Journal of Common Market Studies*, 2014, pp. 1-19.

IV.4. High non-performing loans and the misallocation of capital

Growth-friendly external rebalancing in 'deficit' countries requires a shift of resources from low productivity to high productivity activities, which in general corresponds to a shift from the non-tradable to the tradable sector, leading to an increase in the export capacity and eventually actual exports and income. As resources are driven by their expected returns, one would expect a rebalancing in which the attractiveness of the tradable sector increases relative to the non-tradable one. As described in the previous section, despite a marked adjustment in wages, the effect on exports has been slow to kick in.

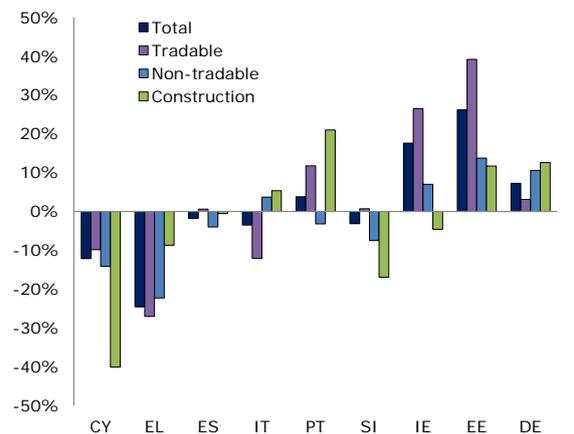
One way to assess the rebalancing is to consider the evolution of operating margins in the tradable and non-tradable sectors since 2008 (see Graph IV.6). The operating margin is defined as the value added minus compensation of employees and can be considered an indicator of the profitability of an economy. It encompasses various effects, including price-cost margins and demand (or scale of activity) effects.⁽¹¹³⁾ In Cyprus, Greece and Italy, the operating margins fell between 2008 and 2014 with the tradable sector playing a major role. In Spain, the operating margins in the total economy fell too, but this was compatible with an increase in the margins in the tradable sectors. Portugal, and especially Ireland and Estonia, have enjoyed both an increase in total margins which was more pronounced in the tradable sector, suggesting a faster adjustment.

The explanations for the heterogeneity in the progress made towards rebalancing may lie in the presence of rigidities affecting the production process. Such rigidities can be present in the labour and product markets. The swift implementation of structural reforms in labour and product markets helped Ireland and Estonia record a faster and stronger recovery than other euro area Member States.⁽¹¹⁴⁾ The presence of product and labour market rigidities as an obstacle to the adjustment process was well known in the pre-crisis debate.

However, the impact of rigidities associated with the persistence of high debt levels and deleveraging pressures hampering an efficient allocation of capital sheds light on a new challenge.

The different pace of adjustment in the vulnerable economies may indeed be linked to the presence of rigidities in the capital allocation process, i.e. in the transmission of savings to productive investments. One way of evidencing disparities among 'deficit' euro area economies is to put in perspective the evolution of investment in the tradable and the non-tradable sectors with that of non-performing loans (NPLs). In general, the 'deficit' economies analysed here are those that experienced the most significant surges in NPLs.

Graph IV.6: Evolution of operating margins in the tradable and non-tradable since 2009 (1), (2), (3)
(in %)



(1) Operating margins are defined as value added (B1) minus compensation of employees (D1)
(2) Tradable sector includes: A - agriculture, forestry and fishing, B_E - industry except construction, G_I - wholesale and retail trade, transport, accommodation and food service activities, J - information and communication.
(3) Non-tradable sector includes: F - construction, K - financial and insurance activities, L - real estate activities, M_N - professional, scientific and technical activities, administrative and support activities, O_Q - public administration, defence, education, human health and social work activities, R_U - arts, entertainment and recreation, other service activities, activities of household and extra-territorial organisations and bodies.

Source: Eurostat, own calculations.

A high NPL stock can have implications for growth prospects and adjustment via the allocation of capital between viable and non-viable firms. High stocks of NPLs are often associated with a relatively large proportion of credit being locked up with non-viable firms (mostly in the non-tradable

⁽¹¹³⁾ For an in-depth analysis of the pass-through of wage cuts into prices, see Breitenfellner, A., A. D. Dragu, and P. Pontuch, (2013), 'Labour costs pass-through, profits and rebalancing in vulnerable Member States', *Quarterly Report on the Euro Area*, Vol. 12 (2013), No 3.

⁽¹¹⁴⁾ See Chapter II for an econometric analysis of rigidities in the labour market hampering the adjustment process.

sector).⁽¹¹⁵⁾ If banks refinance the non-tradable sector in order to delay the moment when loan losses have to be disclosed, this is done at the expense of the supply of credit to new and viable projects in the tradable sector. More precisely, the presence of non-performing debt on bank balance sheets weighs on their ability to provide funding to the real economy through several channels.⁽¹¹⁶⁾ NPLs imply higher provisioning needs, which in turn may weigh on bank profits. The willingness of banks to finance risky projects may also be reduced by the perception of increased asset riskiness linked to NPLs.⁽¹¹⁷⁾ Moreover, higher capital requirements linked to increased riskiness of assets tie up banks' resources and crowd out new credit. Profits are further reduced by the increased amount of human resources needed to monitor and manage a high NPL stock.⁽¹¹⁸⁾

The evolution of investment in the tradable and non-tradable sectors since 2008 is depicted in Graph IV.7 and put in perspective with the evolution of non-performing loans (NPLs). The picture that emerges is that the shift between investment in the tradable sector and the non-tradable one has not taken place, or has taken place at a much lower pace, in countries that experienced a higher or more persistent surge in NPLs. In Cyprus and Greece, investment fell by more than 60% between 2008 and 2014, corresponding to a 59% and 53% decrease in the tradable sector. In parallel, NPLs skyrocketed to 45% and 34% in 2014 respectively. In Italy too, the continuous increase in NPLs between 2008 and 2014 (reaching 18% in 2014) coincided with a fall of more than 20% in investment in the tradable sector. In Spain, the rise in NPLs was relatively less pronounced and peaked in 2013. The fall in construction accounts for a large share of the fall in total investment while investment in the tradable sector performed comparatively well. Conversely, Ireland and Estonia stand out as countries which were able to

undertake a rapid adjustment in investment. In Ireland, total investment in 2014 was still 21% lower than in 2008, but had been on an upward trend since 2010 and investment in the tradable sector was 20% higher than in 2008. NPLs surged but a marked decrease has been underway since 2013. In Estonia, after a marked adjustment in 2009 and 2010, investment in the tradable sector has grown faster than total investment, concomitant with a small increase in NPLs rapidly corrected.

Naturally the correlations considered here between NPLs and investment do not necessarily imply causality, as these two variables have a strong cyclical component. The faster recovery in Ireland and Estonia could explain much of the improvement in NPLs and investment without causality from the former to the latter. However, some empirical studies tend to support the view that efficient insolvency frameworks have a positive impact on the speed and cost of corporate and household deleveraging. For example, the IMF reckons that given the current level of impaired assets, a timely resolution could unlock new lending of more than 5% of GDP. Moreover, Carcea et al (2015) show that factors measuring the efficiency of the restructuring process are positively associated with a speedier adjustment of the NPL rates, i.e. to their swifter reaction and subsequent normalisation following a negative macroeconomic shock. They also show that the negative relationship between corporate deleveraging and GDP growth (hence potentially investment) appears to be significantly lower in Member States with a more efficient bank rescue and recovery framework.⁽¹¹⁹⁾

All in all, this section highlights the importance of dealing with high stocks of non-viable debt in order to facilitate the structural shift from non-tradable to tradable activities and make the adjustment process more growth-friendly. One way of tackling high NPLs is to ensure that insolvency frameworks are adequate to address the stocks of non-viable debt, free-up economic resources, and reallocate capital efficiently. This is what happened in Spain and Ireland where NPLs began to decline once insolvency reforms were implemented. This is also the objective of a true capital markets union

⁽¹¹⁵⁾ Regarding the link between profitability and the tradable sector, see Breitenfellner et al. (2013) Using data up to 2011, they show that profitability was in 2011 higher in the tradable sector than in the non-tradable one, with Greece being an exception. Breitenfellner et al. (2013) op. cit.

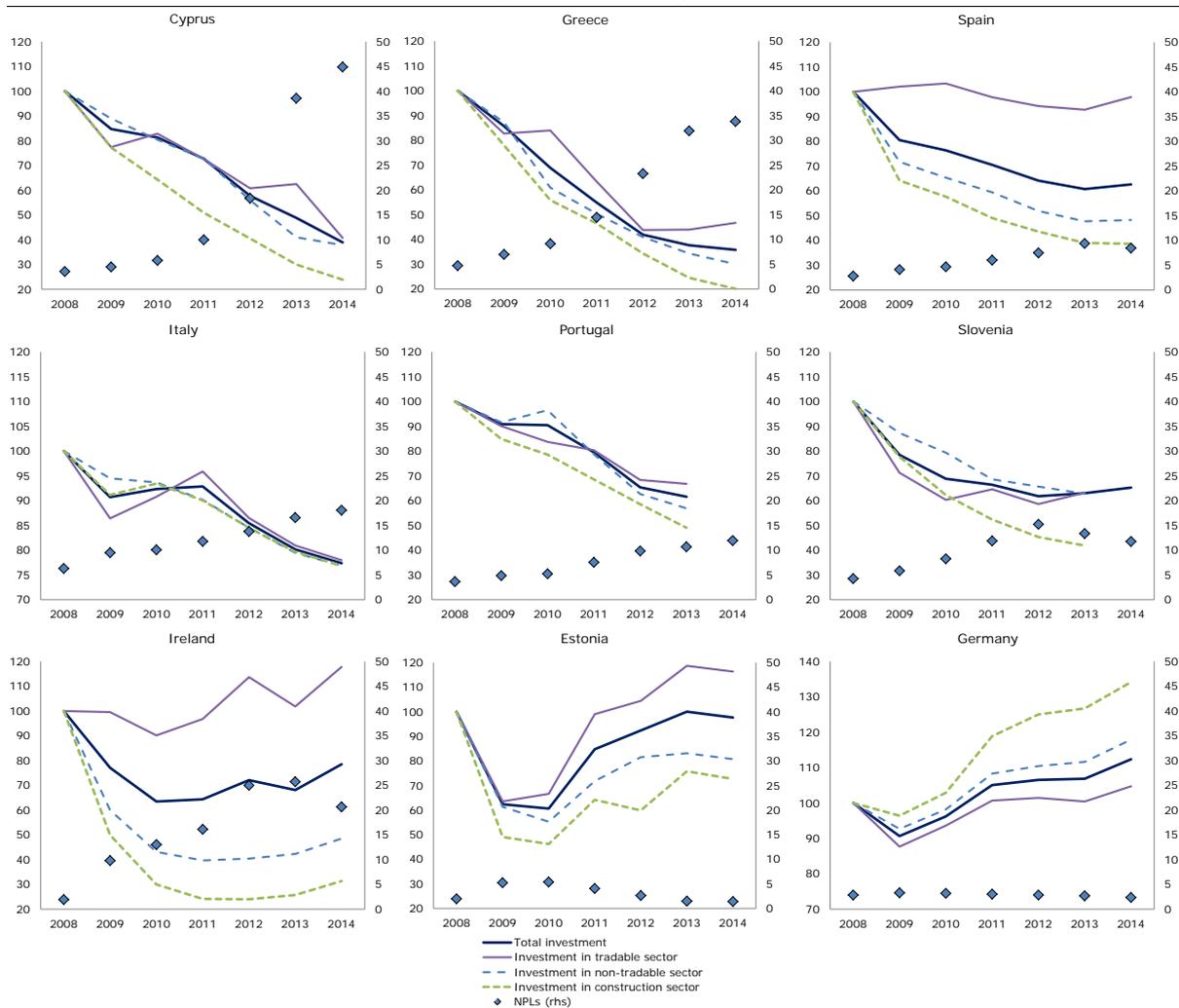
⁽¹¹⁶⁾ See IMF (2015), 'Euro area policies, selected issues: policy options for tackling non-performing loans in the euro area', *IMF Country Report*, No. 15/205, July 2015.

⁽¹¹⁷⁾ For example, see Diwan, I. and Rodrik, D. (1992), 'Debt reduction, adjustment lending, and burden sharing', *NBER Working Paper Series*, No. 4007.

⁽¹¹⁸⁾ The negative impact of high NPLs on banks' profitability needs, however, to be weighed against the costs linked to the restructuring of the NPL portfolio that is likely to result in losses, thus reducing profitability and capital positions.

⁽¹¹⁹⁾ See Carcea, M. C., Ciriaci, D., Cuerpo, C. Lorenzani, L. and Pontuch, P. (2015), 'The economic impact of rescue and recovery frameworks in the EU', *European Economy Discussion Paper* 004, September 2015.

Graph IV.7: **Non-performing loans and investment in the tradable and non-tradable sectors (1)**
(2008-2014, in %)



(1) For the definition of tradable and non-tradable sectors, see previous Graph.

Source: NPLs: IMF, investment: Eurostat. For Spain, data are not available for all industry. Therefore, the following assumptions are retained: (i) investment in the construction sector is extrapolated in 2013 and 2014 using the growth rate of construction-assets; (ii) investment in sector K is extrapolated in 2013 and 2014 using the growth rate of total investment; (iii) the share of investment in sectors M_N, R_U, and O_Q in total investment is assumed to be constant (25% which corresponds to the average 2008-2010 based on ESA95 data).

whose aim is to make the funding structure more diversified and loss absorbing.

IV.5. Conclusion

This chapter highlights the prominent role played by excessive indebtedness throughout the adjustment process of euro area 'deficit' economies since the outbreak of the global financial crisis. Although built up during the pre-crisis period, high debt levels and their impact on growth and adjustment were not paid sufficient attention in the pre-crisis view of the functioning of the euro area. In a context where financial markets are not fully

integrated, activity in 'deficit' economies has been adversely affected by excessive indebtedness through various channels over the past seven years. High debt levels made some of these countries particularly vulnerable to the shock linked to the global financial crisis, contributing to a disorderly and asymmetric correction. The simultaneous deleveraging pressures linked to the necessary unwinding of excessive indebtedness in all economic sectors have also been weighing on domestic demand, contributing to major output losses and a persistent rise in unemployment. Moreover, at the euro area aggregate level, domestic demand has not been sufficiently

supported by net creditor countries with large saving-investment balances or low deleveraging needs, which has made the deleveraging process even more difficult. High debt levels have also been associated with a surge in NPLs, possibly reflecting inefficient insolvency frameworks. This has hampered the adjustment as credit locked up in firms in the non-tradable sector has not been efficiently allocated to more productive or tradable activities.

Looking ahead, dealing with high stocks of non-viable debt is essential in an overall context of low inflation and low growth. Efficient insolvency

frameworks and a fully-integrated capital markets union would help mitigate the negative impact of high debt levels on demand and output by freeing up resources locked-up in unproductive activities, thus easing credit supply constraints and boosting structural adjustment. In parallel, this adjustment should be facilitated by countries with fiscal space, a large current account surplus or low deleveraging pressures. By boosting domestic demand and investment, they would contribute to put the rebalancing process on a more stable footing by making it more symmetric, while making the recovery more self-sustainable.