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Subject: COMMISSION STAFF WORKING DOCUMENT
Coping with the international financial crisis at the national level in a
European context
Impact and Financial sector policy responses in 2008-2015

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PART 2/3

COMMISSION STAFF WORKING DOCUMENT

**Coping with the international financial crisis at the national level in a
European context
Impact and financial sector policy responses in 2008 – 2015**

Part III

Impact on macro financial stability

1. STABILISATION OF THE BANKING AND GOVERNMENT SECTOR

Following the implementation of the economic adjustment programmes, vulnerable countries managed to return their banking and government sectors to financial stability.

In general, an improvement of banking sector robustness took place in the whole EU. This can be assessed from two angles: i) a brief check of the bank prudential indicators will show that bank capital ratios were restored to safe levels, profitability became positive again, the rise in non-performing loans levelled off and the liquidity situation was normalised and ii) the market stock prices, ratings and the cost of funding of banks have improved, showing that the increase in investor confidence has validated the success of the bank stabilisation process.

Because of the intricate links between the sovereign and the banking sector, the former suffered when the latter was in disarray (e.g. Ireland) and vice versa (e.g. Greece). Three points are made: i) the financial situation of the government stabilised, but the risk premium reappeared; ii) different paths of stabilisation of government interest rates are observed as shaped by the success in implementing reform measures and avoiding contagion and iii) the sovereign-bank nexus increased from the angle of greater intertwined balance sheets, but spill-overs are mitigated through the ECB programme of quantitative easing, by regulatory measures and fiscal policy.

1.1. A SIGNIFICANT RECOVERY OF BANK PRUDENTIAL INDICATORS

Regardless whether the crisis originated in the financial sector or not, in all the countries affected by the economic recession a negative feed-back loop to the banking sector emerged. Programme countries suffered the largest negative impact, both due to liquidity and capital problems. First and foremost, the loss of depositor confidence and the drying-up of inter-bank and wholesale funding markets put tremendous pressure on the liquidity of banks in most programme countries. In parallel, but usually extending over a longer period of time, bank capitalisation suffered from the rising amount of impaired assets, which once recognized and

provisioned, turned into losses that eroded the banks' capital.

The stabilisation process benefitted from the EU initiative to build-up a banking union that would strengthen the viability of banks and reduce the feed-back loop between the EU banking sector and sovereigns, thus ensuring a level-playing field in the provision of European financial services (see Box III.1.1).

As regards **liquidity**, the closure of interbank and debt funding markets and subsequent loss of depositor confidence was the first wave of the crisis to immediately impact banks. As these sources of funding dried up, banking systems were suddenly forced to vastly increase their reliance on Eurosystem liquidity, which coupled with sustained credit rating downgrades, implied that collateral availability became more important than banks had been accustomed to in the pre-crisis period. This trend can be observed with programme countries such as Ireland and Greece, who in 2010 and in the course of only a couple of months saw their Eurosystem reliance double to approximately 20% of their total liabilities. Portugal and Cyprus subsequently followed suit, with a similar order of magnitude albeit at a lower overall level. Portugal saw a doubling of its Eurosystem reliance in mid-2010 from just under 5% to slightly above 10% as did Cyprus in mid-2012. Banks profitability was impacted through the increase in deposit interest rates that banks had to offer customers to either retain existing or attract new deposits.

As the balance sheet repair advanced and investor confidence returned, particularly in countries supported by external financial assistance, the liquidity pressures subsided. The improvement came not only from resumed access to interbank and capital markets and the reduction of illiquid non-performing legacy assets, but also from reduced lending activity as credit demand subdued. Eventually, the euro area banks' reliance on the Eurosystem borrowing was significantly reduced and most of the banks started to search intensively for opportunities to invest the available liquidity and increase their profit generating capacity.

Box III.1.1: Banking Union

In response to the financial crisis that emerged in 2008, the European Commission pursued a number of initiatives to create a safer financial sector. It became clear that, especially in a monetary union such as the euro area, problems caused by close links between public finances and the banking sector can easily spill over national borders and cause financial distress in other EU countries. The initiatives, which include stronger prudential requirements for banks, improved depositor protection and rules for managing failing banks, form a single rulebook which is the foundation of the so-called Banking Union.

The Capital Requirements Regulation, which applies from 1 January 2014, was aimed to ensure uniform application of Basel III in all Member States. It closed regulatory loopholes and thus contribute to a more effective functioning of the Internal Market. The rules removed a large number of national options and discretions from the Capital Requirements Directive, and allowed Member States to apply stricter requirements only where these are justified by national circumstances (e.g. real estate), needed on financial stability grounds or because of a bank's specific risk profile.

As the financial crisis evolved and turned into the Eurozone debt crisis, it became clear that, for those countries which shared the euro, a deeper integration of the banking system was needed. That is why, on the basis of the European Commission roadmap for the creation of the Banking Union, the EU institutions agreed in 2013 (based on the proposal of the European Commission in 2012) to establish a Single Supervisory Mechanism and in 2014 (based on a proposal by the Commission in 2013) a Single Resolution Mechanism for banks. Banking Union applies to countries in the euro-area. Non-euro-area countries can also join.

Since 4 November 2014, the ECB's Single Supervisory Mechanism directly supervises the 129 significant banks of the participating countries. These banks hold almost 82% of banking assets in the euro area. Banks that are not considered significant are known as "less significant" institutions. They continue to be supervised by their national supervisors, in close cooperation with the ECB.

The Single Resolution Mechanism became operational on 1 January 2016. The Single Resolution Board is the resolution authority for the significant and cross border banking groups established within participating Member States. In the context of the Single Resolution Mechanism, it works in close cooperation with the national resolution authorities. Its mission is to ensure an orderly resolution of failing banks with minimum impact on the real economy and on public finances of the participating Member States and beyond. A Single Resolution Fund was set up under the control of the Single Resolution Board. Where necessary within a resolution scheme and under certain conditions, the Single Resolution Fund may be used to ensure the efficient application of the resolution tools and the exercise of the resolution powers conferred to the Single Resolution Board by the Single Resolution Mechanism Regulation. The Single Resolution Fund is filled with contributions from credit institutions and certain investment firms in the 19 participating Member States within the Banking Union. The Single Resolution Fund will be gradually built up over eight years (2016-2023) and shall reach a target level of at least 1% of the covered deposits of all credit institutions within the Banking Union by 2023.

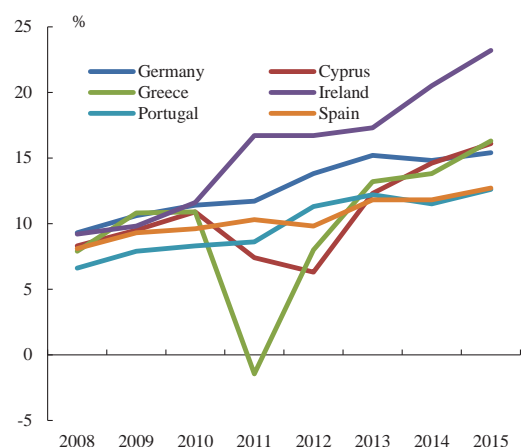
As a further step to a fully-fledged Banking Union, in November 2015, the Commission put forward a proposal for a European deposit insurance scheme, which would provide a stronger and more uniform degree of insurance cover for all retail depositors in the Banking Union. The European deposit insurance scheme is proposed to develop over time and in three stages: first a re-insurance stage, then a co-insurance stage and, finally, a full European system of deposit guarantees, which is envisaged for 2024. More information on the set-up of the EU Banking Union can be found in chapter 4 of the European Financial Stability and Integration Review (European Commission, 2017).

In 2016, bank liquidity in some euro area operations, including the second series of targeted programme countries was reinforced by ECB longer-term refinancing operations and the

expanded asset purchase programme. As a result, the funding costs of banks have reached multi-year minima.

As regards **capital levels**, one can observe a significant improvement for all programme countries and in particular for the euro-area ones from 2008 to 2015 (Graphs III.1.1 and III.1.2). Capital ratios in programme countries are not only above the regulatory minima required (in some cases, such as Spain or Portugal, explicitly asked for in the Memorandum of Understanding), but even compare favourably with other countries, such as Germany, that did not request financial assistance.

Graph III.1.1: Tier1 capital ratio for euro area countries



Source: ECB

The improved capitalisation of banks resulted from both more and higher quality loss-absorbing capital, as European banks started implementing the new Capital Requirements Directive IV⁽¹⁾. Nevertheless, some analysts such as Schoenmaker and Peek (2014) argue that European banks are lagging behind their US peers in terms of equity issuance and non-risk weighted capital ratios. The EU-wide stress tests conducted by EBA in 2014 and 2016 confirmed the increase in capital ratios in recent years for the banks surveyed as regards the starting levels of the exercise. They also showed

⁽¹⁾ The ECB and the European Bank Authority revealed in the second half of 2013 that about EUR 500 billion of new capital was injected in euro-area banks since the beginning of the crisis, leading to an improvement of the core tier1 ratio from 10% to 11.7% between December 2011 and June 2013 for the 64 most significant EU banks surveyed by European Bank Authority.

an improved capacity to withstand potential losses in case adverse conditions materialize for the banks in the sample⁽²⁾.

The banks in euro area programme countries had not only entered the crisis with lower capital levels than in non-euro area ones, but also reached very low points, some below regulatory minima, at certain moments in time.

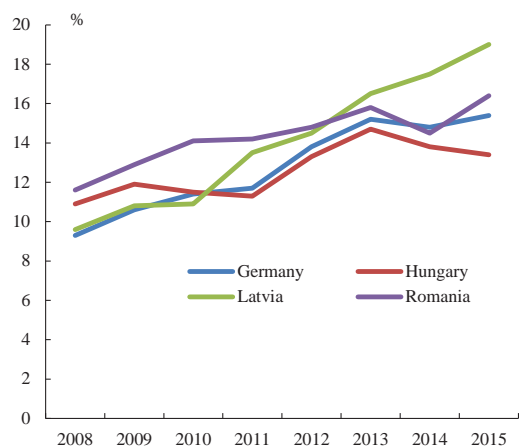
Cyprus' average banking sector core tier1 ratio had dropped below 5% of risk-weighted assets (mainly due to the haircut of private sector investors in Greek sovereign bonds) and was only restored to normal levels following the March 2013 bail-in operation which affected holders of subordinated debt, unsecured senior debt and deposits. A further boost to bank capitalisation was given by the fresh private capital injected in Hellenic Bank and the injection of capital, financed by the external assistance, in the Cooperative Central Bank in March 2014.

The same Greek Private Sector Involvement event in February 2012 led to a decline of the average Tier1 ratio of Greek banks into slightly negative territory. The recapitalisation of the banking sector was done predominantly with programme funds via the Hellenic Financial Stability Fund. In the other three euro area programme countries – Ireland, Portugal and Spain - capital levels have gradually improved over the programme period following banking sector stress-tests and due preventive recapitalisation with external financial assistance. Recapitalisation with private funds was ensured via burden-sharing, i.e. converting into equity subordinated liabilities, in Ireland and Spain⁽³⁾. The issuance of fresh capital (common equity, subordinated debt and CoCos) took place in many programme countries once the confidence in the banking sector was restored.

⁽²⁾ See the results of the 2016 EU –wide stress test at: <https://www.eba.europa.eu/risk-analysis-and-data/eu-wide-stress-testing/2016>

⁽³⁾ Spain was the first programme country where a mandatory subordinated liability exercise took place, whereas in Ireland a voluntary liability management exercise was arranged under which minority investors had to follow the decision of the majority.

Graph III.1.2: Tier1 capital ratio for non-euro area countries



Source: ECB

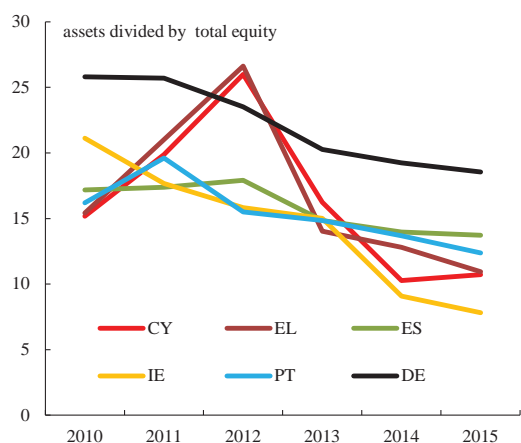
Capital ratios of banks in the non-euro area programme countries were not only higher than in the euro area at the beginning of the crisis, but these banks were also predominantly owned by strong foreign banking groups. Therefore, public recapitalisation of banks was only a secondary concern. Support for financial institutions was more meaningful only in Latvia, while the bulk of recapitalisations in non-euro area Member States were done with private money.

The improvement in the capital positions of banks in all programme countries occurred against the background of a deleveraging of their balance sheets. The favourable evolution of bank **capital leverage** can be noted in particular in the euro area programme countries where banks were in general more leveraged at the beginning of the crisis than in the non-euro area programme countries (Graphs III.1.3 and III.1.4).

Whereas the general trend has been for banks to start deleveraging their balance sheets at the beginning of the crisis, banks in Greece, Cyprus and to some extent also in Spain and Portugal continued to increase their leverage until 2012 (Graph III.1.3). The average assets for Greek and Cypriot banks peaked at a very high level of more than 25 times their equity in 2012 due to a very significant drop in capital buffers rather than an increase in balance sheets. As of 2013, the spike in leverage came down towards the level of their peers both on account of rebuilding capital buffers and reducing the size of bank assets. In Cyprus, for

example, the sale of foreign assets, the so-called "Greek carve-out" and the bail-in of liabilities in Bank of Cyprus and Laiki played an important role in reducing the very high leverage in 2013. In a similar way, the restructuring of Spanish banks and the transfer of real estate assets to an external asset management company (SAREB), together with the subordinated liability exercise and the recapitalisation of the transfer institutions resulted in a substantial decline of the leverage in 2013. Overall, during a five-year period, banks in the euro area programme countries managed to reduce the average leverage from 17 to 11. It is interesting to note that during the entire period their capital leverage was below the one in Germany, where the volume of risk-weighted assets relative to total assets was much lower.

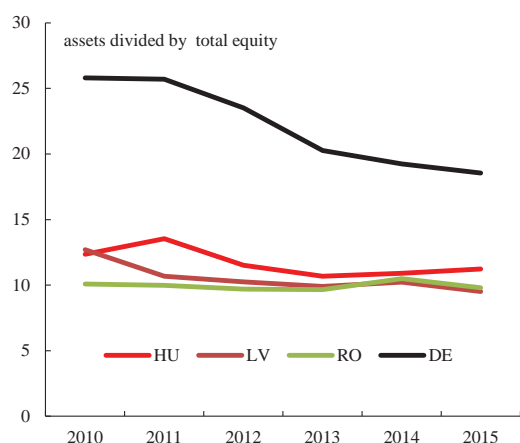
Graph III.1.3: Leverage in euro area programme countries



Source: ECB

Banks in the non-euro area programme countries not only started with lower leverage than their peers in euro area programme countries, but also started rebuilding capital buffers and deleveraging balance sheets earlier than 2010 (Graph III.1.4). As a result, assets of banks in Hungary, Latvia and Romania represented 12 times their capital on average in 2010, which was already a comfortable starting position. As a result, the decline of the leverage in non-euro area programme countries was less pronounced during 2010-2015.

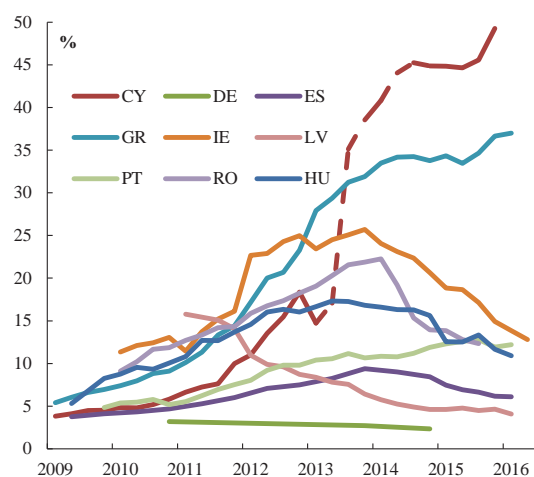
Graph III.1.4: Leverage in non-euro area programme countries



Source: ECB

The still high levels of non-performing assets represent, however, a risk to the current relatively solid capital positions of banks in vulnerable countries. Despite some progress with the cleaning-up of the banks' balance sheets (see part II.4) and the economic recovery, NPL ratios have levelled off and declined significantly in some countries such as Ireland, Latvia, Hungary, Romania and Spain, but continue their ascending trend in others (Graph III.1.5). This is partly a statistical effect, due to the fact that in many programme countries although the stock of NPLs is stabilizing or increasing at a slower pace, the stock of outstanding loans continues to shrink. Cyprus displays the highest NPL ratio of about 50% of total loans in the group, followed closely by Greece which also reached a very high NPL ratio in excess of 33% of total loans. The volume of NPLs has stabilised and started to decline slowly in Cyprus recently. In Greece, NPLs continue to rise, but the rate of new delinquencies has moderated. Concerns about the steady increase in the legacy non-performing assets in some banks have emerged recently also in non-programme countries, Italy for example.

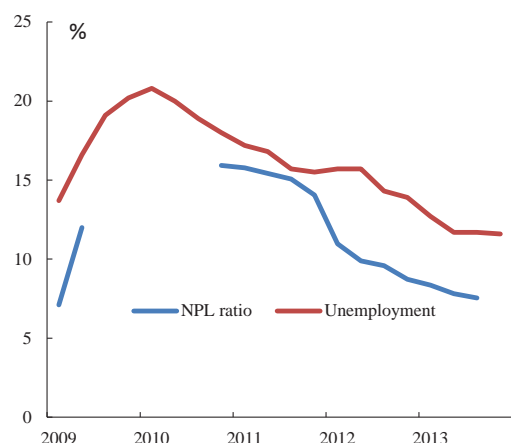
Graph III.1.5: Non-performing loans in programme countries



Source: IMF

So far, progress with balance-sheet repair and clean-up remains uneven among countries and banks. In this respect, economic fundamentals play a major role, indicating that the recovery can only have a clear positive effect on loan repayment arrears only when the economic activity picks up and the situation on the labour market improves markedly. Latvia is a clear and so far unique example in this respect. Its NPL ratio dropped into half from more than 15% at the peak of its financial sector crisis to about 7.5% in the third quarter of 2013 as the unemployment rate almost halved as well from 2010 to 2013 (Graph III.1.6). In countries such as Ireland and Spain, where certain categories of legacy assets were transferred to a separate asset management company, the level of NPLs was positively impacted by these operations. This shows that in cases where the economic crisis was the result of excessive credit growth and private sector indebtedness dedicated measures to deal with the large amounts of bad loans are necessary. The mere waiting for the economic recovery to improve the payment capacity of debtors will not solve the issue if a serious misallocation of resources took place during the boom years.

Graph III.1.6: Non-performing loans and unemployment in Latvia

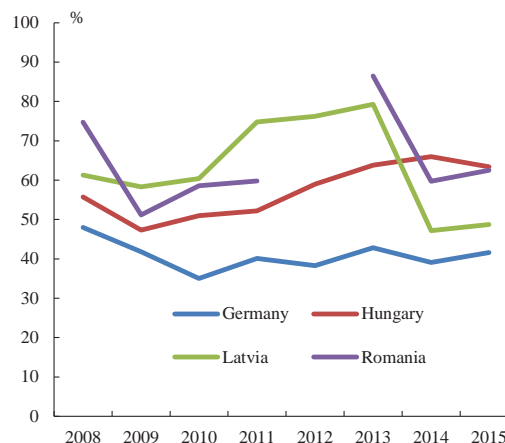


Source: IMF and Eurostat

There are also downside risks related to the current record-low interest rates and the relatively slow recognition of legacy assets in bank balance sheet. The former helps borrowers with loans with floating interest rate service their bank debts at present, but this favourable situation will not last indefinitely and may imply a further waste of economic resources by continuing unprofitable activities. The second issue means that new impaired assets will continue to emerge, although this risk is partly mitigated by the fact that stress tests performed under the majority of the programmes catered for the building up of adequate capital buffers.

However, the quite high levels of NPLs in programme countries and in other EU countries as well (e.g. Italy) call for continued efforts to ensure an adequate level of provisioning and management of NPLs. In general, the level of loan loss provisioning was strengthened in vulnerable countries to more conservative levels during their programmes and following the Supervisory Review and Evaluation Process conducted by the SSM. The best examples are Latvia and Hungary, where the provisioning levels reached about 75% and 60% respectively in the first half of 2013, but dropped somewhat afterwards (Graph III.1.7). In Cyprus, the coverage ratio of NPLs increased by about 3 percentage points following the Supervisory Review and Evaluation Process exercise in 2016.

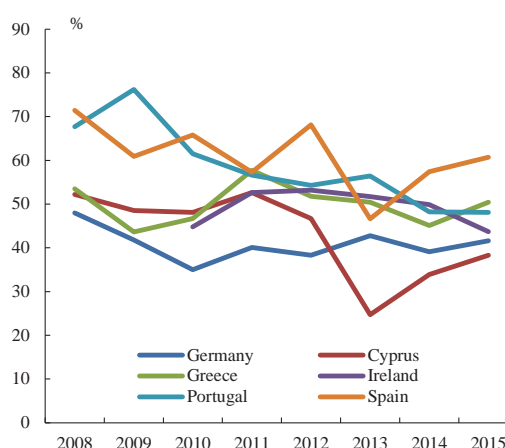
Graph III.1.7: Total loss provisions of impaired loans in non-euro area countries



Source: ECB

A positive development of the coverage ratio is visible also in Greece, Spain and Cyprus despite the fact that the increase in NPLs is putting downward pressure on the coverage by provisions. This effect has also led to the decline in the provisioning ratios in Spain and Cyprus at the beginning of the cleaning-up of the banks' balance-sheets, but which recovered afterwards (Graph III.1.8).

Graph III.1.8: Total loss provisions of impaired loans in euro area countries

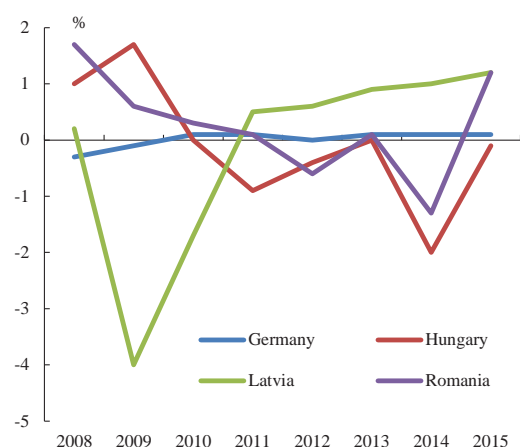


Source: ECB

Managing NPLs has become a key priority for banks in the vulnerable countries, in particular in those that didn't move legacy assets off balance sheet. Banks in Greece and Cyprus are taking

active measures to better organize their activity in order to administer the large portfolios of NPLs, including by creating dedicated departments for this task and complying with NPL management targets. Regulators are supporting this process by establishing specific legal frameworks to deal with troubled borrowers and actively restructure NPLs in a sustainable way. The central banks of Ireland and Cyprus have also put in place targets for the resolution of mortgage arrears, aimed at stimulating borrowers and creditors to reach viable and long-term solutions for debt restructuring.

Graph III.1.9: Banks' return on assets (%) in non-euro area countries

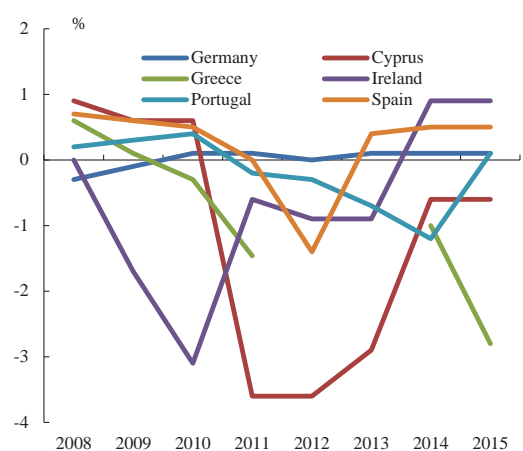


Source: ECB

Bank profitability has stabilised in programme countries after banks had recorded large losses in the beginning of the crisis (Graphs III.1.9 and III.1.10). Greece is the only country where negative profitability in the banking sector remains quite pronounced given its prolonged recession and bank restructuring process. Overall, the banks' profitability prospects are seriously challenged by the low interest rate environment and the anaemic economic recovery. Both declining net interest incomes and still large impairments are burdening the banks' financial results. In particular the large amounts of tracker mortgages on the banks' balance sheets are hampering their profitability. In addition, compensation and litigation costs have weighed heavily on the banks' profit margins in countries such as Spain. At the same time, banks in some countries, such as Latvia and Ireland have returned to more robust profitability in 2014 and 2015. The positive development was facilitated by improving net interest income, higher income fees

and lower operating costs. In Spain, the recovering of profitability benefitted from a drop in provisioning and non-recurring items, such as the income from carry trade with government securities. Nevertheless, as a result of persistent challenges, bank profitability continued to weaken further and remained unevenly distributed across programme countries in 2016.

Graph III.1.10: Banks' return on assets in euro area programme countries



Source: ECB

Going forward, bank profitability is expected to strengthen once the provisioning activity moderates, banks are operating in a more cost-efficient manner and the economic recovery picks-up (see also chapter 2 of the European Financial Stability and Integration Review, European Commission, 2017). The evolution of net interest income remains under the influence of the still constrained lending activity while the interest rate margins are challenged by the zero interest rate boundary on deposits (see also chapter 2 in the European Financial Stability and Integration Review, European Commission, 2017).

1.2. MARKETS VALIDATE THE STABILISATION OF BANKS, BUT WEAK SPOTS REMAIN

Graph III.1.11: Price indices of banks and other shares



Source: Datastream

The stabilisation of the banking sector in the EU as a whole and in particular in the programme countries was assessed positively by investors and analysts alike. The increase in the market valuation of bank shares and an improvement of the ratings of banks, in general, bear witness to the return of confidence in this sector. This sub-chapter focuses on the evolution of stock-market prices for banks since the crisis.

After the stock-exchange crash at the on-set of the great recession in 2008, general stock indices started to recover gradually as the monetary conditions were significantly eased and the EU economies returned to growth. Graph III.1.11 shows how the Stoxx Europe 600 Index reached again its pre-crisis level in 2015, after it had collapsed to about 40% of its peak valuation in 2008.

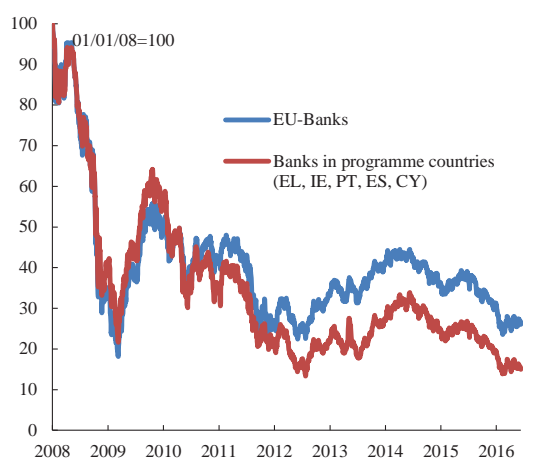
The price of EU bank shares followed the general market trend and recovered strongly during 2009. However, since the beginning of 2010, the market valuation of banks was much more volatile than for other sectors, reflecting the woes confronting the financial sector in Europe. A new correction in the price of bank shares took place during 2011 which was only overcome in second half of 2012 after the financial assistance programme for the Spanish banks was put in place and other unconventional measures to restore market

confidence in the irreversibility of the euro and political initiatives to deepen the European Monetary Union (EMU) were undertaken. After having recovered during 2013-2014, bank stock fell again by about 30% since the second half of 2015. This sell-off did not come as a surprise as (i) the previous rally in bank shares was partly driven by investors in search for yield under very favourable central bank liquidity conditions, and (ii) the global perception of the economic prospects had worsened. In general, bank share prices have further declined amid high volatility also in 2016 when, over the summer, banking stock indices reached new lows.

Additional considerations formed the more pessimistic valuation of banks relative to the other economic sectors. While the liquidity and solvency of banks have overall been significantly strengthened over recent years, profitability of banks continues to be rather weak. In this respect, significant pressure comes from the slow and uneven economic recovery, the record-low interest rates and the relatively high ratio of NPLs and unfinished bank balance sheet clean-up in some countries. It is not by coincidence that bank shares declined the most in countries like Greece, Italy, Portugal or Spain. Asset purchases by the Eurosystem have contributed to a "flattening" of the yield curve. Therefore, the sheer profit of maturity transformation has been reduced, denting the profitability prospects of banks. But the most important factor which depresses the profitability of banks and their market valuation remains the low volume of business as the real economy doesn't generate sufficient solvent credit demand.

As regards the evolution of the stock prices of bank sectors in programme countries relative to the other ones, graph III.1.12 confirms that investors understood that the banking sectors were either directly contributing to the economic and financial woes in the programme countries or were indirectly impacted by them. As of 2012, the stock market valuation of banking sectors in the programme countries (Greece, Ireland, Portugal and Spain) was clearly below the average market valuation in the EU. Nevertheless, the two indices moved in parallel most of the time, showing that the general perception of the health of banks in non-programme countries was also depressed.

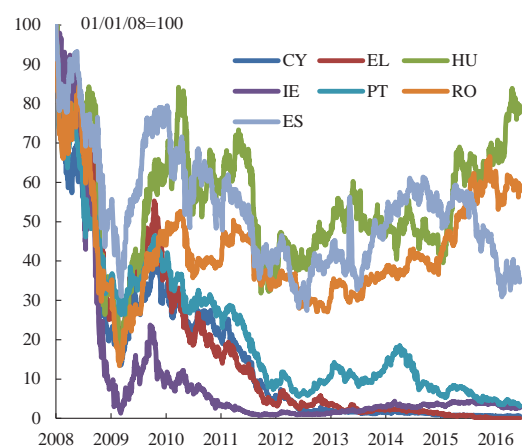
Graph III.1.12: Price indices of bank shares in the EU and programme countries



Source: Datastream

There were also diverging trends in terms of market appraisal of banks among programme countries (Graph III.1.13). One can note that despite high volatility for the share prices of all banking sectors, some countries managed to fare much better than others. Not surprisingly, stock prices of banks in countries like Hungary and Romania recovered a large portion of the dramatic losses recorded in 2008, because the original problems did not originate in the banking sectors and the two programmes were not targeted primarily at restoring the soundness of the financial sector. The Spanish banks find themselves somewhere in the middle of the ranking (because only the savings bank sector went into trouble in the boom years) whereas shares of banks in Greece, Cyprus, Portugal and Ireland have basically lost most of their pre-crisis value and haven't managed to recover much of it so far. The heavy discount seems to originate in the huge losses suffered by a majority banks in these countries which led to a substantial dilution of shareholder value.

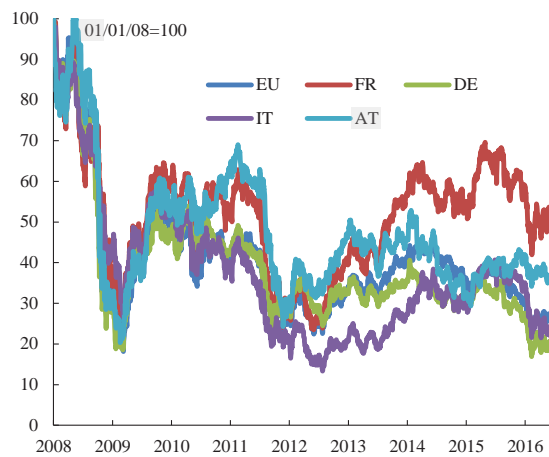
Graph III.1.13: Programme countries' bank price indices



Source: Datastream

A similar difference of valuation can be observed among certain countries that received a country-specific recommendation for the financial sector, i.e. Italy, Austria and Germany and countries without country-specific recommendations for the financial sector, such as France. Italy was among the first countries to start receiving financial sector country-specific recommendations in 2011, due to the large exposure of its banks to overleveraged sectors, resulting in a relatively high amount of NPLs. Germany and Austria also received financial sector country-specific recommendations as of 2011 and 2012, respectively with the view to restructure and consolidate some parts of their banking sectors, i.e. the Landesbanken in Germany and the (partly) nationalized banks in Austria. It is noteworthy that the price of bank shares in France (which didn't have a financial sector country-specific recommendation) has been consistently ahead of Germany, Austria and Italy from 2013 onwards (Graph III.1.14). At the same time it is less encouraging to see that the market interpretation of the health of these banking sectors had not changed for better until 2016, which raises the question of how well the recommendations were implemented with tangible results.

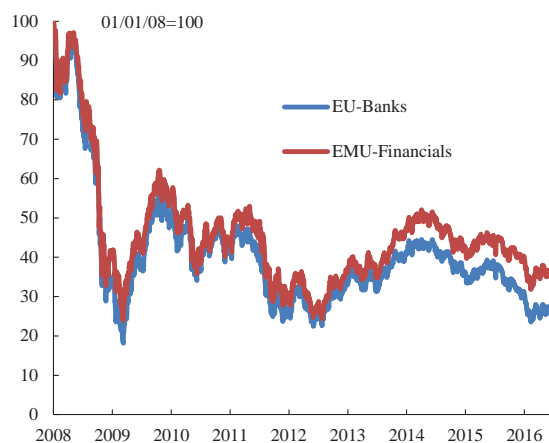
Graph III.1.14: Country-specific recommendations and EU banks price index



Source: Datastream

It is interesting to note that since 2013, there was also a split evolution of the price of shares in banks vs. financials (Graph III.1.15). The price of financials has clearly overtaken the one of banks, illustrating higher confidence in the soundness and profitability prospects of financial sector companies, such as insurance, asset management funds, , etc.

Graph III.1.15: Price indices of shares in banks and financials

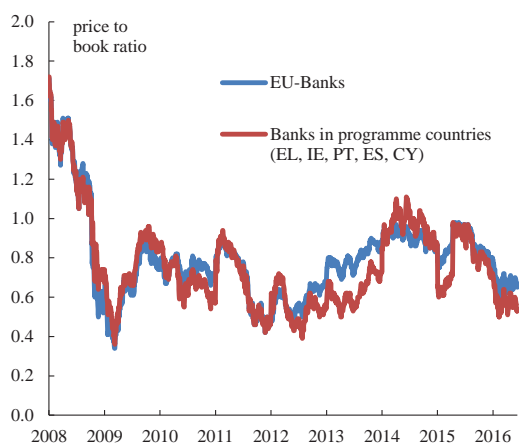


Source: Datastream

The evolution of the price-to-book ratio for EU banks has mirrored to a large extent the evolution of share prices during the analysed time frame. Nevertheless, at some points in time, i.e. when banks strengthened their capital buffers on account

of regulatory requirements and market pressure, the indicator was diving faster than the price of bank shares because there were some jumps in the denominator (Graph III.1.16).

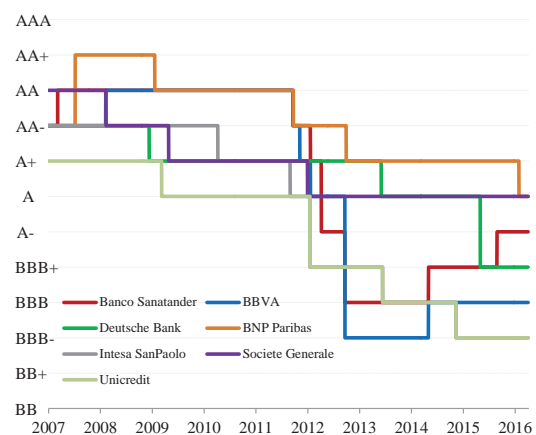
Graph III.1.16: Price/book ratio for banks in the EU and programme countries



Source: Datastream

Another useful way to gauge the evolution of confidence in banks is to look at their rating. As there is no index to track the evolution of credit ratings of EU banks, we looked at a sample of relevant credit institutions. Like in the case of shares, one can note a worsening of credit ratings before the first half of 2013, followed by a gradual and uneven recovery afterwards (Graph III.1.17).

Graph III.1.17: S&P Long-term foreign issuer credit



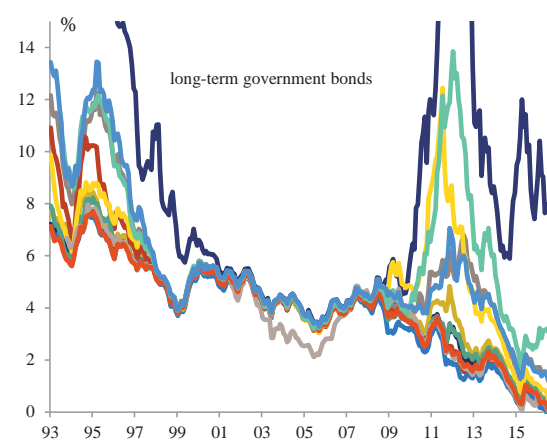
Source: S&P

In conclusion, markets and analysts have by and large validated the stabilisation of banks, but the volatility of the banks' price shares points to weak spots remaining – the need to continue the balance sheet repair and reduce NPLs for some banks and the rather weak bank profitability prospects which are not supported by a more dynamic economic recovery.

1.3. STABILISATION OF GOVERNMENT INTEREST RATES WITH REAPPEARANCE OF THE RISK PREMIUM

Between 1998 and 2008 euro area government bond yields differed only by a few basis points. The remaining small yield differences could be explained by a liquidity premium between e.g. less tradable Austrian bonds vis-à-vis the German bund (Graph III.1.18). After the financial crisis, markets imposed different bond rates in individual European countries based on a reassessed probability of default.

Graph III.1.18: Re-differentiation amongst sovereigns as before the start of EMU



Source: ECB

In forming the European Economic and Monetary Union sovereign nations allowed their bonds to be denominated in a currency they do not control. When financial markets realised that Greece was at risk of defaulting they began to price risk premiums into each countries' bonds which precipitated the start of the euro area debt crisis.

The banking crisis since 2008 added to the financing pressures of governments. Public support

for ailing banks dramatically brought to the fore contingent liabilities sovereigns bear with their domestic banks. Recapitalisations and liquidity support worsened several countries' debt increasing their refinancing cost. In turn falling sovereign bond prices weakened their holders, oftentimes domestic banks.

During the sovereign debt crisis this negative feedback loop between banks and their respective sovereign has been widely exposed, as a failing banking system can bring down a fiscally sound sovereign (Ireland) or the other way round (Greece). In response, Europe took action: "We affirm that it is imperative to break the vicious circle between banks and sovereigns." (European Council Summit, 2012, press statement, 29 June).

Subsequently, the creation of Banking Union, enhanced country surveillance and an accommodating monetary policy have been major game changers. Since summer 2012 euro area government yields (Graph III.1.18) are converging again as unfounded redenomination fears have been taken out of the market. Consequently, several sovereign borrowers who lost access to capital market re-entered through ever longer maturities at lower rates. But unlike in the decade spanning from 1998-2008, yield differences remain.

1.4. DIFFERENT PATHS WERE TAKEN FOR DIFFERENT SETS OF COUNTRIES IN STABILIZING GOVERNMENT YIELDS

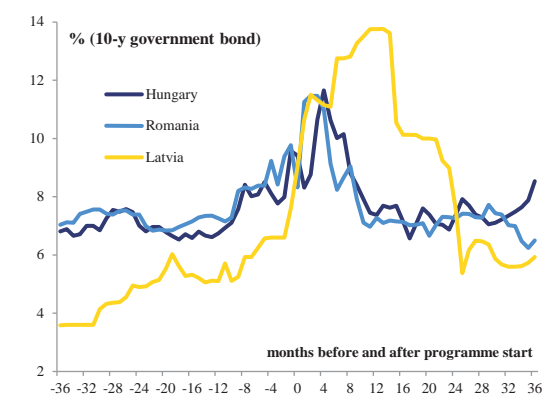
When analysing the countries whose governments had difficulties in accessing financial markets due to the crisis, three distinct groups emerge with respect to interest developments. First, the non-euro area countries (Hungary, Latvia, Romania) applied for balance of payment support to overcome their inability to access international capital markets after which, government yields eased quickly upon programme start. Second, in the Member States (Greece, Ireland, Portugal), heavily affected by the crisis in 2010-2011 and keeping only access to the short-term treasury bill market, it took longer for government yields to normalise partly because of contagion. The problems of the third batch of countries (Cyprus, Spain, Slovenia, where only Cyprus lost access to capital markets) were shaped around their banking sector. Difficult negotiations and delayed action

led to high and volatile sovereign yields in 2012-2013 which came down quickly, when action was taken.

1.4.1. The three early East European countries

Losses suffered during the sub-prime crisis and rising risk avoidance after Lehman's collapse plunged several Member States from Eastern Europe into a typical emerging market crisis. A sudden stop of capital inflows cut off Hungary, Latvia and Romania from the necessary funds to finance their current account deficit. In response, the EU together with the International Monetary Fund, offered bridge financing.

Graph III.1.19: Non-euro area programme countries: rather quick turn-around in government bond yields



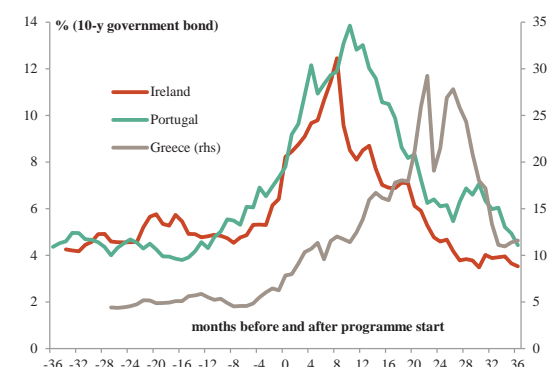
Source: ECB, Eurostat

The three countries lost access to the euro-denominated capital markets, but continued issuing both at the short and long end in the domestic market, sometimes at double-digit interest rates. In Hungary and Romania sovereign rates turned around a few months into the programme (Graph III.1.19) on the back of good reform efforts and renewed growth. In Latvia, nominal interest rates continued climbing in fear of a significant devaluation of the Latvian lat. However, Latvia's government decided to pursue its euro peg to avoid hurting borrowers in foreign currency which was mainly the euro. Later in the programme, the prospects of euro adoption (2014) and a rigorous implementation of the programme helped bringing down 10-year bond yields from a spike at 13.75 % during the last quarter in 2009 to half by programme end in early 2011.

1.4.2. The height of the euro area crisis

Greece's solvability had been seriously questioned by a significant upward revision of its 2009 deficit from 3.7% to 12.7% of GDP in February 2010 and the euro area governments stepped in via bilateral loans. The track record of programme implementation combined with a constant flow of negative news mainly about faulty statistics and an ever bigger fiscal deficit ⁽¹⁾ caused the yields on Greek bonds to pursue their climb. Many market participants no longer believed in Greek debt sustainability despite the combined EU/IMF rescue. Only in 2012 a new government produced a reform agenda in Athens and as Greek deficit figures started to move closer to planned figures yields started to fall. In the wake of the end-2014 election results and the incoming government's policies combined with "Grexit" fears sovereign interest rates spiked again.

Graph III.1.20: Greece, Ireland, Portugal: delayed reaction in government bond yields



Source: ECB

The Greek crisis has set the scene for other countries in financial difficulties. Many market participants thought as well that Ireland and Portugal were to default eventually and sold their debentures. Contrary to the three East European countries it delayed the decline of the sovereign yields. But around the publication of the second review report, yields for both countries turned around and faith in their bonds returned gradually. This underlined the benefit of strict programme implementation.

⁽¹⁾ Greece 2009 deficit finally turned out to be 15.4% of GDP.

Unlike the non-euro countries, the sovereigns of the three countries most affected by the euro crisis, stopped issuing bonds until the end of the programme. Greece's last regular 10 year bond auction took place in October 2008 yielding 4.9% at times when its spread versus the bund was already 105 basis points. Later yields peaked at 30% (Graph III.1.20) In April 2014 Greece re-entered bond markets with a 5-year bond yielding less than 5% on hopes that no further financial assistance would be required, but this proved wrong as in August 2015 a third externally supported economic adjustment programme entered into force. Ireland didn't issue any long-term bonds between the third quarter in 2010 and January 2014. With 2.7% the May 2014 issue's yield is half of the last 10-year bond's yield before the Irish programme started.

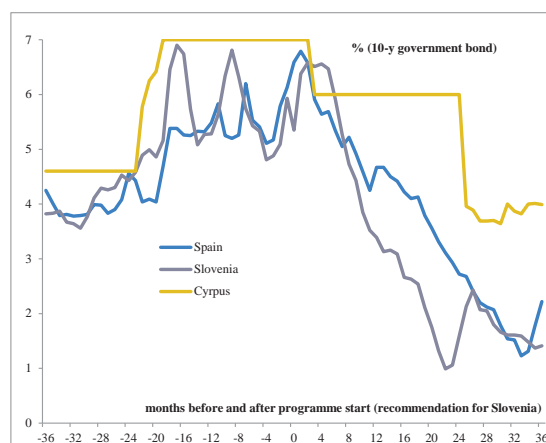
Portugal issued a 10 year bond in January 2011 yielding 6.7% before entering a 3-year EU/IMF adjustment programme in April 2011. The country stayed in the market with monthly Treasury bill auctions ranging from 3 to 18 months maturities, and only in April 2014 the Portuguese Republic issued again a 10-year bond at 3.6%. Since then, rates have increased, in particular after the 2015 elections leading to a government which was believed to slowing down the reform momentum.

1.4.3. The banking crisis countries

After Ireland three more sovereigns suffered from the perceived fragility of their financial sector. Amongst the eight countries that received external financial assistance, only Spain continued to issue long term bonds in euro. Slovenia never formally entered a programme, but the 2013 country-specific recommendations demanded a comprehensive stress test on its banking system.

In Spain, Cyprus and Slovenia credible stress tests on their banking systems were the basis for a recapitalisation of their banks. The so created trust brought down their sovereign yields quickly after remaining high and volatile in the prolonged run-up to the decision on taking action (Graph III.1.21).

Graph III.1.21: Cyprus, Spain, Slovenia: prolonged volatility before decision and quick decline in government bond yields



Source: ECB

Spain's programme covered the period from mid-2012 until end-2013 but disbursements of financial assistance were only used to recapitalise banks, whereas funds to repay maturing bonds and to cover the government deficit continued to be raised on international capital market. Spain's central government's market access kept intact during the crisis but some of the autonomous regions were no longer able to issue.

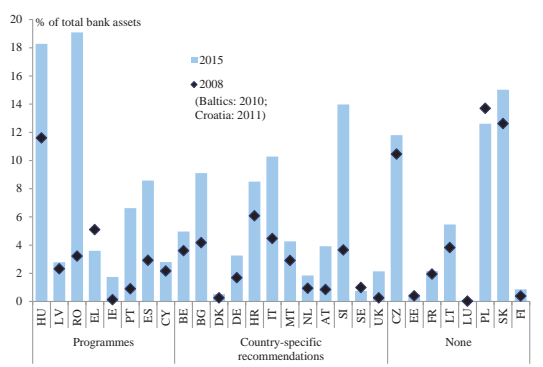
Cyprus issued its last 10-year bond in August 2011 at 6.5% and financed itself through mainly short-term issues and a loan from Russia during the protracted negotiations to conclude a programme. Just after programme start in July 2013 Cyprus re-entered capital markets with a EUR 100 million issue at 6% to test confidence. Interest rates declined, but there is little trading in the small Cypriot market and spreads remain sizeable.

Slovenia never lost market access but stopped to issue long-term in EUR when its secondary market yield dissociated from European countries in the second quarter of 2011 (Graph III.1.21). Instead it issued at nominally lower interest rates in USD, fully accepting to bear the exchange rate risk. In late 2013, the European Central Bank, the European Banking Authority, the European Commission as well as Slovenian authorities communicated on the results of the stress tests. Thereafter, with uncertainty largely reduced, yields started to normalise and Slovenia returned to issue.

1.5. THE BANK SOVEREIGN NEXUS

In the euro area a renationalisation of government debt took place. It led to a strengthening of the bank sovereign nexus, potentially leading to dramatic economic and financial consequences in the case of policy action on the debt front when a lot of government securities are held by banks. The prime illustration of this effect is the Private Sector Involvement in Greece in early 2012 (Box III.1.2).

Graph III.1.22: Government debt in percent of domestic banks' total assets



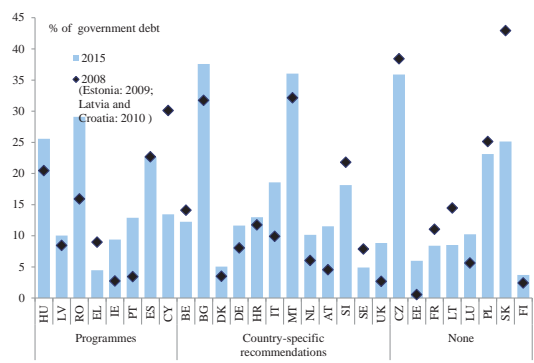
Source: Ameco, ECB

In most countries, domestic banks now hold more national debt in percent of total assets than 2008 (Graph III.1.22) because generally bank assets shrunk and government debt grew. This increased nationalisation was more pronounced in Italy, Spain, Portugal and Ireland as foreign banks off-loaded the debt of these countries during the crisis. In the Baltics little change can be observed as their integration into the EU saw a broadening of their investor base. Nevertheless, the non-euro area programme countries Romania and Hungary saw a pronounced renationalisation of their debt as foreign investors not only face credit risk but have to bear the currency exchange risk as well.

If one is to compare domestic banks' share of total government debt, a similar picture emerges of a reinforced link between the two sectors (Graph III.1.23). Some countries (Slovakia, Slovenia) who joined the euro area between 2007-2015 benefited from a wider international investor base but the share of government debt with the banks remained high. To be noted is also the now small share of Greek government debt held by domestic banks. Following the different assistance programmes,

most of Greek debt is now with the EU and the IMF (Box III.1.2). To a lesser extent this is also the case in Cyprus.

Graph III.1.23: Domestic banks share of total national debt



Source: Ameco, ECB

Overall, the sovereign-bank nexus increased from the asset side of the banks as they hold relatively more government debt and from the capital side. Several governments had to come to the rescue of their financial sector implying a fiscal burden if the State aid is not recouped (Graph II.2.3 in chapter II.2). It puts the sharp reduction of government holdings by Greek and Cypriot banks in another light.

Box III.1.2: The private sector involvement in Greece: the devastating impact of the bank-sovereign loop

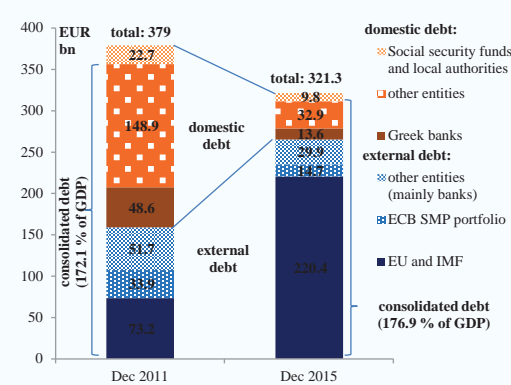
At the Euro Summit of 21 July 2011, a new financial support programme was outlined for Greece to cover the country's financing needs until mid-2014, including the participation of the private sector. The Euro Summit statement of 26 October 2011 welcomed a greater involvement of the private sector, in order to achieve a deeper reduction of Greek debt. Finally, on 21 February 2012, the Eurogroup acknowledged the common understanding that has been reached between the Greek authorities and its private creditors on the general terms of the debt exchange offer.

Private sector holders were offered to exchange eligible bonds for (i) new Greek government bonds with a face value of 31.5 % of the face amount of their exchanged bonds and a maturity date of 30 years, (ii) notes from the European Financial Stability Facility with a maturity date of two years and having a face value of 15 % of the face amount of their exchanged bonds and (iii) detachable GDP-linked securities issued by Greece. In addition, private investors received short term bills from the European Financial Stability Facility for the accrued interest of the exchanged Greek government bonds at the settlement date of the exchange. This offer provided for a nominal haircut amounting to 53.5% and represented a considerable debt relief for the government at the moment which could, however, not be maintained as the inflicted losses on banks required public recapitalisation. The estimated net present value loss from the debt exchange was estimated on average at 78% for the bonds held by the Greek banks.

From a total of EUR 205.5 billion of Greek sovereign bonds eligible to the exchange offer (out of a total non-consolidated of EUR 379 billion, see graph), Greece received tenders for exchange and consents from holders of EUR 199 billion of bonds, including through an exercise of collective action clauses, representing 96.9% of the outstanding face amount of these bonds.

The nominal amount of the exchanged bonds held by the Greek banks was EUR 48.6 billion. As a result of the debt exchange, Greek banks suffered losses of about EUR 37.7 billion (about 170% of their total Core Tier I capital at that time), out of which EUR 5.8 billion had already been recorded in the June 2011 financial statements.

Graph 1: The composition of Greek government debt after the Private Sector Involvement



Source: Bank of Greece, Greek public debt bulletin,

Throughout 2012, the Bank of Greece monitored closely the capital position of the Greek banks. A capital assessment was initiated in January 2012 and the capital needs for all Greek banks were estimated in May 2012 at EUR 40.5 billion (of which EUR 27.5 billion for the four systemic banks).

In order to ensure their adequate capitalisation, the Hellenic Financial Stability Fund ensured a bridge recapitalisation of the "core banks" in two steps: banks received a first capital advance of EUR 18 bn on 28 May 2012, followed by a second capital advance of EUR EUR 6.3 billion on 20 December 2012. Finally, after the four systemic banks completed their share capital increase in May and June 2013, the total Hellenic Financial Stability Fund contribution to the recapitalisation of the four systemic banks increased by EUR 0.7 billion and reached a total of EUR 25.0 billion.

(Continued on the next page)

Box (continued)

In the course of 2012 and 2013, twelve distressed banks, including two major state-controlled banks (ATEbank and Hellenic Postbank), were resolved within an enhanced legal framework. The contribution of the Hellenic Financial Stability Fund to the funding gap and the capitalisation of the transitional credit institutions reached EUR 12.3 billion.

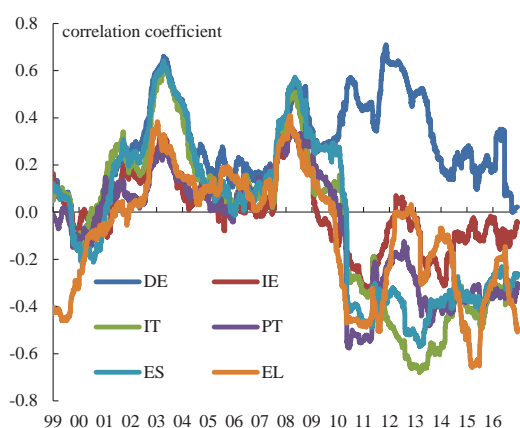
Taken together, the Private Sector Involvement permitted to reduce Greek debt by about EUR 106 billion (= 53.5 % haircut on EUR 199 billion bonds exchanged), but a significant part evaporated through the debt contracted to recapitalise or resolve banks.

The public debt stemming from the intervention of the Hellenic Financial Stability Fund (about EUR 37.3 billion) is, however, not only due to losses related to the Private Sector Involvement, but covers also losses from the parallel increase of non-performing loans.

Not only Greek banks suffered from the fall-out of the Private Sector Involvement. While for the large EU banks the holdings of Greek debt represented a small part of their portfolio, the EUR 4.7 billion held by Cypriot banks in 2011 appeared more difficult to manage and the losses incurred, together with other home-grown problems led Cyprus to ask for an external assistance programme.

Prior to 2010, the correlation between banks equity price and sovereign yields was positive. Higher government bond interest rates was not seen as a sign of stress, but reflected the rate of return in a growing economy and for the banks it meant a higher intermediation margin benefitting banks' earnings capacities boosting their equity prices.

Graph III.1.24: Correlation between sovereign yield and bank equities



Source: Datastream, Thomson Reuters

This correlation inversed in Greece, Italy, Spain and Portugal at the start of the Greek crisis in April 2010 (Graph III.1.24) as well as with Irish banks a bit earlier around Lehman's collapse. During the sovereign crisis higher yields indicated heightened perceived sovereign credit risk. Falling bond prices impacted banks results and caused equity notations

of weaker banks to fall. Vice versa, when one or more banks incurred big losses, causing their equity prices to fall, it sparked sovereign yields in fear that banks had to be saved with public money. By contrast, German banks, benefitting from a strong sovereign, have kept their positive correlation as German federal yields and equity prices declined in tandem (Graph III.1.24). While remaining negative, the correlation between bank share prices and sovereign yields weakened in high-debt countries with a fragile banking sector when the concerted policy action gained momentum in 2012-2013. Where banks assets are diversified cross-border, there is little reason why healthy banks' credit risk should be strongly correlated with its respective sovereign (Thiel, 2014).