

1.4. The Banking Activity in Portugal in the context of EU

1.4.1. The Economic and Financial Adjustment Program in the Banking Sector

EFAP

- **2 major quantitative goals:**
 - (i) stronger capital requirements for Portuguese banks: CT1 ratio $\geq 10\%$ (from end of 2012; 9% end of 2011), including a bank solvency support facility amounting to 12 B€;
 - (ii) deleveraging process: credit/deposits ratio $\leq 120\%$ by 2014.

- In order to ensure the asset and capital quality, several inspection programmes were launched, focusing mostly on the assessment of impairments' calculations, but also on risk-weighted assets:
 - (i) the Special Inspections Programme (SIP) - 2011
 - (ii) On-site Inspections Programme (OIP) – 2Q2012
 - (iii) 2nd OIP (ETRICC) – July 2013
 - (iv) 3rd OIP (ETRICC2) – March 2014

SIP

- 3 workstreams (WS):
 - WS1 – Valuation of the credit portfolio, as of 30 June 2011, based on the analysis of the impairment for a sample a credits, as well as on the review of the adequacy of the collective impairment models and related credit risk management policies and processes;
 - WS2 – RWA
 - WS3 – Stress tests
- Performed by auditing companies hired by the Bank of Portugal, different from each bank's external auditor.
- Risk management policies, procedures and controls were also assessed and considered globally adequate, despite some improvements advised.
- **Conclusion: robustness and resilience of the Portuguese banking system capital adequacy, as of Jun.11**, implying a minor reduction in the aggregate Tier 1 ratio of the 8 banking groups, from 9.1% to 8.8% (above the minimum of 8% then required).

SIP

■ WS1:

- total need of impairment increase was 838 M€ (9.1% of the total impairment recognized for the credits in the scope of the SIP and 0.3% of their total amount).
- these needs were partly offset (in 242 M€) by the allocation of existent impairment buffers, already registered in the accounts on 30 Jun.11.
- additionally, in the 3Q 2011, the 8 banking groups had recognized additional impairment of 208 M€ for some of these credits.

■ WS2:

- The need to introduce some corrections was identified, with a total impact of around 0.6% of total capital requirements at end-Jun.11.

SIP

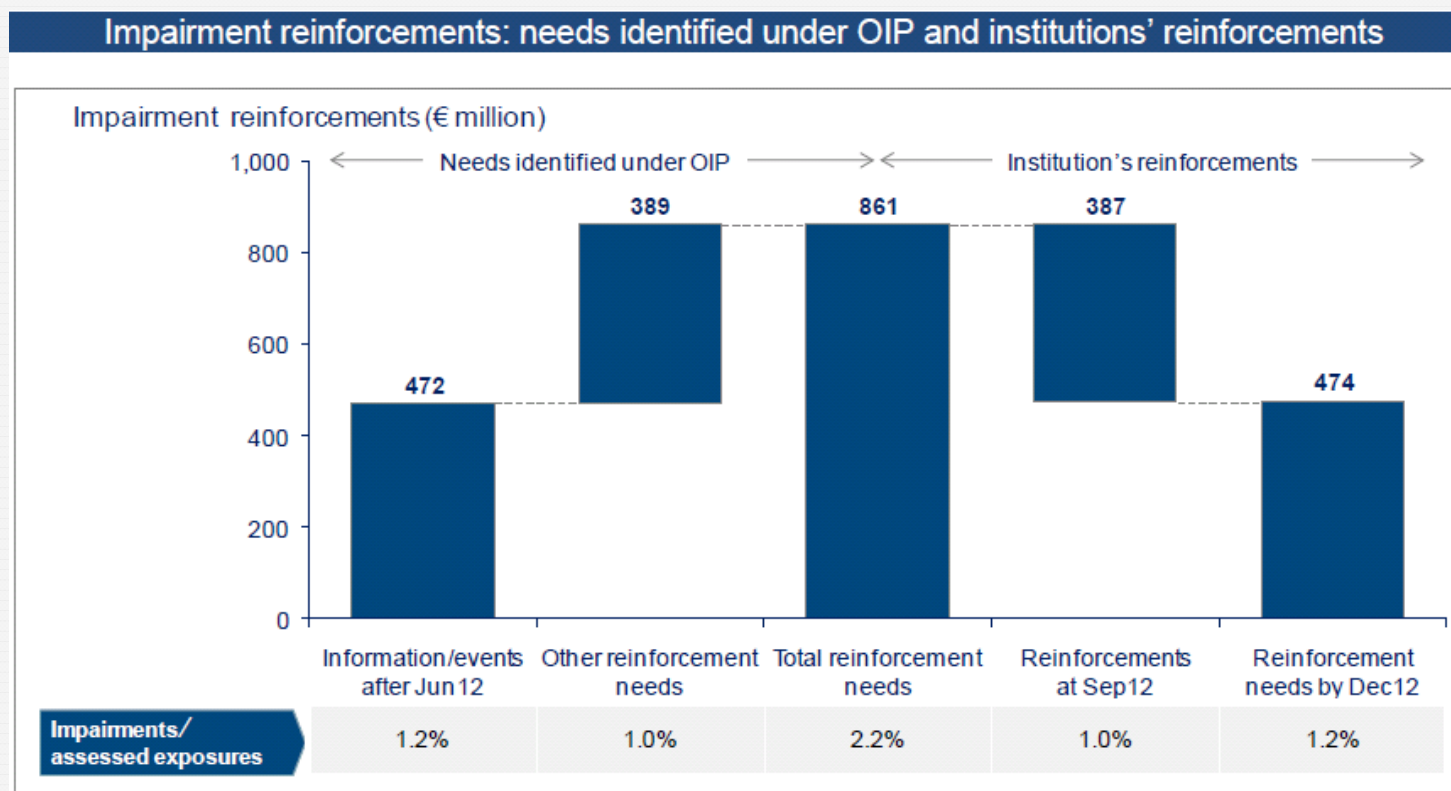
- **WS3 (announced in Feb.12)** - the 8 banking groups were classified into 4 categories:
 - Institutions that have used clearly appropriate parameters and methodologies: 2;
 - Institutions that have used appropriate parameters and methodologies: 1;
 - Institutions that have used appropriate parameters and methodologies regarding most aspects, although requiring some improvement in particular areas: 4;
 - Institutions that require some improvement in a range of specific areas, for the parameters and methodologies to be deemed appropriate: 1

OIP

- Focused on the impairment adequacy on exposures of banks to the construction and real estate sectors in Portugal and Spain, with reference to 30 Jun.12, including:
 - (i) holdings of those entities
 - (ii) tourism sector entities
 - (iii) entities with close links to the construction sector (e.g. suppliers) and
 - (iv) entities belonging to the same economic groups as the above, whenever the above exposure represented more than 25% of the economic group's exposure.
- Conclusion - need to reinforce impairments by 861 M€ (around 2.2% of the overall amount of exposures assessed).
- On 30 Jun.12 the impact of OIP results on the aggregate CT1 ratio of the 8 banks as a whole translated into a slight revision of its value, from 11.2% to 11.1%, which was still much higher than the 9% minimum required at that date.

OIP

- Impairment reinforcements meanwhile undertaken by banking groups with reference to 30 Sep.12 covered part of the needs identified for impairment reinforcement, reducing the respective amount from 861 M€ to 474M € (to be reflected by 31 Dec.2012).



Source: Banco de Portugal (2012), "On-site Inspections Programme on exposure to the construction and real estate sectors", press release, 3 Dec.

2nd OIP (ETRICC)

- At the end of Jul.13, the Banco de Portugal released the result of a **2nd special credit portfolio inspection exercise** (as at 30 Apr.13), on the impairments in the credit portfolios of the 8 largest national banking groups.
- The credit sample for the individual assessment determined by Banco de Portugal covered those with the highest likelihood of impairment deviation in all segments, excluding mortgage and consumer loans, reaching a coverage level of approximately 50% of the eligible credit on balance sheet.
- Total credit covered amounted to 92.6 B€, including in addition the off-balance sheet exposures (e.g. bank guarantees and irrevocable credit lines), having been assessed loans in the amount of 53 B€.

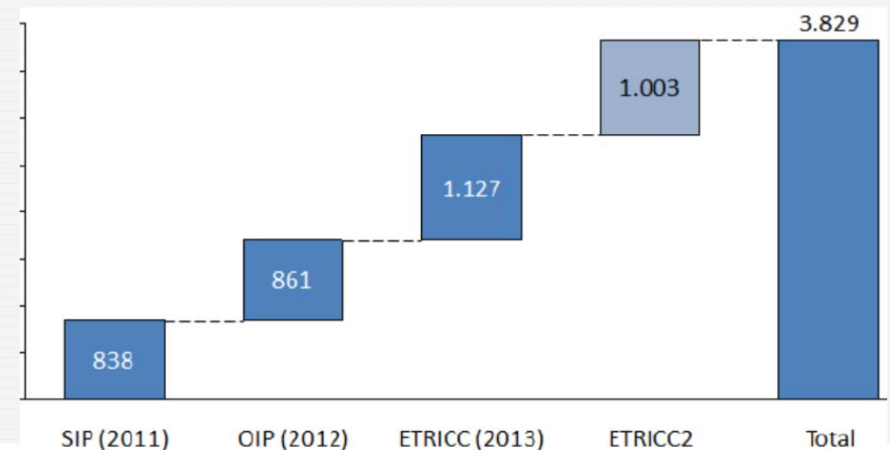
2nd OIP (ETRICC)

- This time, the impairment assessment was conducted by the external auditor of each participant bank, based on a set of guidelines and instructions adopted by BdP for this purpose.
- Additionally, an independent external auditor was appointed to ensure, along with BdP, the overall consistency of the exercise.
- The results led to a decrease in the average CT1 ratio of 42 bp (larger than in the 1st OIP), but confirmed the resilience and robustness of the national banking system regarding regulatory own funds (average CT1 ratio at 11.2%).
- A reinforcement of around 1.1 B€ of the value of impairment recorded in the exposures assessed was considered necessary (approximately 2.1% of the overall amount of exposures assessed).

3rd OIP (ETRICC2)

- Focused on the business plans of the banking system's main clients (including the non-financial companies of Grupo Espírito Santo)
- Conclusion (released in March 2014): “The exercise confirmed the solidity of the national banking system relating to 30 September 2013”, reinforcing the impairments by 1B€.
- On aggregate, the inspection programmes carried-out implied the increase of impairments by almost 4B€ and supposedly ensured the soundness of Portuguese banks.
- However, less than 5 months after the release of the ETRICC2 results, the first bank resolution in Portugal occurred and the second one was observed one year later.

Source: Banco de Portugal (2014). Note: Figures in M€



1.4.2. Main Risks

Main Risk Drivers for ECB - 2017

- Credit risk: high levels of NPLs and lacklustre economic growth across euro area countries.
- Interest Rate risk: ultra-low/negative interest rate environment =>
 - normalization of monetary conditions has to be carefully communicated and implemented;
 - pockets of credit and market risk, e.g. increasing indebtedness and assets' overvaluation, have to be monitored;
- Market risks:
 - potential reversal of risk premia in financial markets – according to the IMF, less than 5% (\$1.8T) of the current stock of global investment-grade fixed-income assets yields over 4%, compared with 80% (\$15.8T) before the crisis.
 - developments in real estate lending markets
 - situation in emerging market economies

Main Risk Drivers for ECB - 2017

- IT risks: Cybercrime and IT disruptions
- Macro risks:
 - EU geopolitical uncertainties
 - EU fiscal imbalances
- Regulatory risks:
 - reactions of banks and markets to new regulation (e.g. IFRS 9)
 - cases of misconduct by banks
- Competition by non-regulated companies (e.g. Fintechs)

ECB Supervisory Priorities - 2017

1. **Business models and profitability drivers**

- Impact of ultra-low/negative interest rates.
- Potential risks for banks' business models from the emergence of Fintechs and non-bank competition.

2. **Credit risk**

- High levels of NPLs.
- Impact of the introduction of the accounting standard “IFRS 9 Financial Instruments”.

ECB Supervisory Priorities - 2017

3. Risk management

- Compliance with the BCBS principles for effective risk data aggregation and risk reporting (BCBS 239)
- Targeted review of internal models (TRIM) - assessment of the adequacy and appropriateness of approved Pillar 1 (Basel II) internal models.
- ICAAP and ILAAP processes – review as part of the Supervisory Review and Evaluation Process (SREP), verifying that banks have implemented adequate processes to assess and maintain their capital and liquidity adequacy.
- Outsourcing – supervisory assessment on how banks are managing the associated risks (including IT risks).

Main Risks

- Credit Risk
- Liquidity Risk
- Interest Rate Risk
- Market Risk
- Currency Risk
- Operational Risk

Credit Risk

- Before the subprime crisis: aggressive commercial strategies, namely in the housing segment ⇔ **high volumes and low margins** =>
 - Low spreads and high maturities, LTVs and DTIs
 - High rates of households' homeownership and indebtedness
 - High banks' exposure to real estate => crowding out of other economic sectors
 - High dependence from banks of non-financial companies
 - Low NPL ratios
- Subprime crisis: higher credit risk and lower available liquidity =>
 - Significant deterioration and decrease of loan portfolios
 - More conservative credit policies, e.g. lower LTVs, maturities and DTIs
 - Higher spreads for new contracts
 - Falling real estate prices

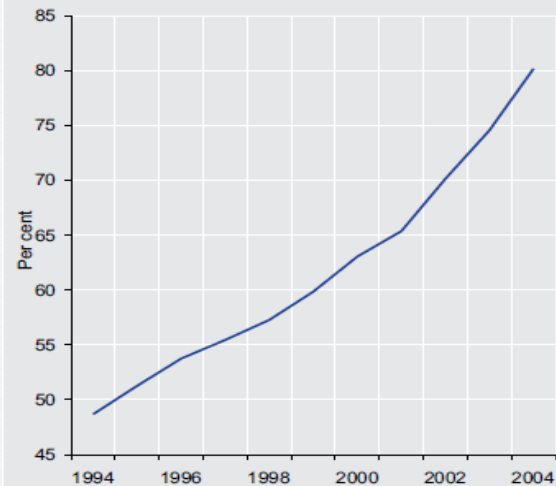
Credit Risk

- Aftermath of the subprime crisis:
 - Deleveraging;
 - Slight reduction in NPL ratios
 - Return to growth of mortgage loans

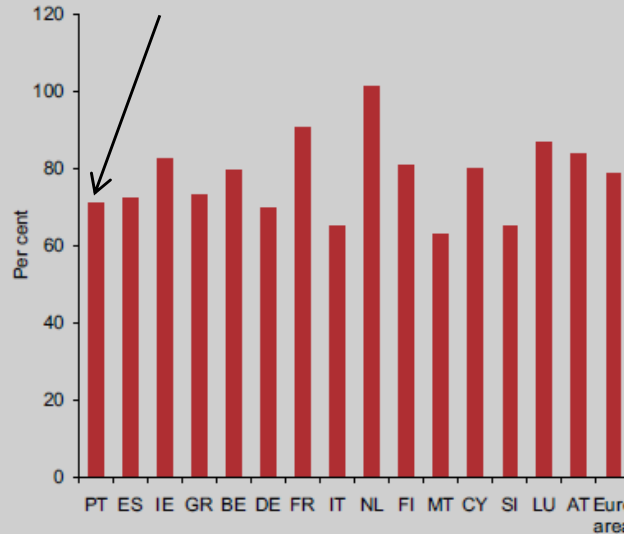
Credit Risk

- Before the subprime crisis - aggressive strategies in housing loans, reducing spreads and increasing LTVs => one of the highest homeownership rates worldwide.

CHART 5.2.7
AVERAGE LOAN-TO-VALUE IN HOUSING LOAN

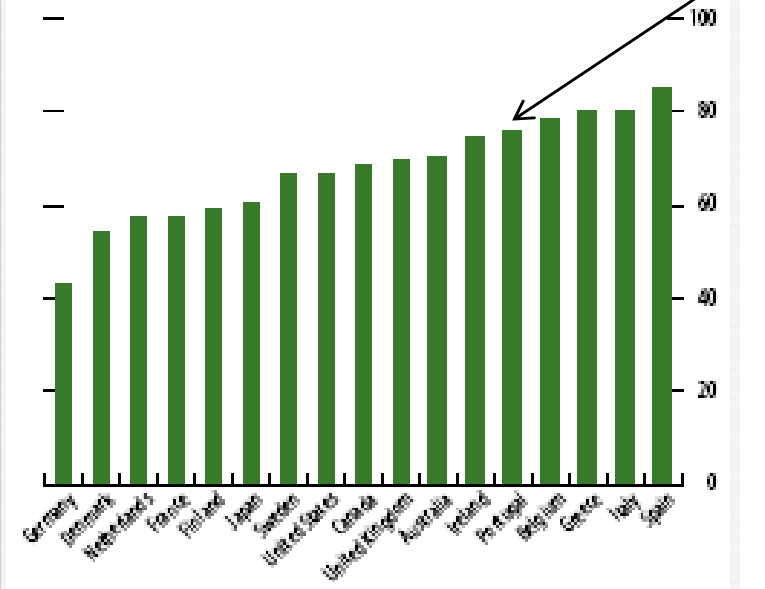


LOAN-TO-VALUE RATIO FOR A TYPICAL LOAN FOR HOUSE PURCHASE IN 2007



Source: Banco de Portugal (2013 and 2009), "Financial Stability Review".

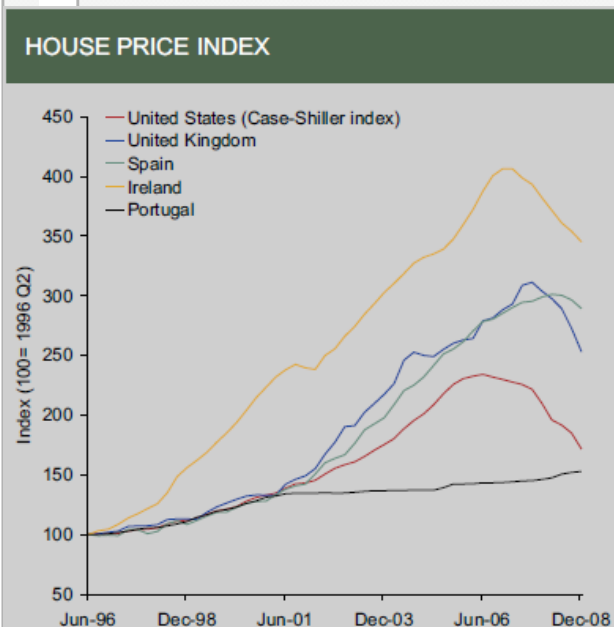
Figure 3.5. Homeownership Rate
(In percent of total number of dwellings; latest available year)



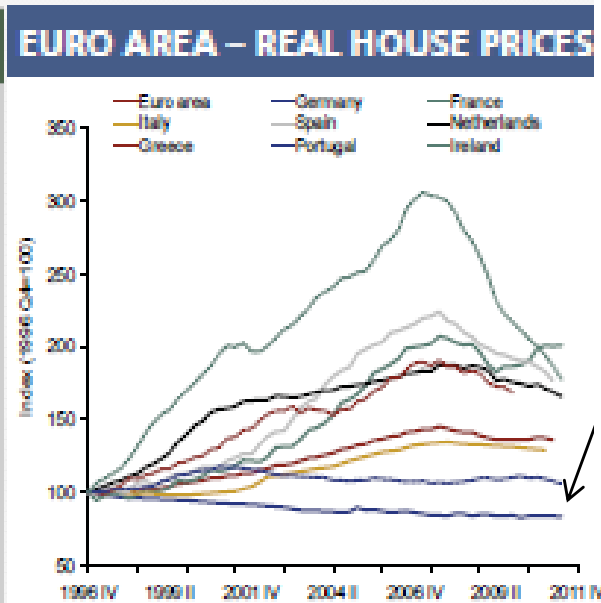
Source: IMF (2011), "Global Financial Stability Report", Apr.

Credit Risk

- House prices didn't increase neither as in other European countries ...

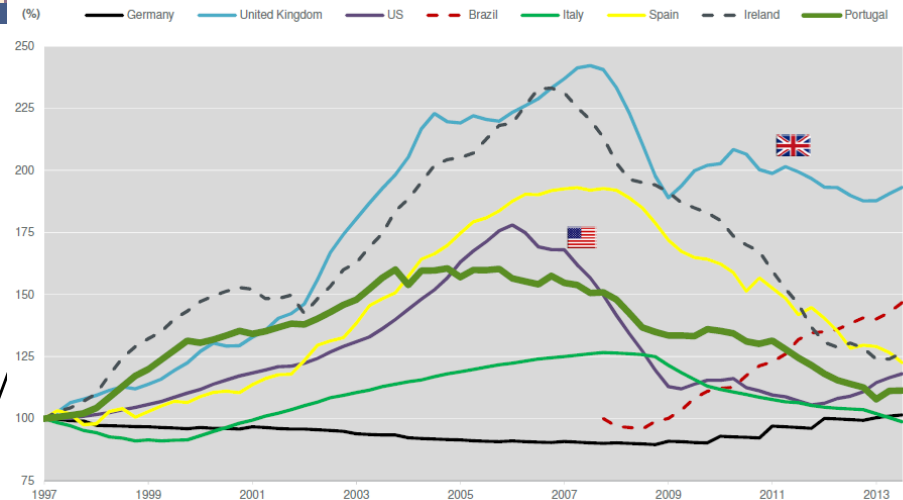


Source: Banco de Portugal (2009), "Financial Stability Review".



Source: Banco de Portugal (2011), "Economic Bulletin - Autumn".

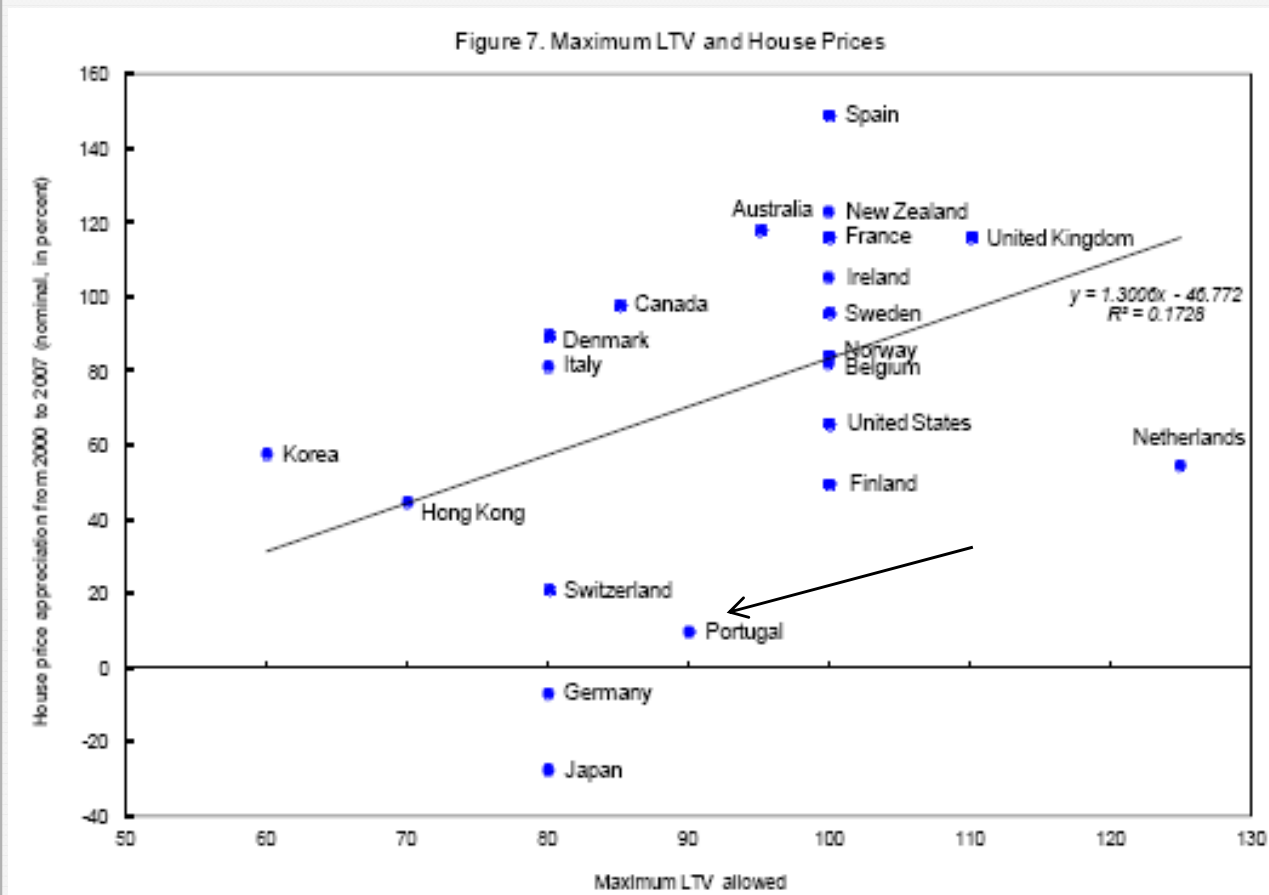
Index of Average House Price to Rental Values



Fitch (2014), "Residential Mortgages and Property Market Outlook", presentation at the Conference "Why is Funding Key to Recovery", 2014 Fitch Credit Conference, Lisbon, 6th Feb.

Credit Risk

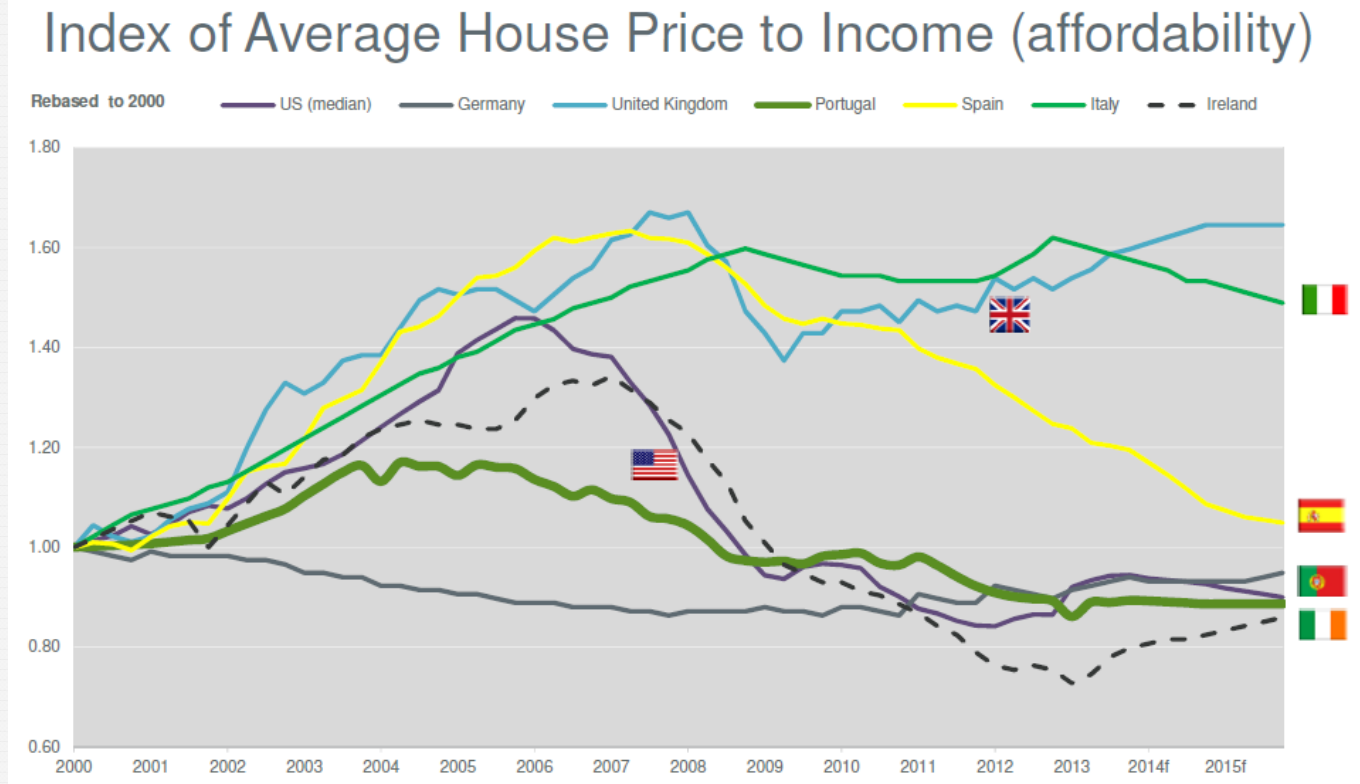
- ... nor in line with LTVs, ...



Source: Crowe et al. (2011), "How to Deal with Real Estate Booms: Lessons from Country Experiences", IMF WP/11/91.

Credit Risk

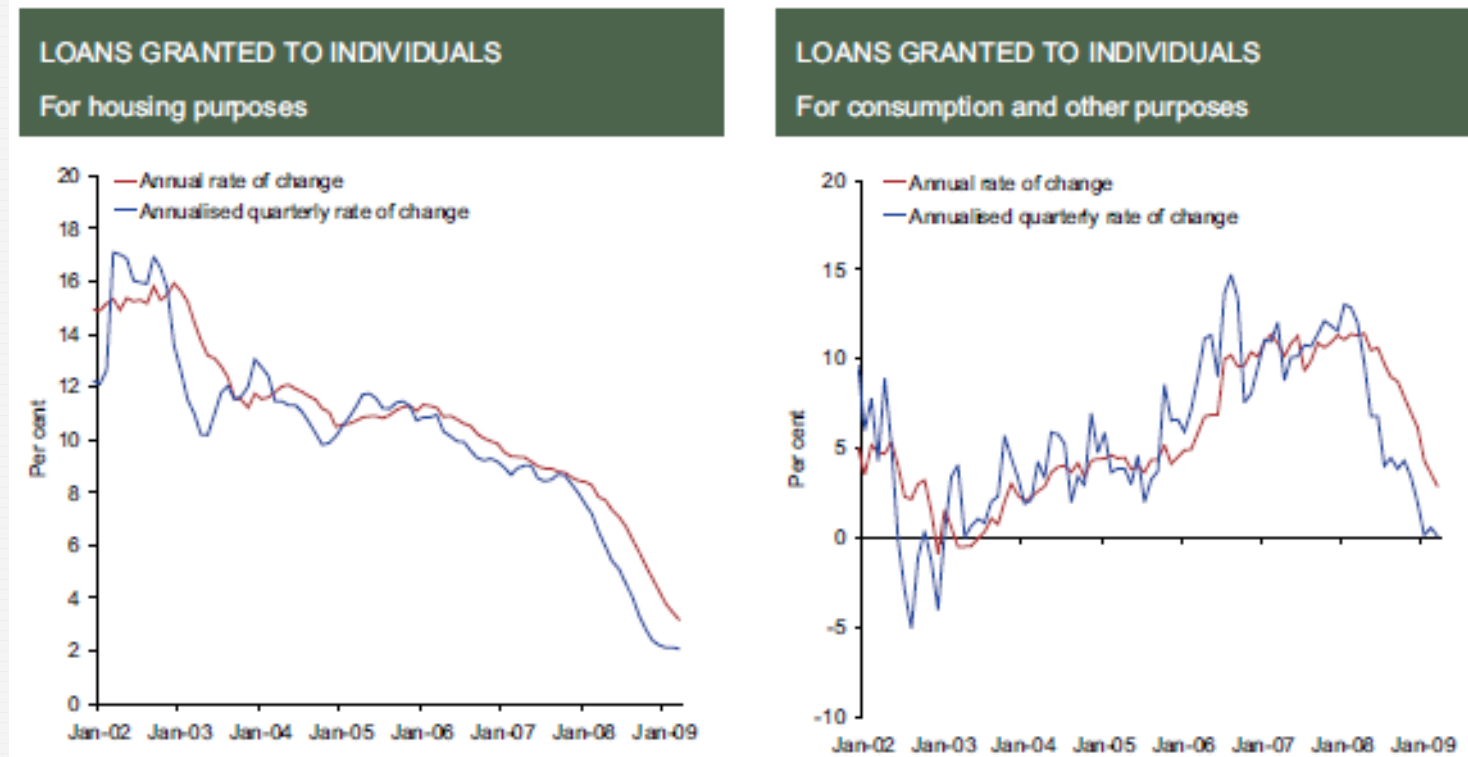
■ ... nor in line with income.



Fitch (2014), “Residential Mortgages and Property Market Outlook”, presentation at the Conference “Why is Funding Key to Recovery”, 2014 Fitch Credit Conference, Lisbon, 6th Feb.

Credit Risk

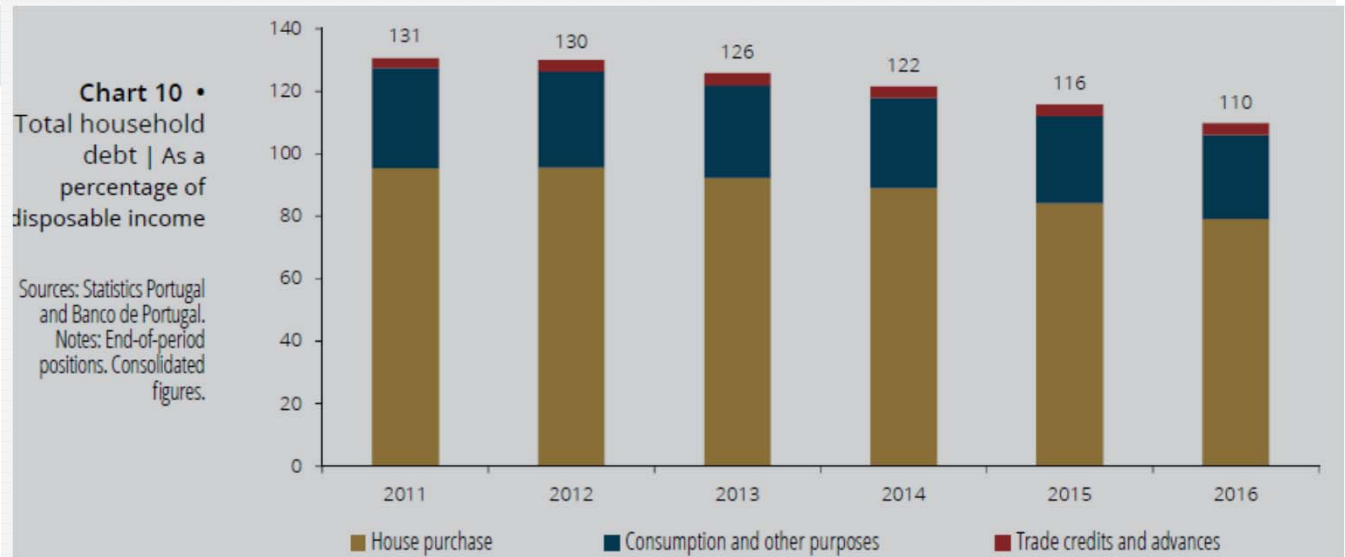
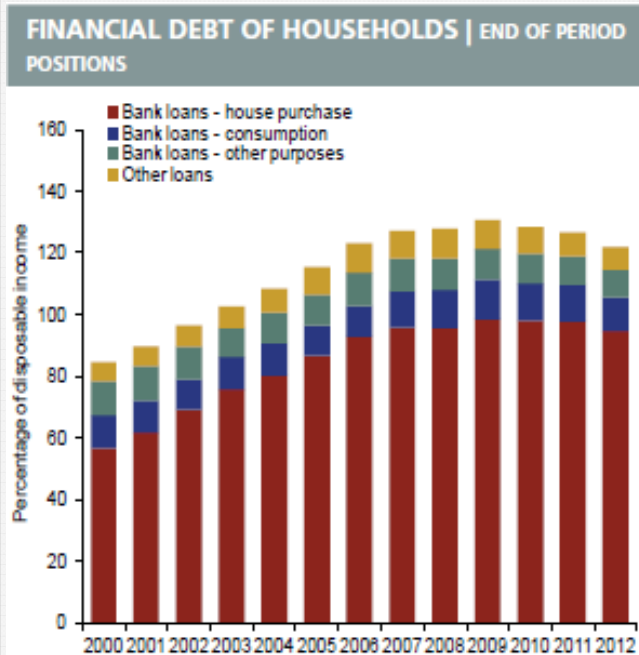
- Credit growth reached high levels during the first decade of the century.



Source: Banco de Portugal (2009), "Financial Stability Review - 2008".

Credit Risk

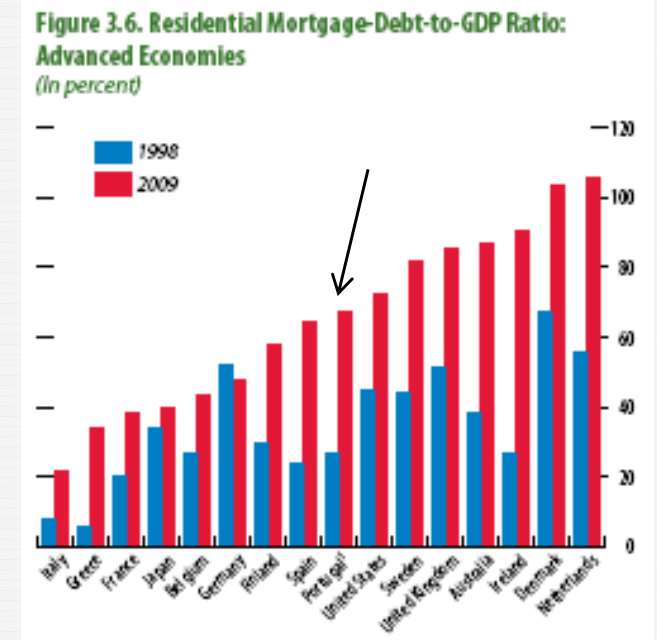
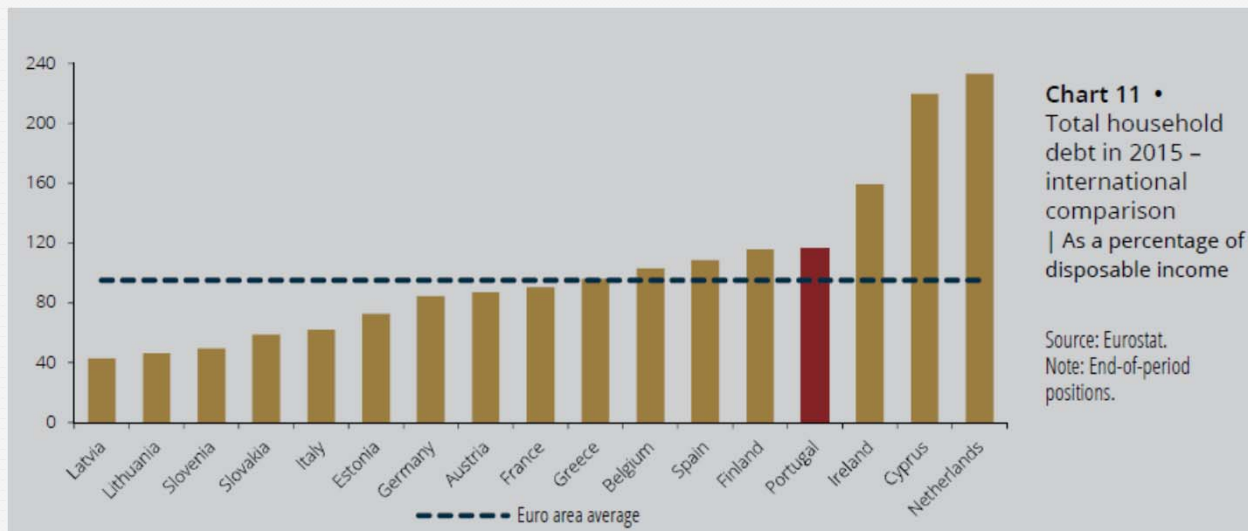
- Therefore, the indebtedness level of households increased until 2009, mostly due to house purchase ...



Sources: Banco de Portugal (2017), “Financial Stability Review”, June and Banco de Portugal (2013), “Financial Stability Review”, May;

Credit Risk

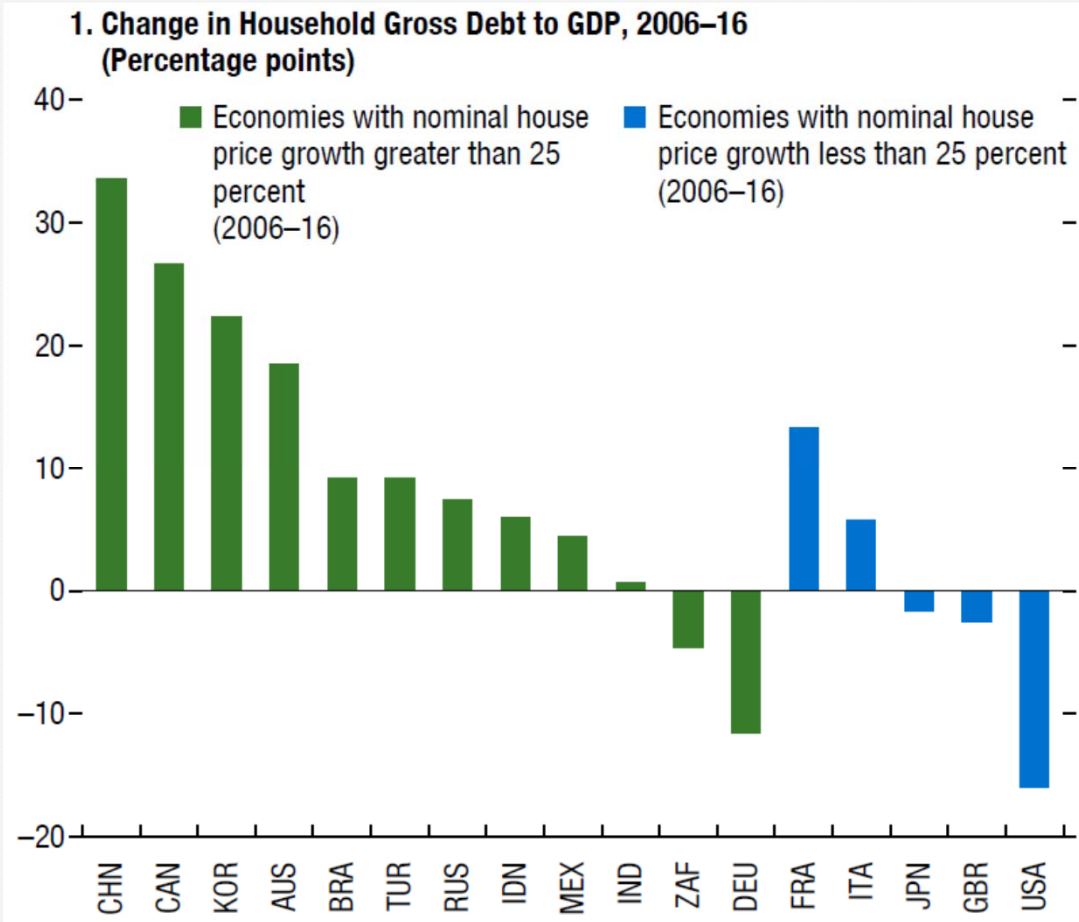
- ... reaching figures above those observed in EU, though the weight of residential mortgage debt on GDP is still below the one observed in several countries.



Sources: Banco de Portugal (2017), “Financial Stability Review”, June and International Monetary Fund (2011), “Global Financial Stability Report”, April.

Credit Risk

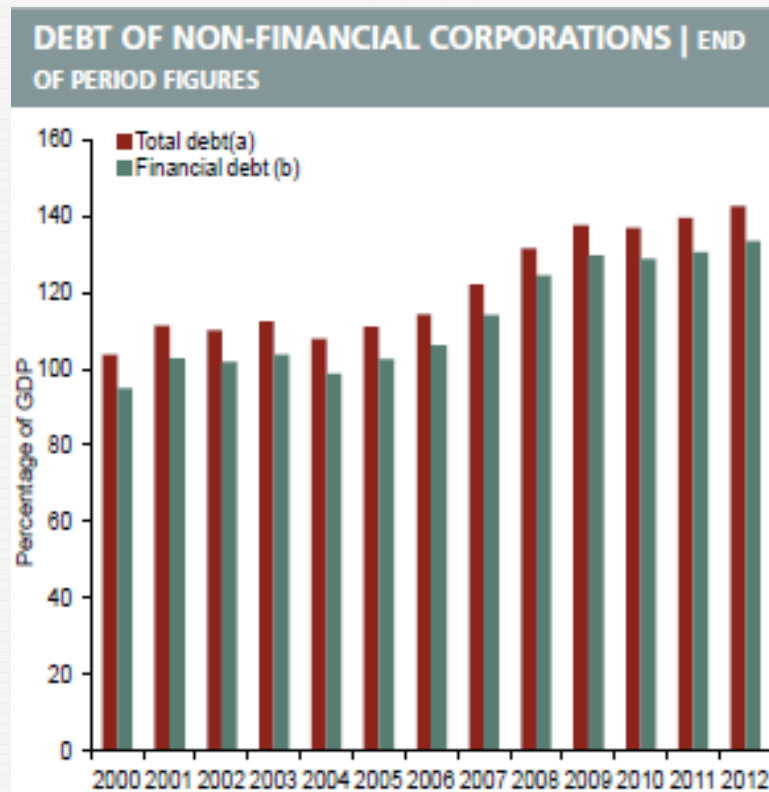
■ Among the G20, Household Debt increased in line with house prices:



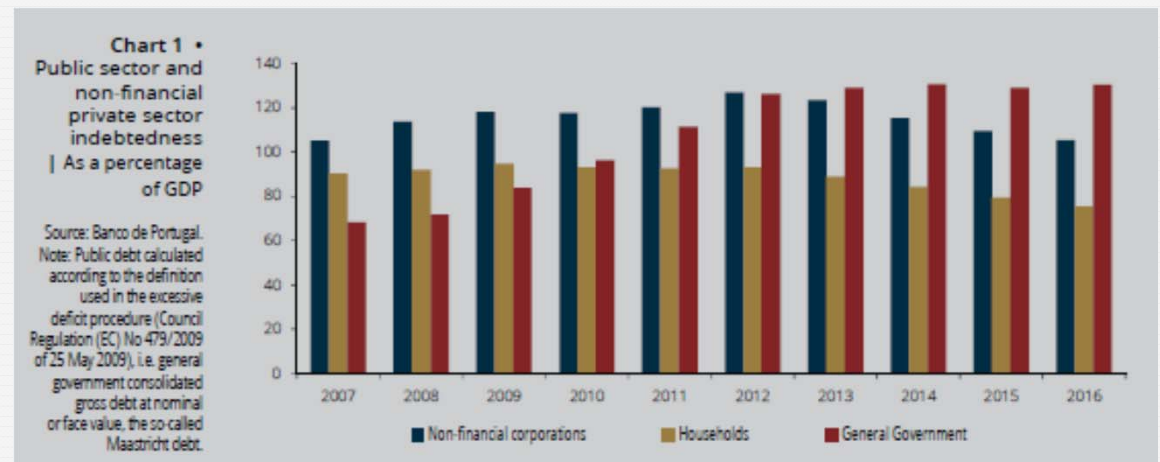
Sources: International Monetary Fund (2017), “Global Financial Stability Report”, October.

Credit Risk

- Concerning non-financial companies, indebtedness also increased significantly, ...



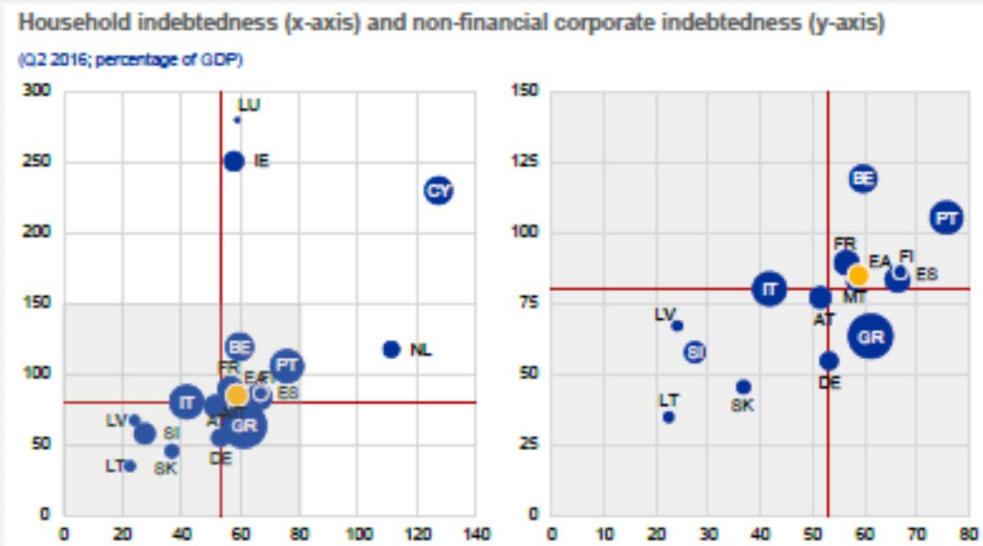
Source: Banco de Portugal (2012), “Financial Stability Review”, May.



Source: Banco de Portugal (2017), “Financial Stability Review”, June.

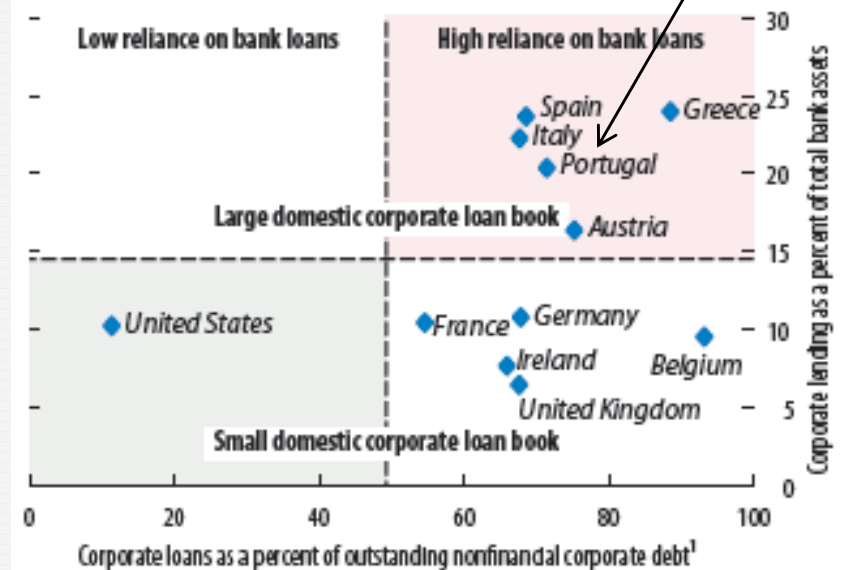
Credit Risk

- ... above EU average and most EU countries and mostly relying on banks.



Source: ECB (2016), “Financial Stability Review”, Nov.

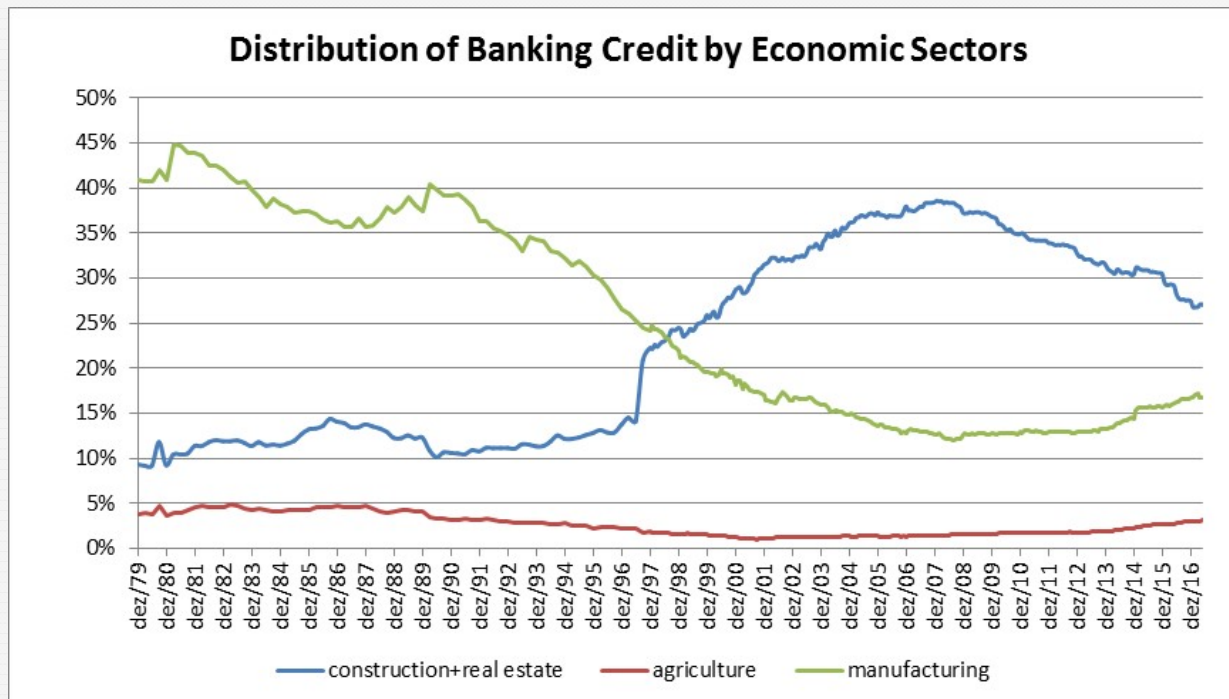
Figure 2.35. Reliance on Bank Financing by Nonfinancial Corporations
(In percent)



Source: IMF (2013), “Global Financial Stability Report”, Apr.

Credit Risk

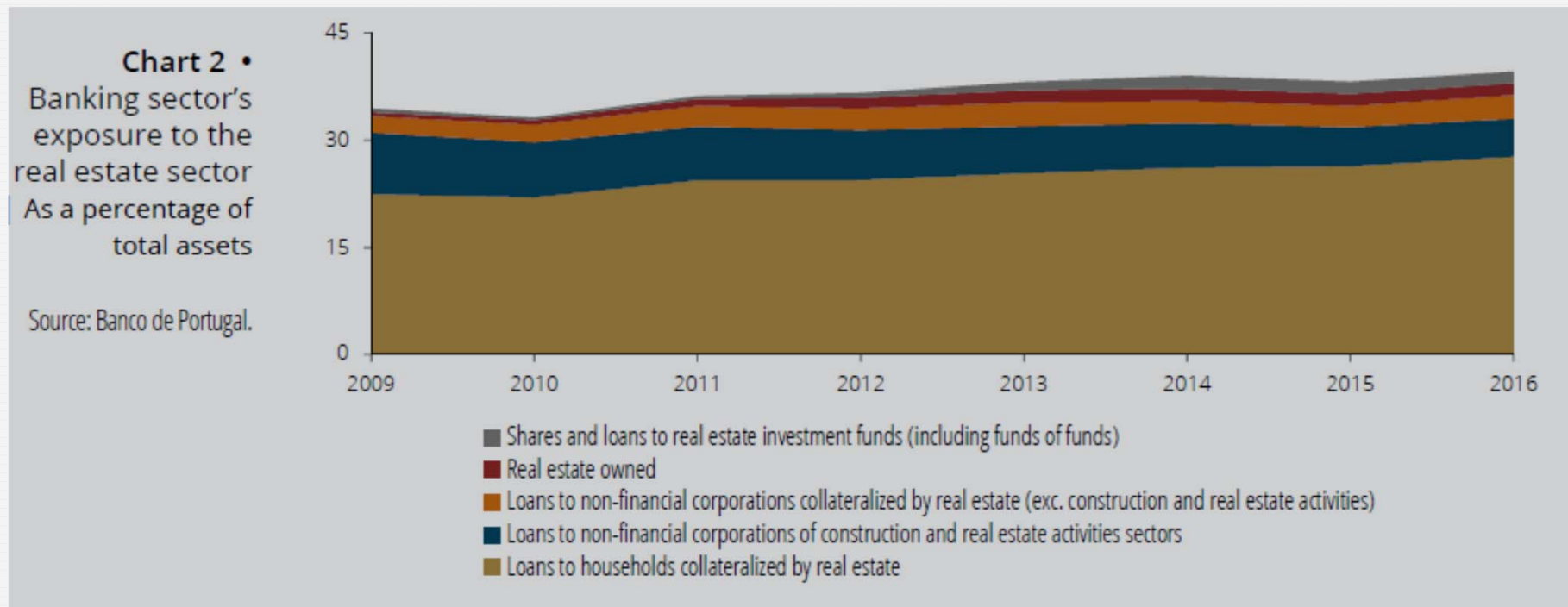
- Increase in the credit exposure to the real estate sectors crowded-out credit to other economic sectors.
- Since the 80's and until 2007, the weight of credit to construction and real estate in the corporate segment increased roughly from 10% to 40% (from 40% to 60% in advanced economies, according to Jordà, Schularick and Taylor (2014)).



Source: Banco de Portugal and own calculations.

Credit Risk

- Considering all bank assets, including mortgage loans and exposures to real estate investment funds, the exposure to the real estate sector also reached around 40%.



Source: Banco de Portugal (2017), “Financial Stability Review”, June.

Credit Risk

- Non-performing loans increased significantly since 2008,

Asset quality – Credit at Risk

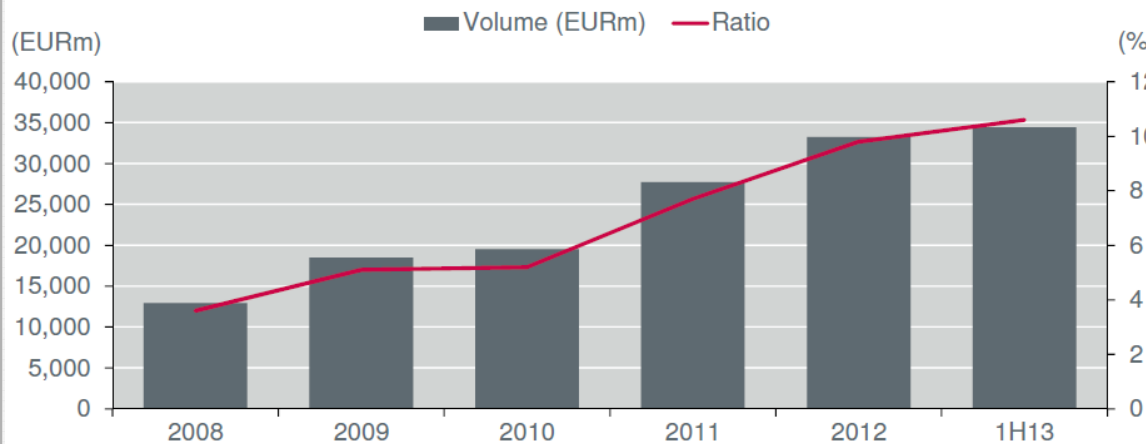
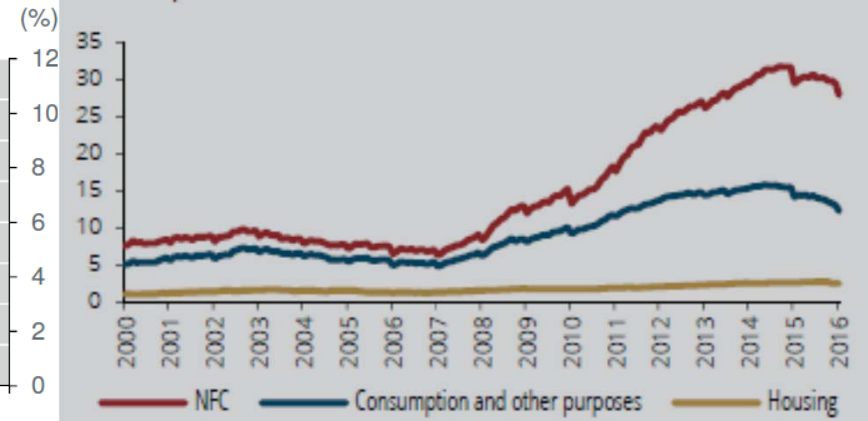


Chart 14 • Overdue loans – non-financial private sector | Per cent



Source: Fitch (2014), “Residential Mortgages and Property Market Outlook”, presentation at the Conference “Why is Funding Key to Recovery”, 2014 Fitch Credit Conference, Lisbon, 6th Feb.

Source: European Central Bank (2017), “Financial Stability Review”, May.

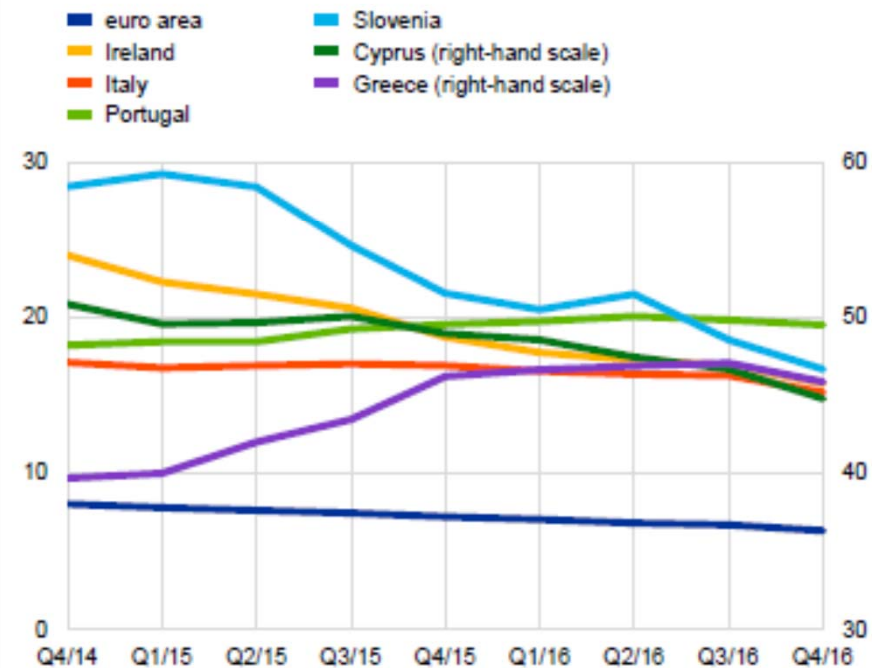
Credit Risk

- ... much above the Euro area average,

Non-performing loans still remain high in a number of countries despite slight decreases in recent quarters

Non-performing exposure ratios across euro area countries

(Q4 2014 – Q4 2016; percentages, euro area aggregates)



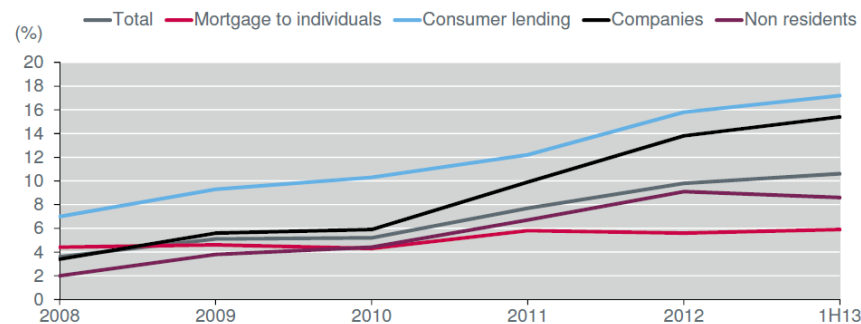
Source: European Central Bank (2017), “Financial Stability Review”, May.

Credit Risk

■ ... but less in households than in non-financial companies, ...

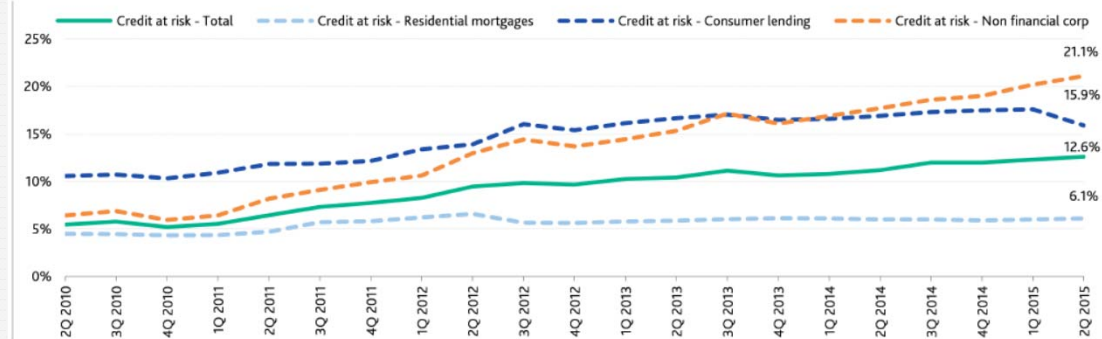
Credit at Risk

Loan Quality Main Segments



Fitch (2014), “Residential Mortgages and Property Market Outlook”, presentation at the Conference “Why is Funding Key to Recovery”, 2014 Fitch Credit Conference, Lisbon, 6th Feb.

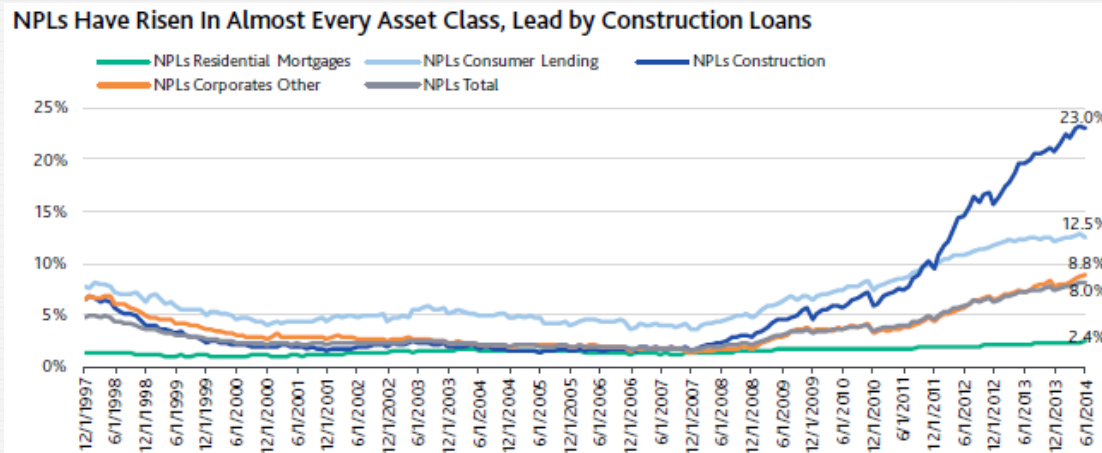
Evolution of Portuguese banks' non-performing loans (NPLs) by asset class



Source: Moody's (2015), “Banking System Outlook – Portugal”, 15 Oct.

Credit Risk

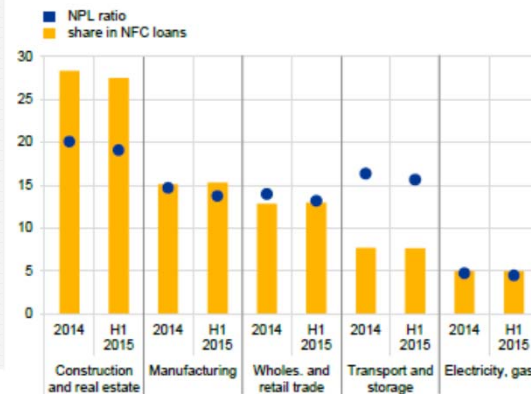
- ... , namely in construction (in line with the Euro Area), whose ratio reached almost 3x the aggregate NPL level.



Source: Moody's (2014), "Banking System Outlook – Portugal", 7 Oct.

Non-performing loan ratios of significant banking groups in the euro area, by economic activity

(2014 – H1 2015; percentage of loans)

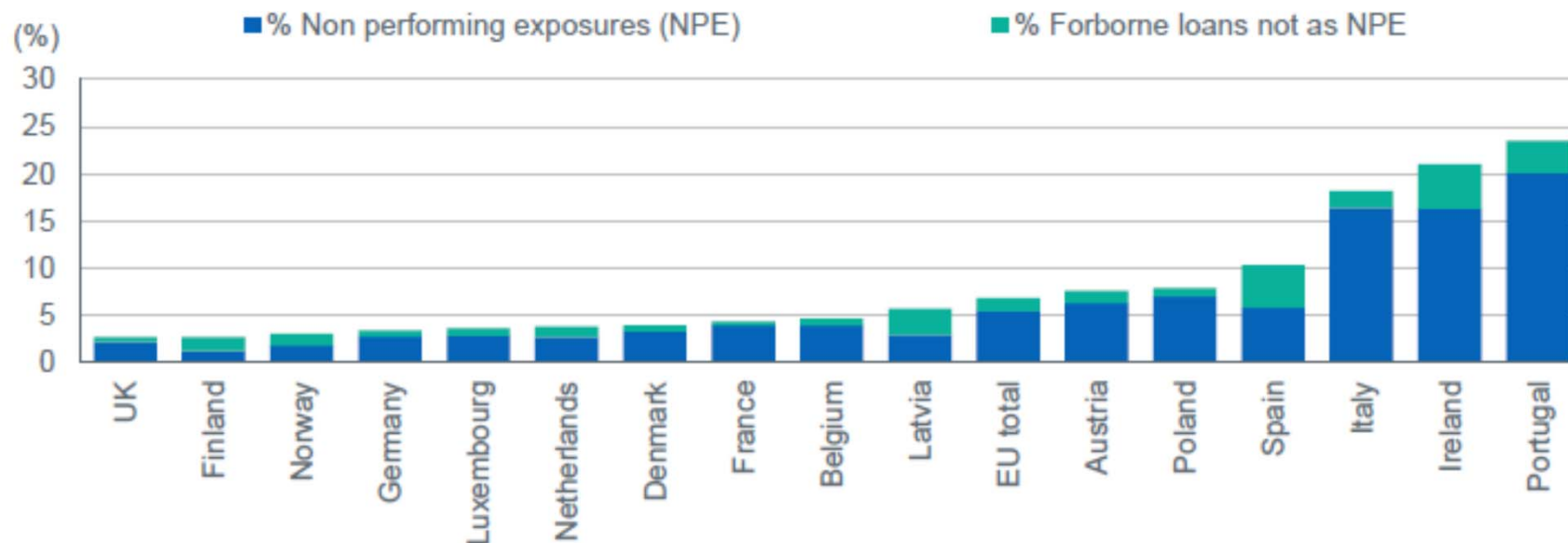


Source: European Central Bank (2015), "Financial Stability Review", Nov.

Credit Risk

- Therefore, the asset quality is still one of the weakest in Europe.

Asset Quality Indicators - European Comparison

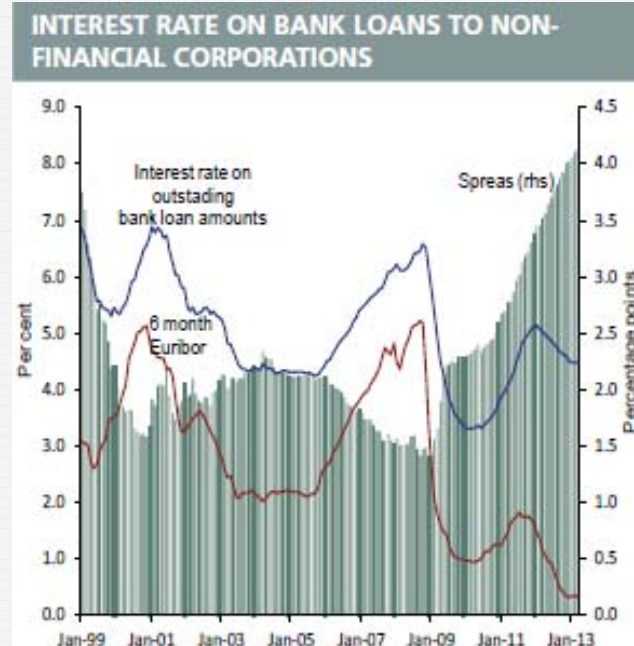
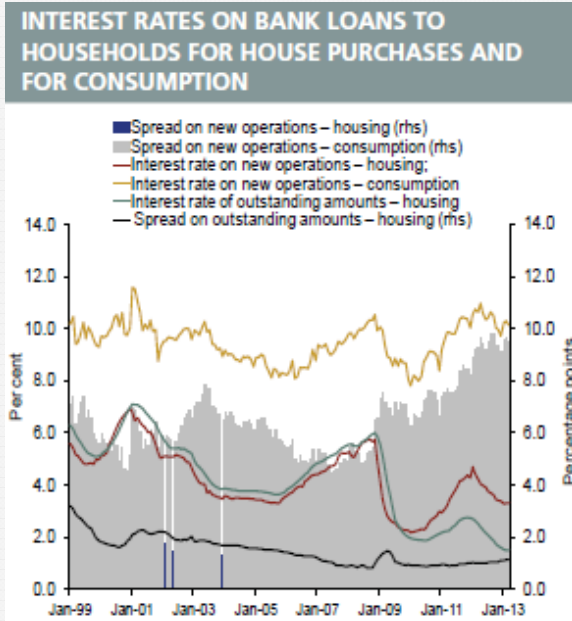


Source: Fitch (2017), 2017 Credit Outlook Lisbon, 26 Jan.

Credit Risk

■ Subprime crisis:

- **new contracts** – lower competition in mortgage spreads, less and more expensive liquidity and higher credit risk => higher spreads for new contracts;
- already existing contracts – lower short-term rates permitted substantial cuts in interest rates.

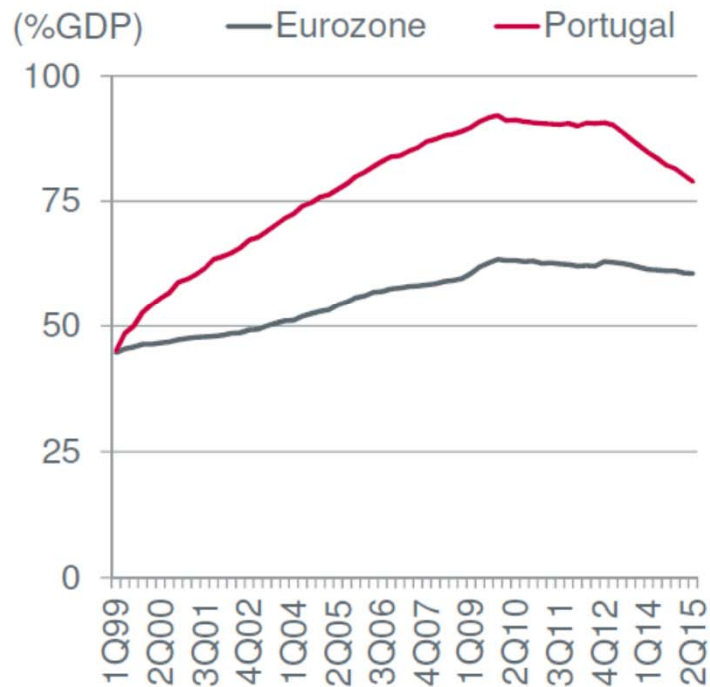


Source: Banco de Portugal (2013), “Financial Stability Review”, May.

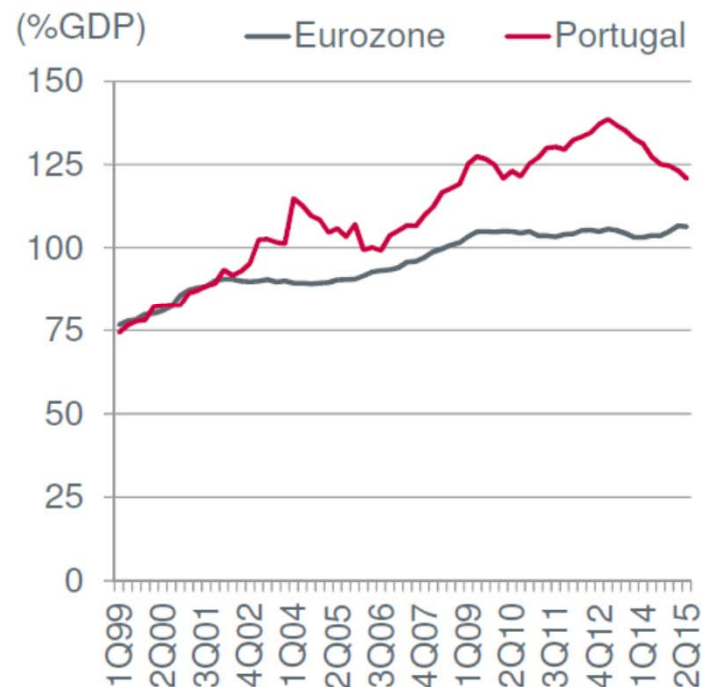
Credit Risk

- **Aftermath of the crisis** - Deleveraging in the private sector has started in 2012 ...

Both households...



...and corporates

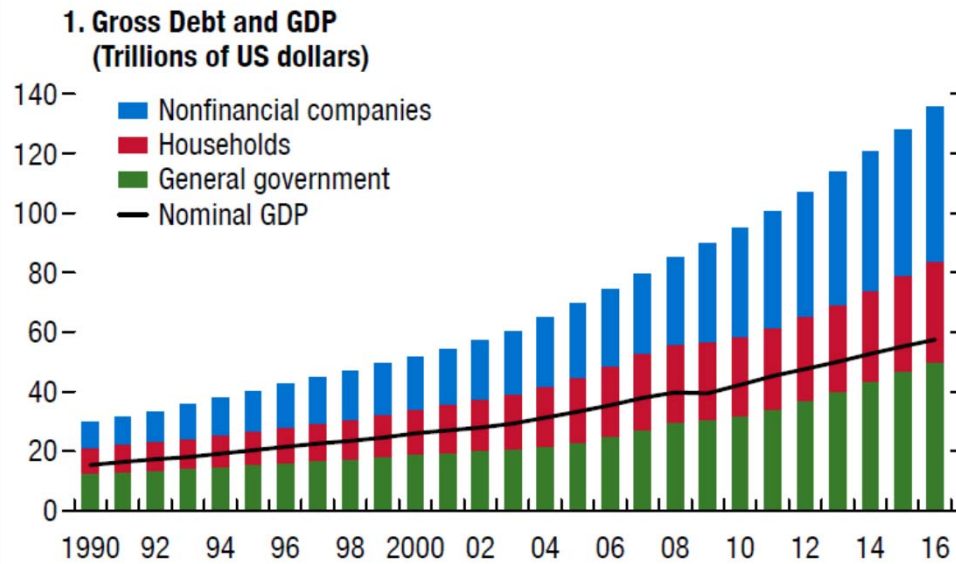


Source: Fitch (2016), 2016 Fitch Credit Outlook Conference, Lisbon, 28 Jan.

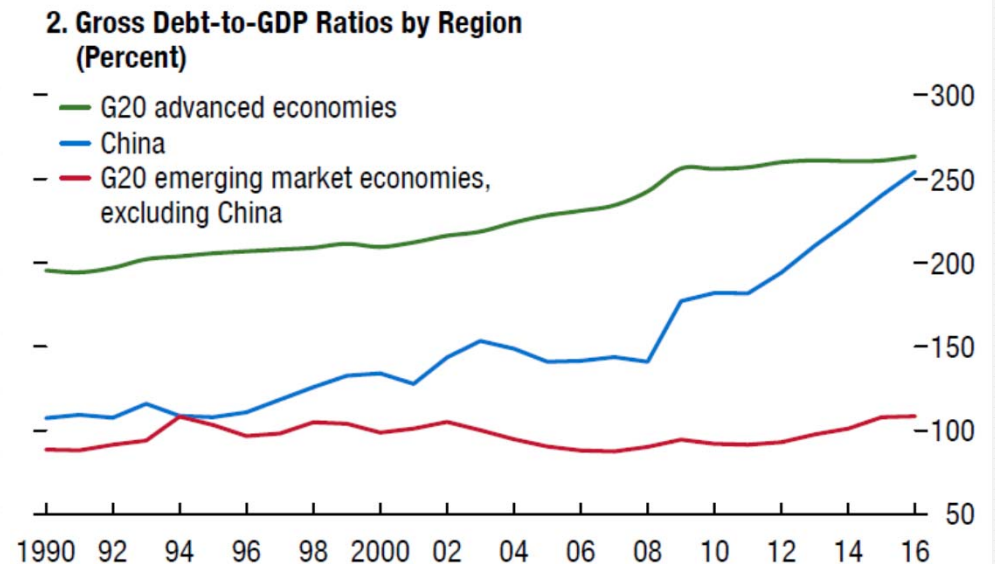
Credit Risk

- ... contrary to what is happening in the major economies (G20), ...

Debt has been rising more quickly than GDP ...



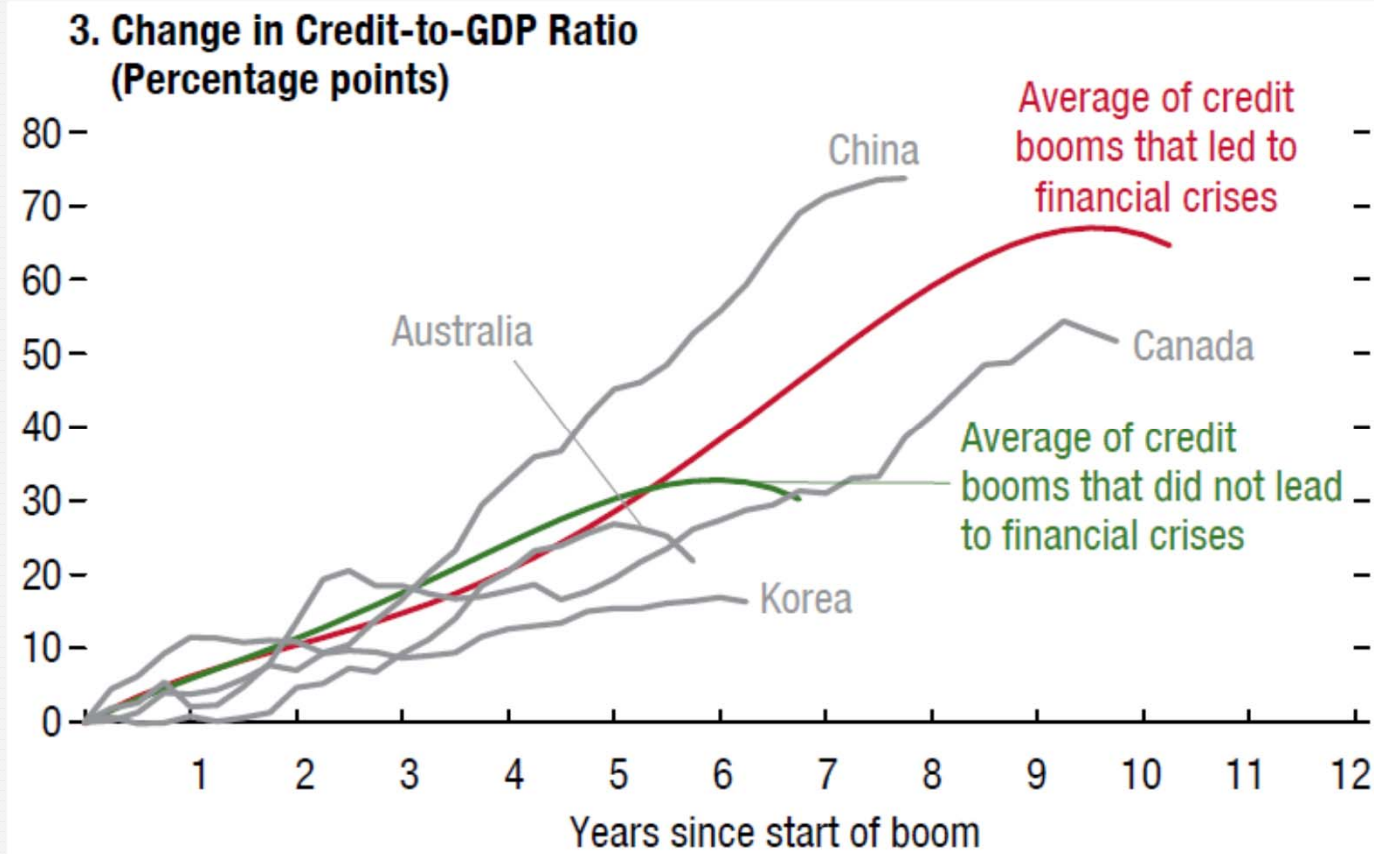
... largely in advanced economies and China ...



Source: IMF (2017), "Global Financial Stability Report", October.

Credit Risk

- ... with some countries with developments similar to those observed in previous crisis.



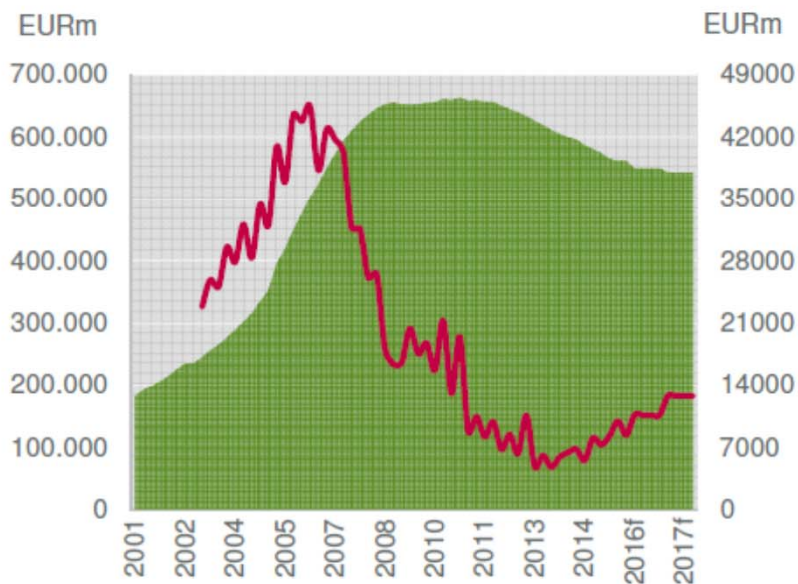
Source: IMF (2017), "Global Financial Stability Report", October.

Credit Risk

- New housing loans are increasing again since 2013, ...

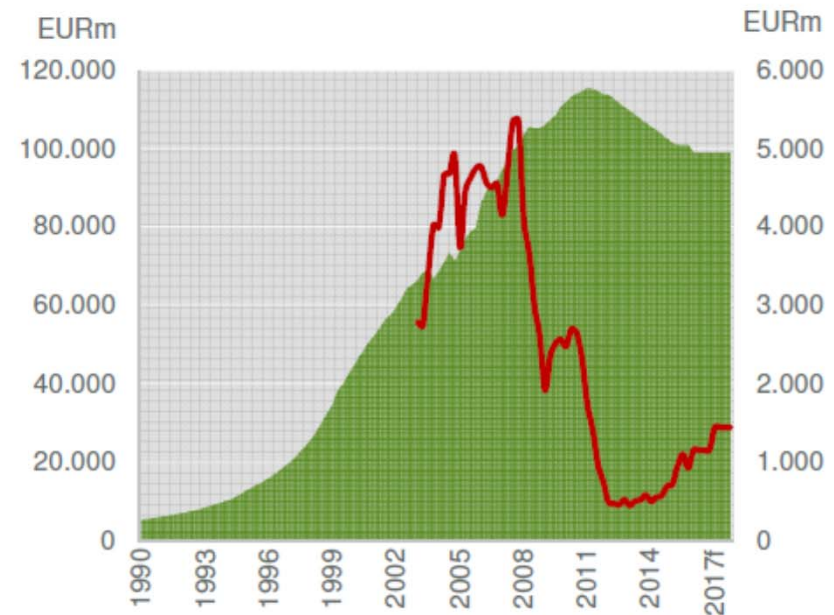
- Spain 

■ Outstanding Housing Loans
■ Gross New Housing Lending (RHS, quarterly)



- Portugal 

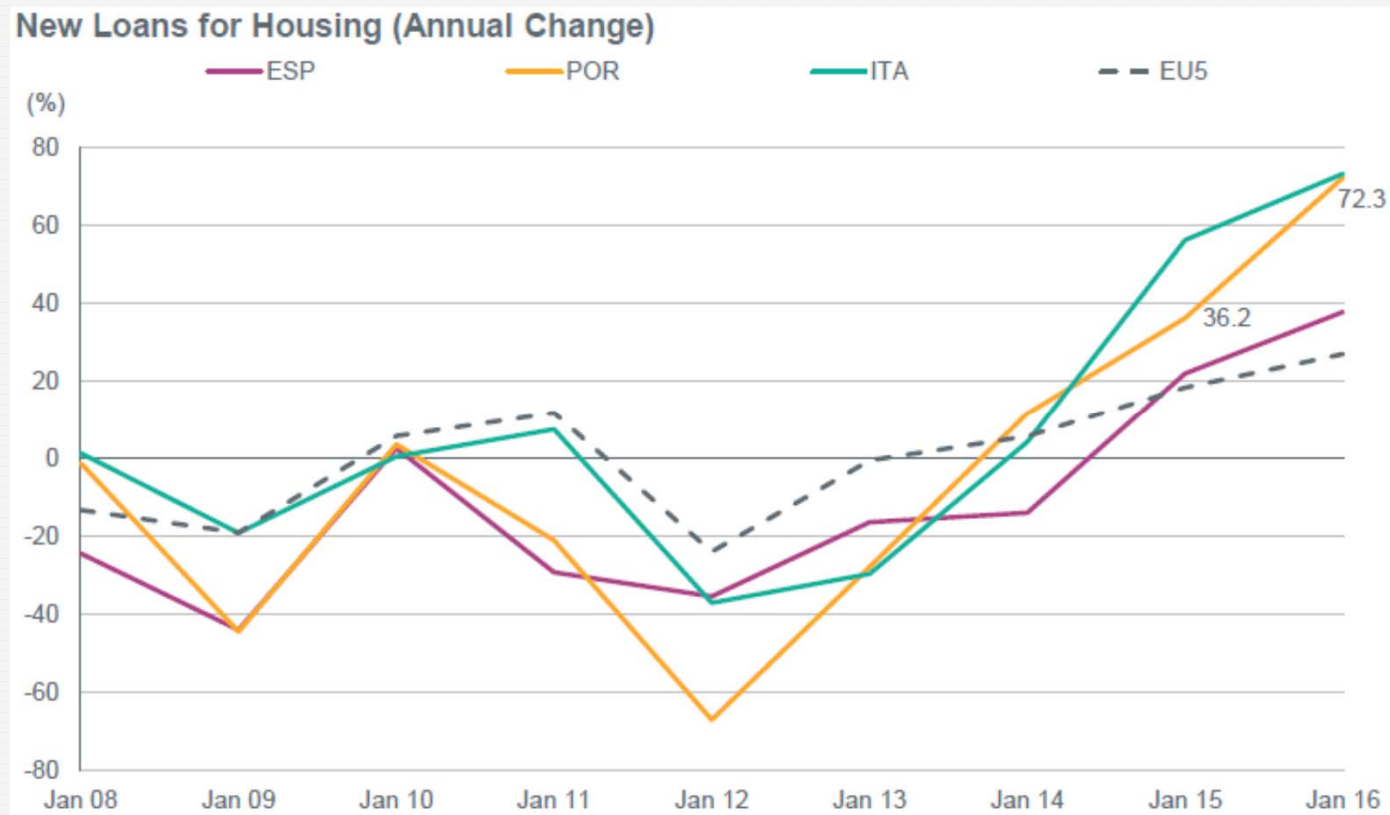
■ Outstanding Housing Loans
■ Gross New Housing Lending (RHS, quarterly)



Source: Fitch (2016), 2016 Fitch Credit Outlook Conference, Lisbon, 28 Jan.

Credit Risk

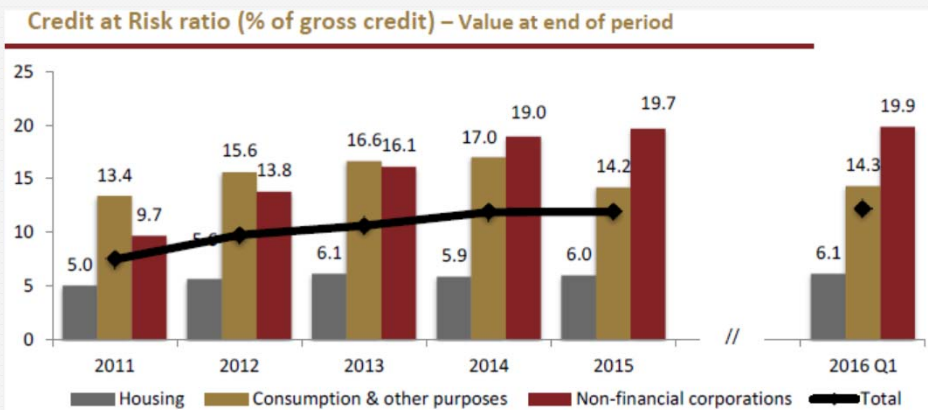
■ ... above the EU average.



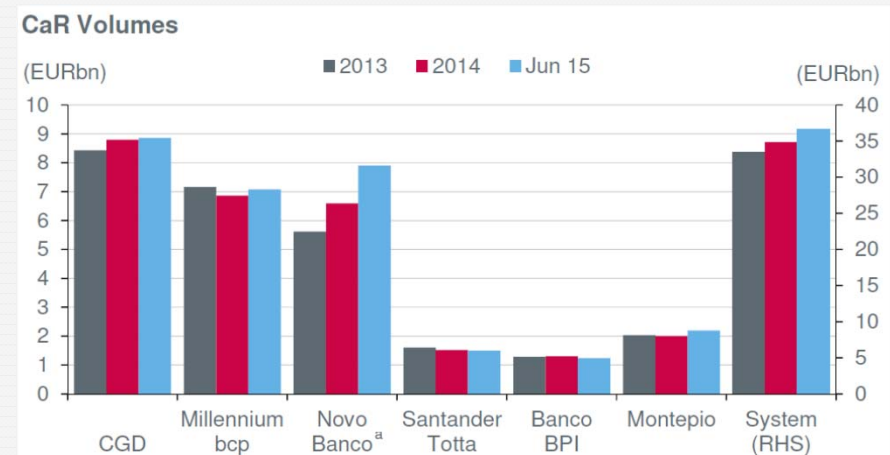
Source: Fitch (2017), 2017 Credit Outlook Lisbon, 26 Jan.

Credit Risk

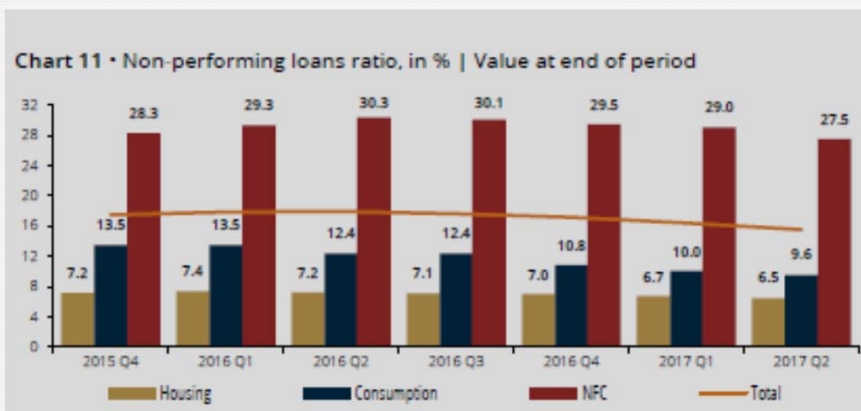
- Credit at Risk and NPL ratios are already decreasing ...



Source: Banco de Portugal (2016), "Portuguese Banking System: Recent Developments - 1Q16"



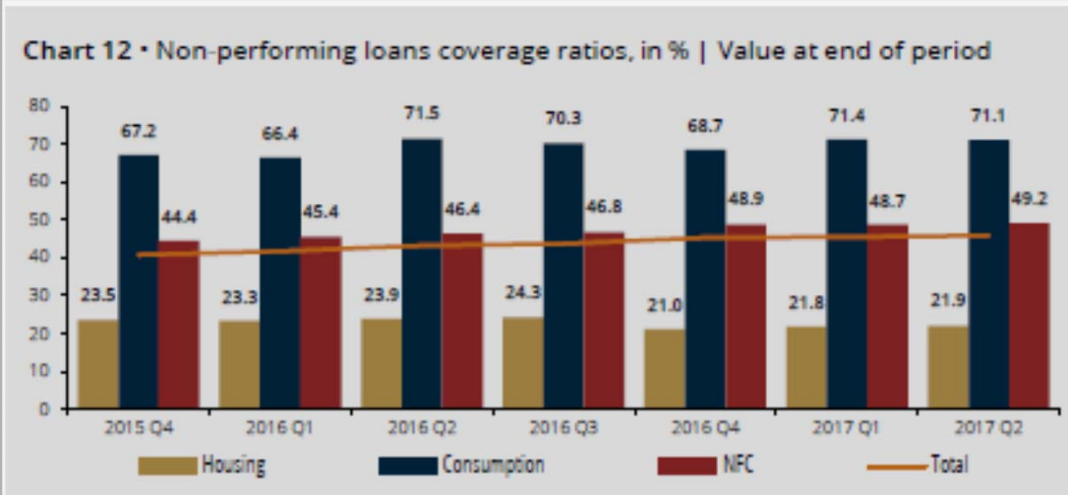
Source: Fitch (2016), 2016 Fitch Credit Outlook Conference, Lisbon, 28 Jan.



Source: Banco de Portugal (2017), "Portuguese Banking System: Latest Developments", 2Q2017.

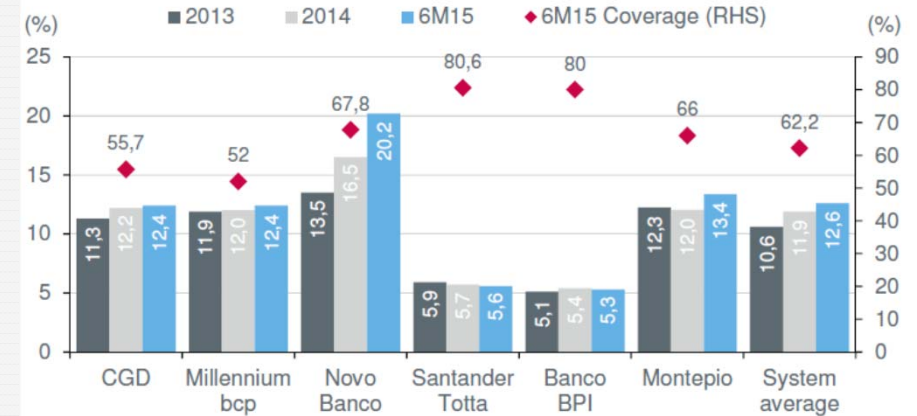
Credit Risk

■ ... while coverage ratios are increasing, ...

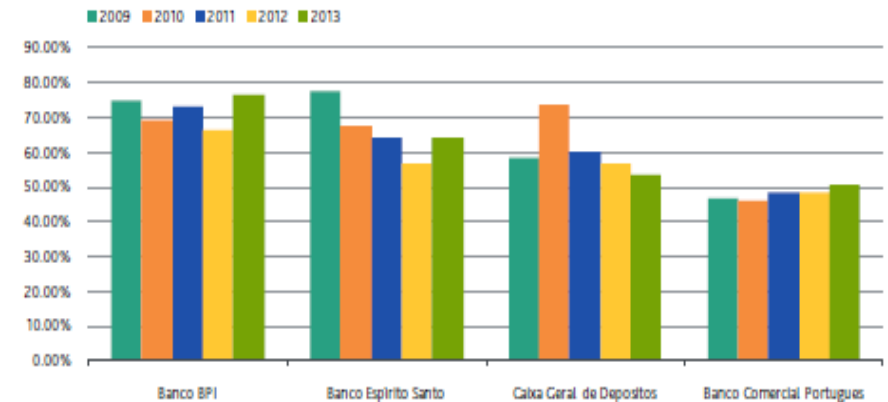


Source: Banco de Portugal (2017), “Portuguese Banking System: Latest Developments”, 2Q2017.

Credit at Risk and Loan Impairment Reserves

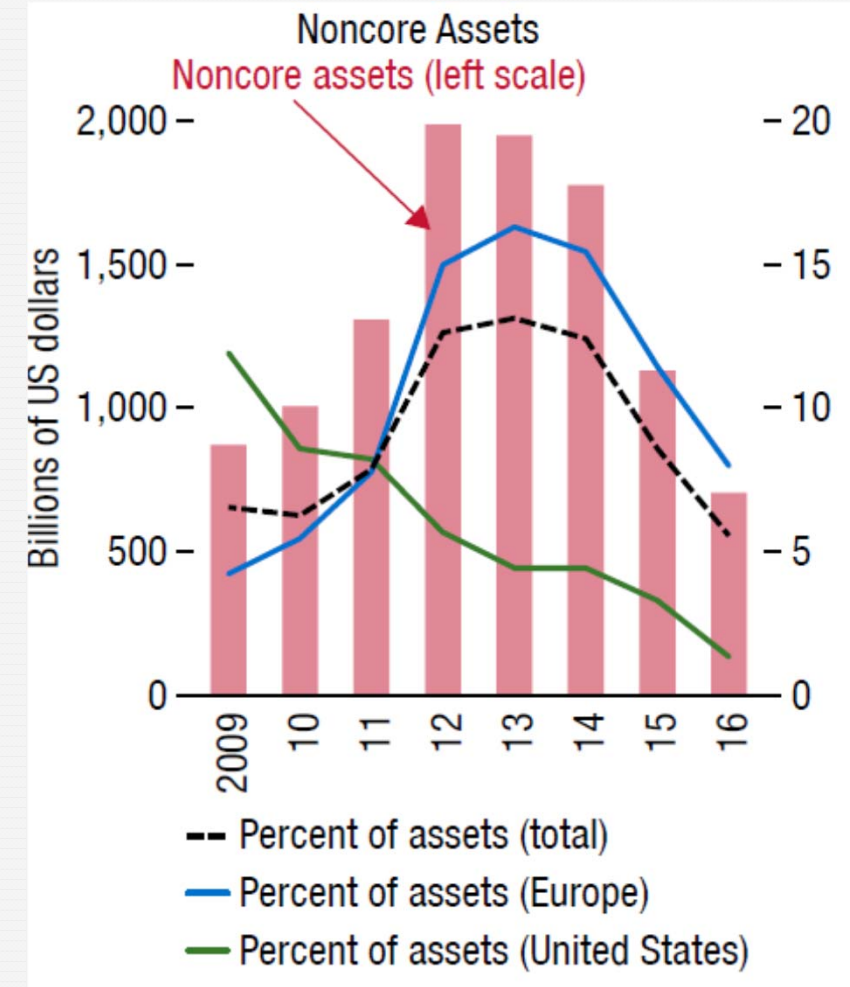


Loan-Loss Reserve Coverage of NPLs



Credit Risk

- The stock of NPLs in the EU banking sectors was around €1.0 trillion at end-2016, i.e. 5.1% of total loans.
- The banking systems in 10 EU countries have average NPL ratios of over 10% and a large number of banks have even higher ratios.
- Banks have made progress in cleaning up legacy assets worldwide (mainly impaired loans), as about 2/3 of GSIBs noncore assets have been disposed of, mostly in US, as in Europe several banks continue to struggle with legacy bad debts.



Source: IMF (2017), "Global Financial Stability Report", October.

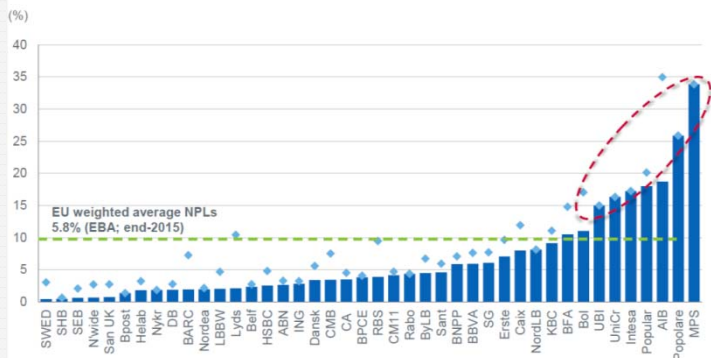
Credit Risk

- Europe asset quality issue concentrated on Italy, Spain, Portugal and Ireland, accounting for 57% of total European NPLs, although Cyprus and Greece have the highest ratios.

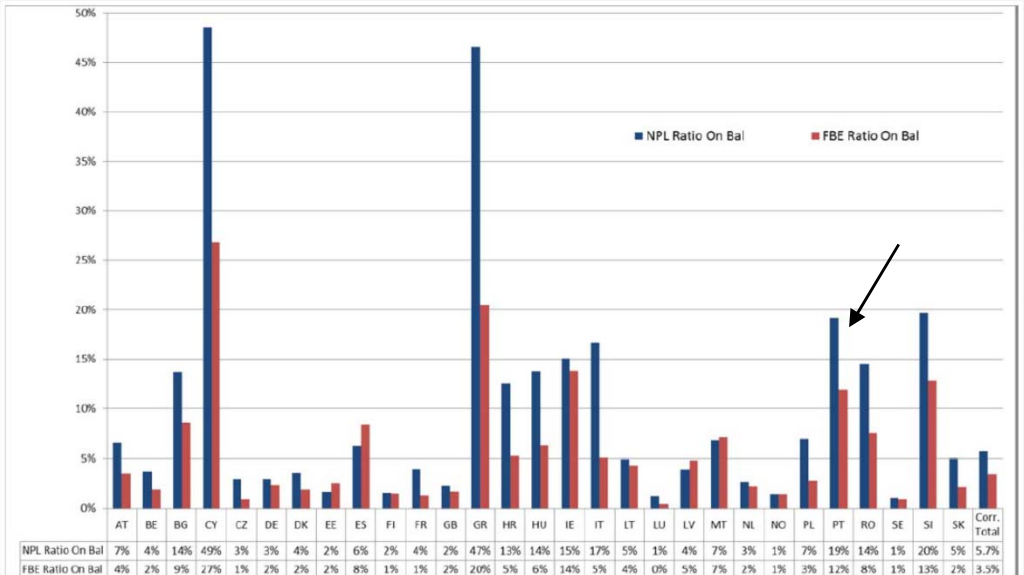
local currency in billion	Gross NPL*	As % total Europe	Gross loans	Gross NPL ratio	GDP	Gross NPL % GDP
Italy	198	28%	1,550	13%	1,661	12%
Spain	131	19%	1,282	10%	1,099	12%
Portugal	44	6%	215	21%	177	25%
Ireland	25	4%	145	17%	258	10%
Sub-total	397	57%	3,192	12%	3,195	12%
France	76	11%	2,443	3%	2,117	4%
Europe	694	100%	12,400	6%	14,729	5%
Japan 2002 peak (¥ trillion)	43	-	514	8%	474	9%

Source: JP Morgan Cazenove (2016), "European Banks - Lessons from Japan: EU Banks between a rock and a hard place".

NPLs as a % of Total Loans (2015)



Diamonds = worst data between 2009 and 2015



EBA (2016), "EBA Report on the Dynamics and Drivers of Nonperforming Exposures in the EU Banking Sector", 22 July.

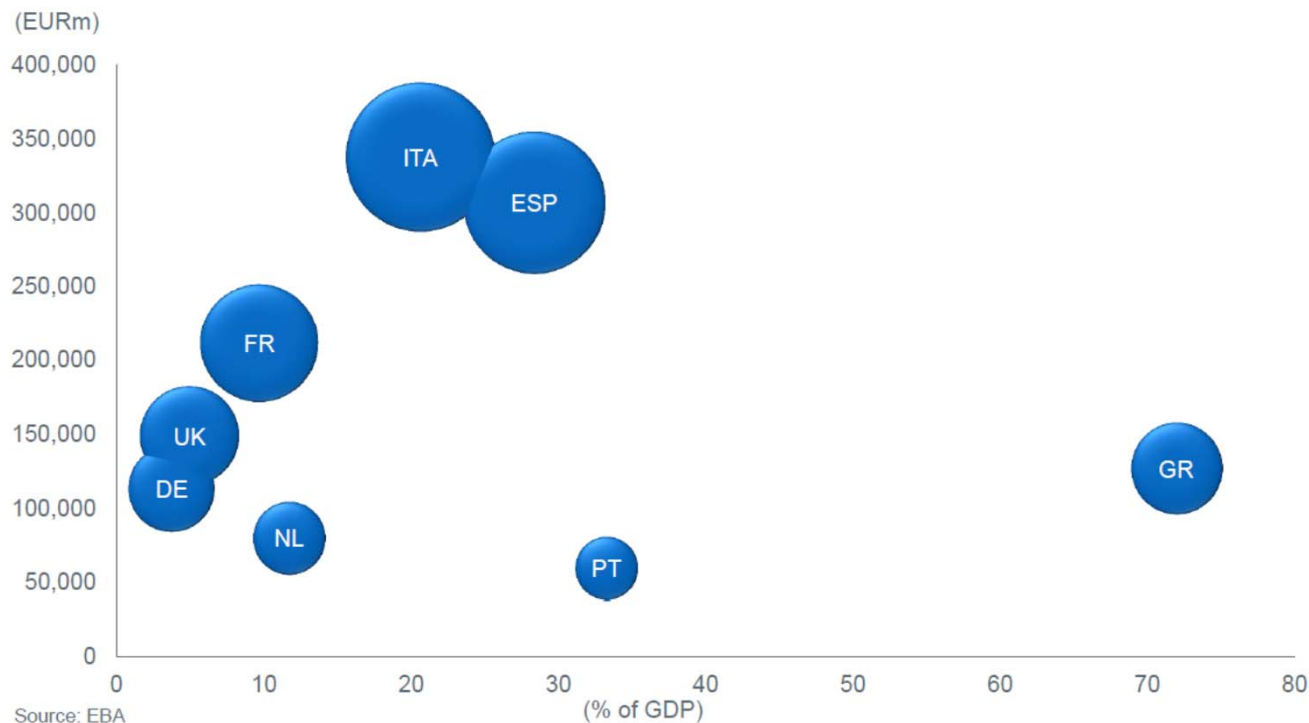
Note: FBE – Forborne Exposures

Fitch (2017), "Credit Outlook Lisbon 2017", 26 Jan.

Credit Risk

- Notwithstanding being a small market, the NPLs in Portugal represent a very significant share of the GDP (>30%).

Materiality of NPL and Restructured Loans (June 2016)



Source: EBA

Fitch (2017), "Credit Outlook Lisbon 2017", 26 Jan.

Credit Risk

- Slow reduction in the NPLs' stock of European banks after the subprime crisis => macroprudential and financial stability issues:
 - (i) NPLs consume management attention and scarce financial resources (liquidity and capital) => lower loan supply.
 - (ii) Higher NPLs => Increased uncertainty about banks' asset values => costs of funding and capital unnecessarily increased for the sector as a whole => higher cost of credit to borrowers => lower economic growth.

Credit Risk

- Current speed of NPL resolution is too slow in the Euro Area, casting doubts over financial stability => “wait-and-see” approach must be discouraged => NPLs should be reduced at a pace and in a way to avoid fire sales => 5 principles strategy:
 - 1) Swift recognition of NPLs;
 - 2) Losses must be borne primarily by banks’ shareholders and other investors to avoid moral hazard.
 - 3) Solutions should fully comply with the EU legal framework.
 - 4) NPL resolution must include a long-term viability assessment of the affected banks.
 - 5) High stocks of NPLs and NPL market failures should be addressed in a comprehensive package.

Credit Risk

- 3 steps policy:
 - 1) clear upfront diagnosis of the size and scope of the NPL problem, followed by an operational separation of NPLs from other, performing assets of the bank.
 - 2) NPLs of the concerned banks should be subject to valuation, to distinguish between:
 - (i) viable and non-viable exposures –to be restructured and liquidated, respectively.
 - (ii) NPLs to remain in the banking system (to be gradually resolved by the banks, whilst being separated from the going-concern operations) and to be removed from the banking system (through direct sales to investors, transfers to asset management companies (AMCs) and securitisation).
 - 3) assessment of the viability of each individual bank following the resolution of their NPLs needs to be made - banks may need to be restructured, merged or sold to facilitate their return to sustainable profitability. If necessary, the bank must be resolved or liquidated.

Credit Risk

- Microprudential authorities must strengthen their efforts to **improve banks' NPL management** =>
 - 1) enforcing compliance with the EU NPL definition and prudent measurement of NPLs (and prudent valuation of collateral)
 - 2) requesting regular updates of NPL reduction strategies and setting targets for NPL reduction;
 - 3) extending the adoption of good practices to all banks;
 - 4) requesting banks with high NPL levels to report data necessary to assess their viability in a scenario whereby NPLs are to be resolved;
 - 5) developing a blueprint by European authorities for national AMCs based on international best practices, with common templates for NPL data, to be used by AMCs and possible future NPL trading platforms, where investors would be able to acquire NPLs from multiple banks;
 - 6) Impose additional capital requirements.

Liquidity Risk

1) Metrics

- Liquidity gaps
- Eligible collaterals in liquidity operations with the Central Bank
- Liquidity ratios

2) Consequences of the Government Debt crisis

3) Recent evolution

Liquidity Risk

- **Main indicator: liquidity gaps**, corresponding to the differences between assets and liabilities generating liquidity flows (payments or receivals) in different maturity buckets (usually up to 1 year).
- When a bank is under pressure regarding its market liquidity sources (in the retail or in the wholesale markets, i.e. deposits and bonds), it has to rely on the central bank.
- However, the ability of raising liquidity from the central bank is limited by the volume of eligible collaterals (usually bonds and loans) the bank has to offer => in these cases, **the most important liquidity indicator becomes the volume of eligible collaterals available.**

Liquidity Risk

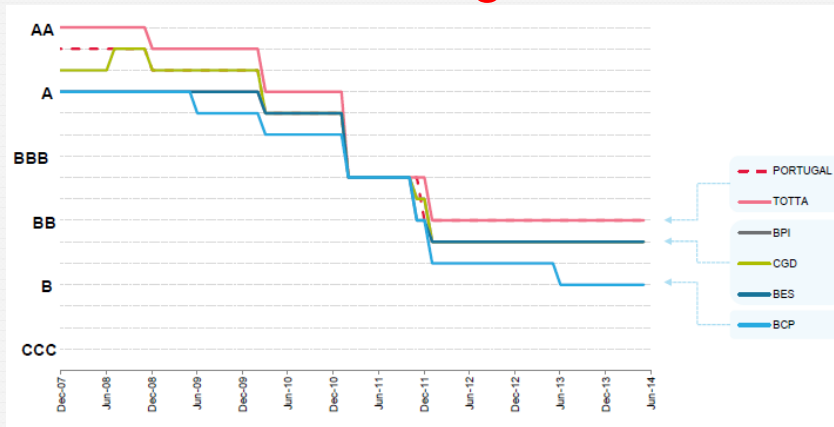
- **Liquidity gaps => interest rate risk** either under fixed or floating rates, as long as there are mismatches between the indexing rates and/or the repricing dates.
- Static vs dynamic gaps: static gaps are calculated assuming that the current balance sheet will not change, while dynamic gaps result from assumption on activity growth, namely credit, deposits and securities held or issued.
- Nonetheless, even for static gaps behavioral assumptions are required, e.g. for revolving loans and deposits.
- **Negative cumulative dynamic gaps => Funding Plan is insufficient to ensure an adequate liquidity position and has to be revised.**
- **Positive cumulative dynamic gaps => Funding Plan may be revised to accommodate the liquidity surplus.**

Liquidity Risk

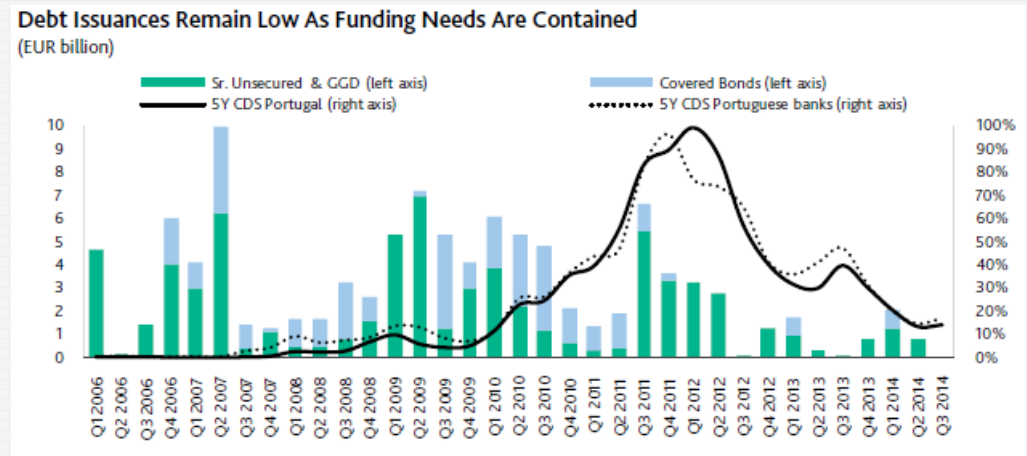
- Prudential authorities also use to impose liquidity risk reports and specific metrics to monitor.
- For instance, the BdP's Instruction No.1/2000 imposed a quarterly report on liquidity, with detailed information on different maturity buckets up to 1 year.
- A liquidity ratio was then calculated, having been established a minimum level of 90%.
- After the subprime crisis, BdP imposed bi-monthly or monthly reports on liquidity gaps (static and dynamic) and afterwards replaced that Instruction by Instruction No. 13/2009 => monthly reports to the BdP of the dynamic liquidity gaps under the funding plan.

Liquidity Risk

- Sovereign debt crisis => Speculative grade ratings for the banks => bond market funding more difficult to Portuguese banks => ...



Source: S&P (2014), “European Sovereign Ratings: after the storm”, presentation in Lisbon, June.



Source: Moody’s (2014), “Banking System Outlook – Portugal”, 7 Oct.

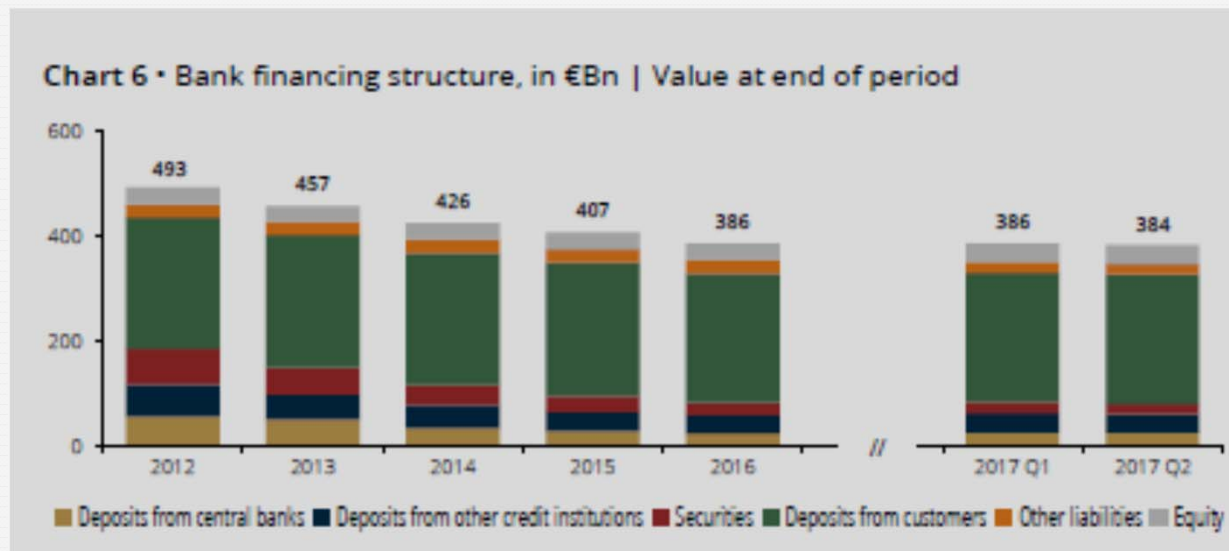
Bank	LT IDR	Outlook/RW
Banco BPI S.A.	BB	RWE
Banco Portugues de Investimento, S.A.	BB	RWE
Banco Comercial Portugues, S.A.	BB-	Stable
Caixa Economica Montepio Geral	B	Stable
Caixa Geral de Depositos, S.A.	BB-	Stable
Caixa – Banco de Investimento, S.A.	BB-	Stable
Santander Totta, SGPS, S.A.	BBB	Stable
Banco Santander Totta SA	BBB	Stable

Fitch (2017), Credit Outlook Lisbon, 26th Jan.
 Note: Ratings as of 25 Jan.2017

Liquidity Risk

=>

- (i) **Higher reliance on retail funding** (e.g. term deposits, structured products, subordinated bonds and commercial paper), namely from households, absorbing savings previously off-balance (e.g. Investment Funds).
- (ii) **Increase of ECB funding until 2013**, through covered bonds and securitization of own assets (used as collateral), ...

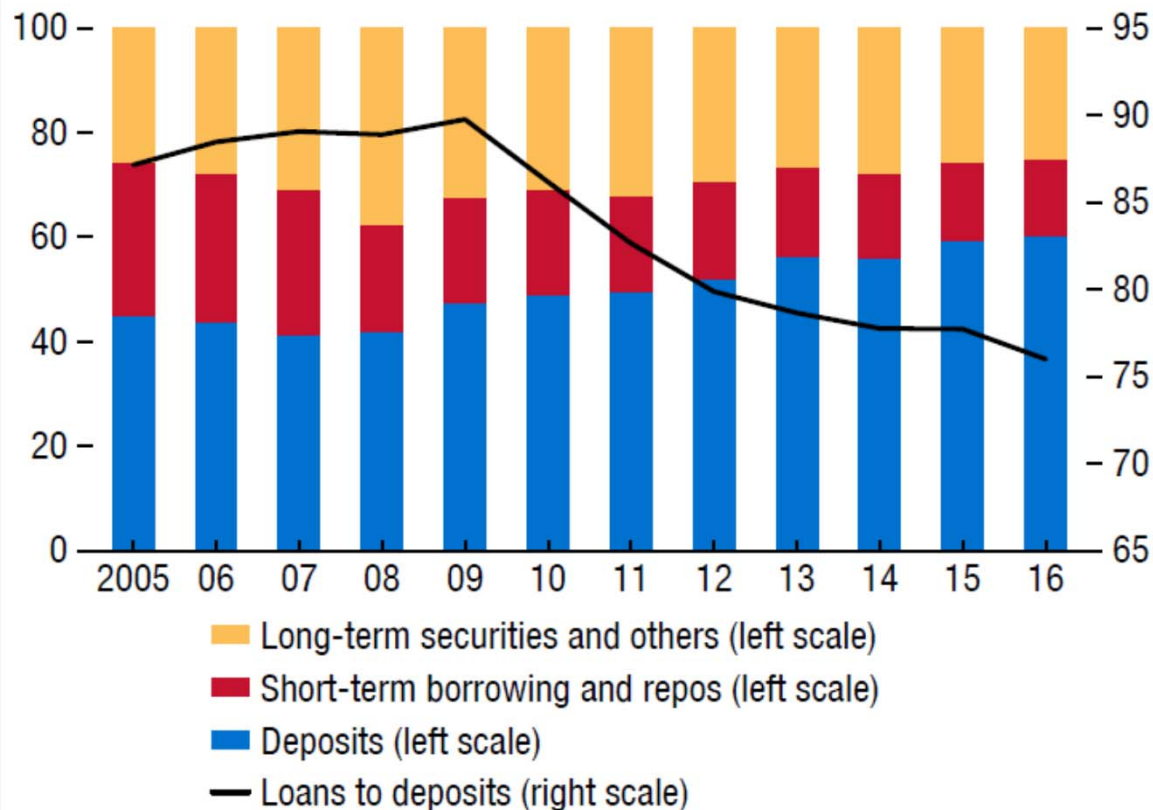


Source: Banco de Portugal (2017), “Portuguese Banking System: Recent Developments”, 2Q2017.

Liquidity Risk

(i) Higher reliance on retail funding:

- Worldwide trend, with GSIBs decreasing the weight of short-term debt in the funding structure.

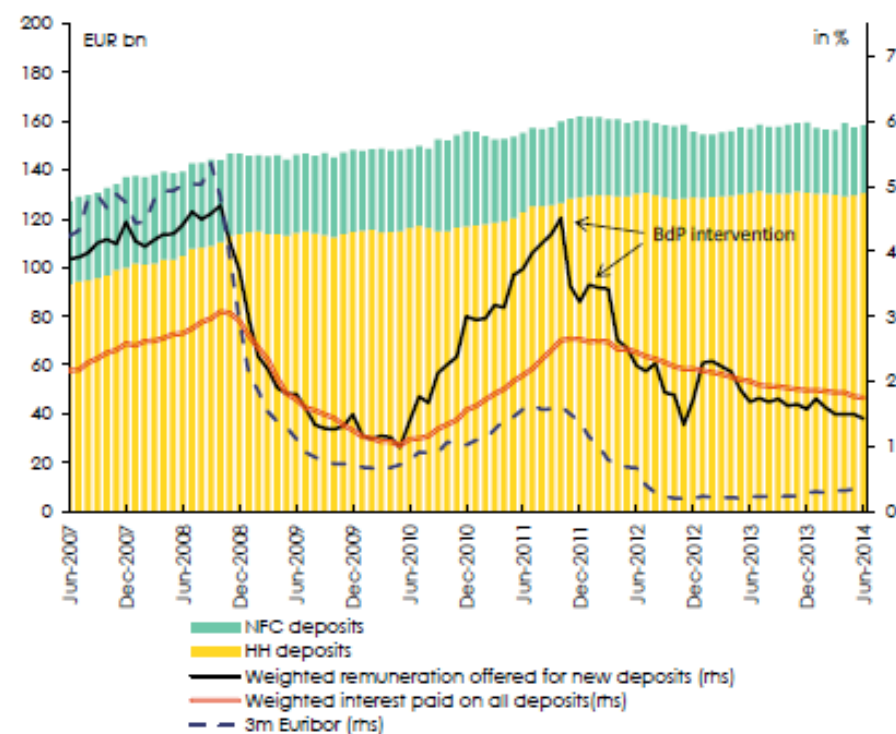


Source: IMF (2017), “Global Financial Stability Report”, October.

Liquidity Risk

- Competition for deposits in Portugal started after the Lehman failure => significant increase in interest rates.
- In order to mitigate it, BdP issued Instruction No. 28/2011, imposing a deduction from CT1, on the amount of deposits contracted with interest rates > 300 bp above the Euribor rate for the operation's reference period.
- In Mar.12 this regime was reinforced by Instruction No. 15/2012, that doubled the former capital penalty (implemented in Apr.12).

Graph 3.2: Lower deposit remuneration slowly brings down the cost of funding

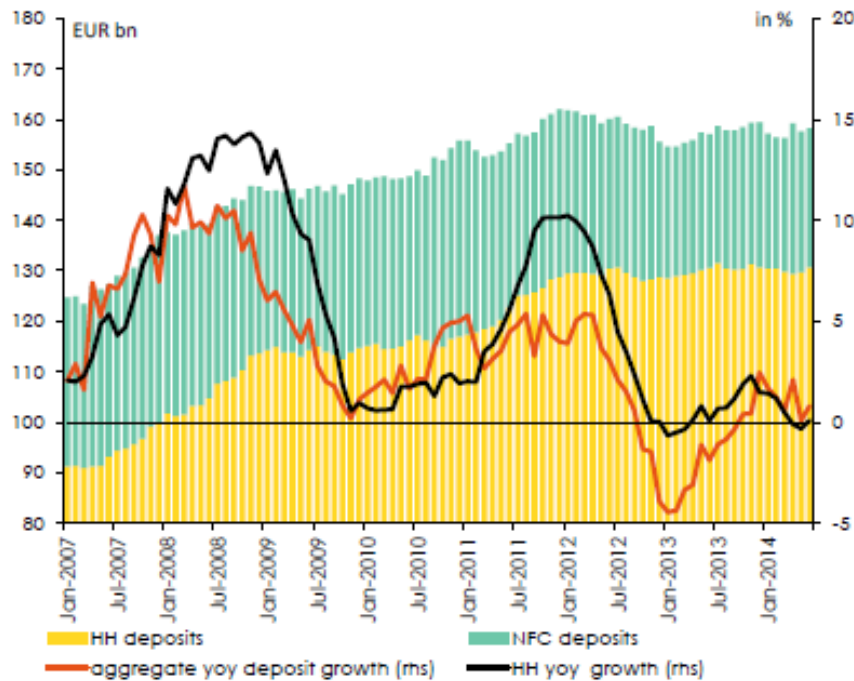


Source: European Commission (2014), "The Economic Adjustment Programme for Portugal 2011-2014", Occasional Papers 202 | Oct.14.

Liquidity Risk

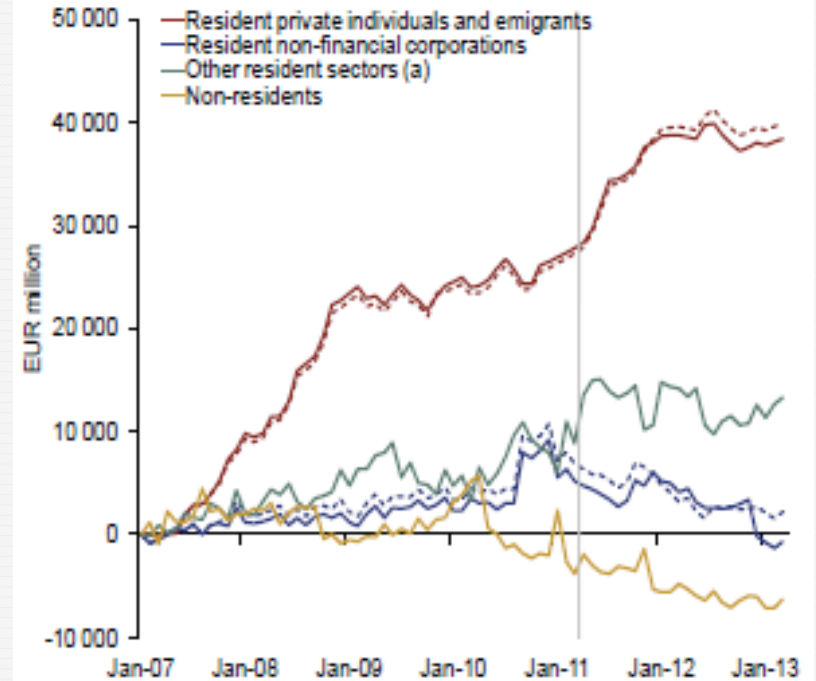
- Deposits behaved favorably, benefiting from the good performance in the segment of households.

Graph 3.4: Household deposits kept growing during the programme



Source: European Commission (2014), “The Economic Adjustment Programme for Portugal 2011-2014”, Occasional Papers 202 | Oct.14.

DEPOSITS BY THE NON-MONETARY SECTOR - DOMESTIC ACTIVITY | ACCUMMULATED CHANGE AS FROM JANUARY 2007 - SECTOR CONTRIBUTIONS

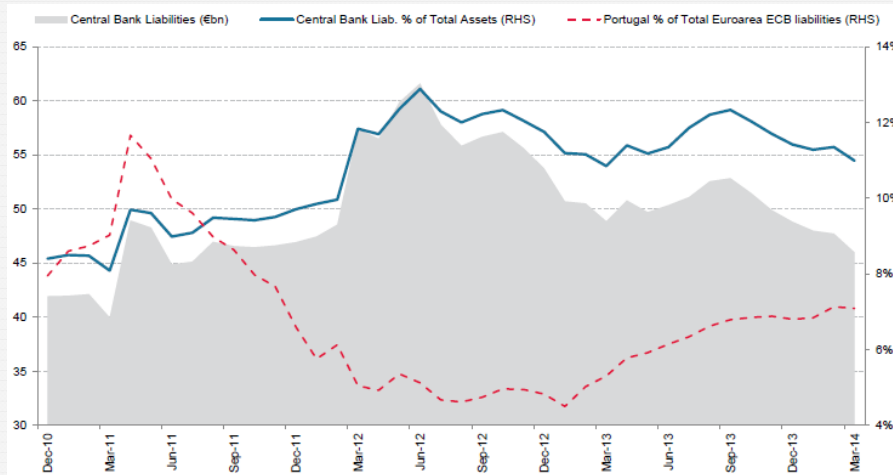


Source: Banco de Portugal (2013), “Financial Stability Review”, May.

Liquidity Risk

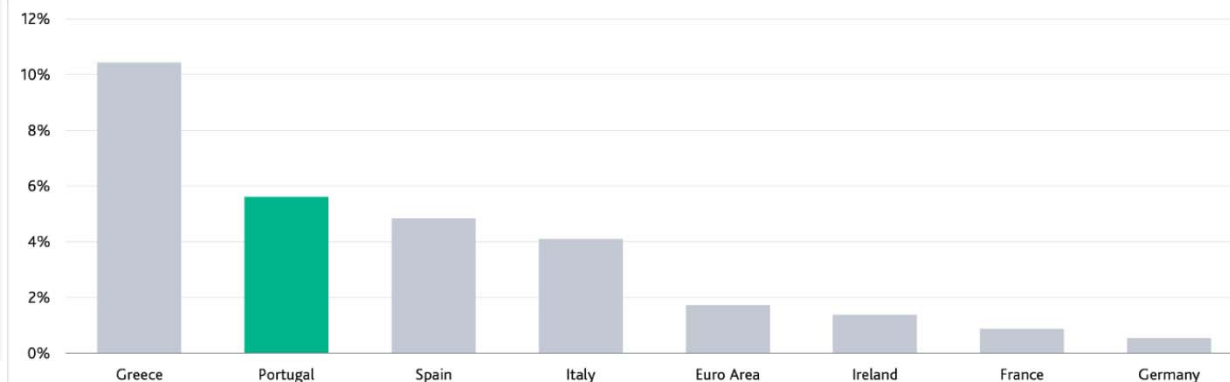
(ii) Increase of ECB funding until 2013

■ Increasing weight of Portuguese banks on ECB liquidity ...



Source: S&P (2014), “European Sovereign Ratings: after the storm”, presentation in Lisbon, June.

ECB funding / total banking assets in selected countries (July 2015)

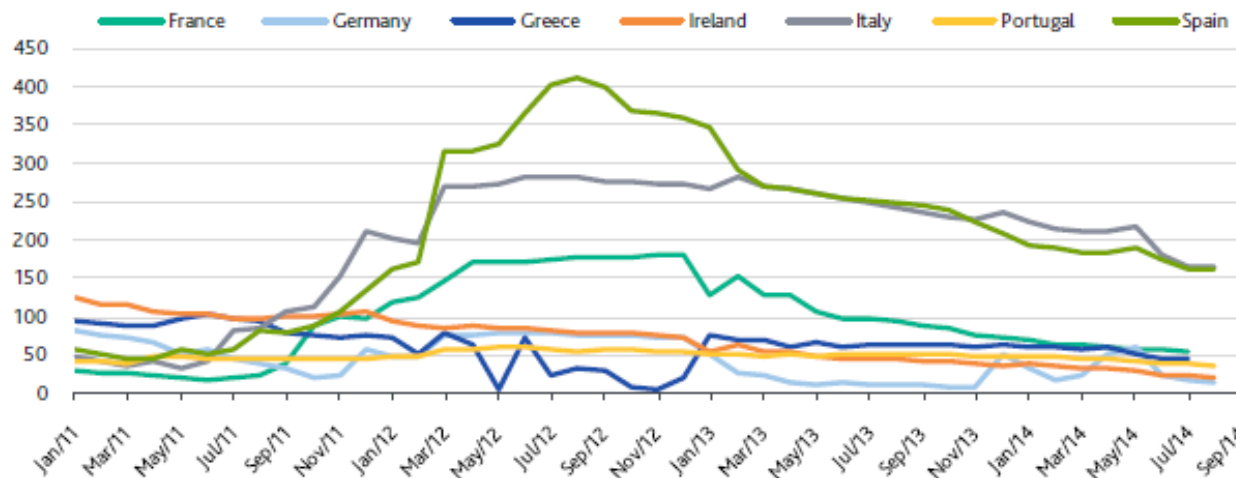


Source: Moody’s (2015), “Banking System Outlook – Portugal”, 15Oct.

Liquidity Risk

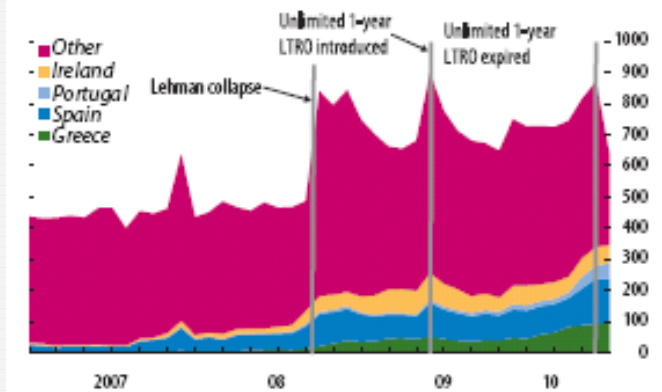
- ... though less than in other countries.

Gross ECB borrowings by banks in selected countries (EUR billion)



Source: Moody's (2014), "Banking System Outlook – Portugal", 7 Oct.

Figure 1.20. European Central Bank Lending to Euro Area Monetary Financial Institutions (In billions of euros)



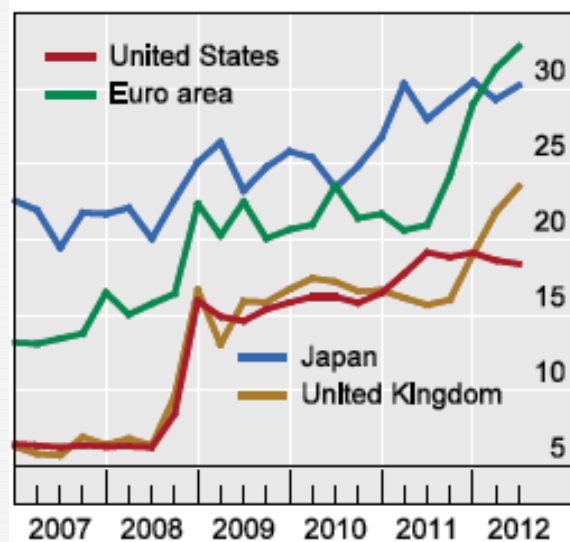
Source: IMF (2010).

- In 7 Jul.2011 the ECB suspended its rating requirements to the Portuguese Government Debt (in line with the previous decision regarding Greece), given that Portugal was under an adjustment Program.
- After the exit of the program, this *requirement* was restored and currently the DBRS and S&P are providing the required investment grade classification to the PT Government Debt.

Liquidity Risk

- The higher reliance on the ECB liquidity facilities has occurred in a context of **higher liquidity supply by the main central banks worldwide.**

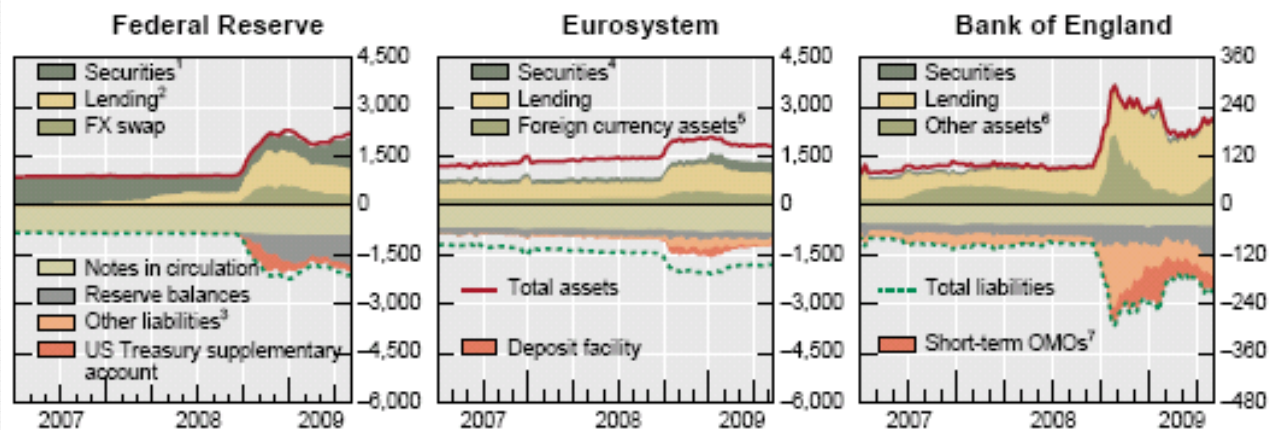
Central bank assets to GDP



Source: BIS (2012), "BIS Quarterly Review - International banking and financial market developments", Sept.

Figure 3: Central bank assets and liabilities

In billions of respective currency units

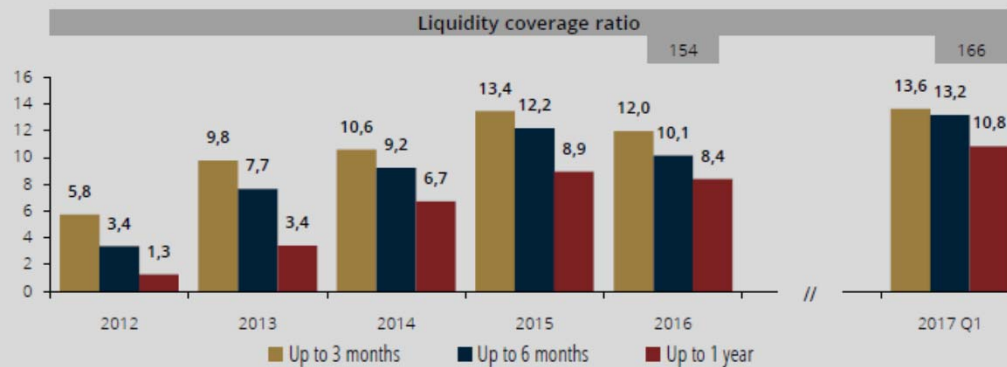


Source: Borio, Clau and Piti Disyatat (2009), "Unconventional monetary policies: an appraisal" BIS WP No 292, Nov.

Liquidity Risk

- As a consequence of the increase in the average maturity of ECB funding, the **liquidity gaps have improved since 2011.**

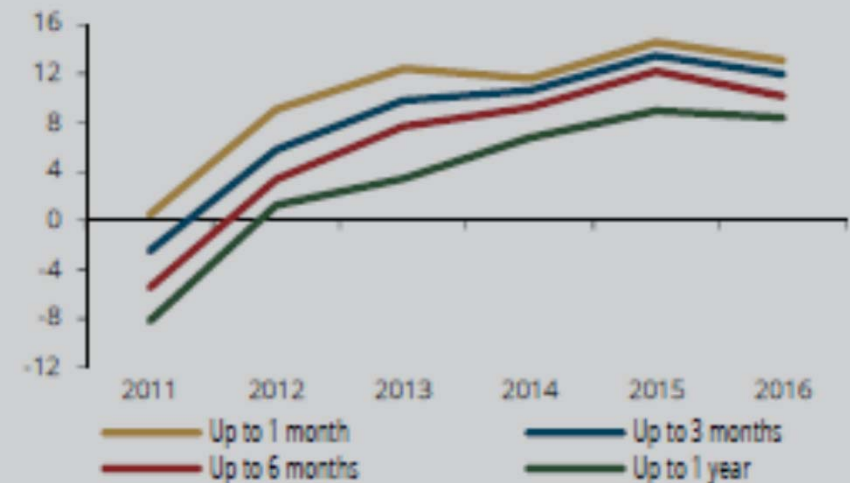
Chart 10 • Liquidity gaps for domestic institutions^(a) and Liquidity Coverage Ratio (LCR)^(b), in % | Value at end of period



Source: Banco de Portugal.

Notes: a) The liquidity gap is defined as the difference between liquid assets and volatile liabilities in proportion of the difference between total assets and liquid assets, for each cumulative maturity scale. An increase of this indicator reflects an improvement of banks' liquidity position; b) The liquidity coverage ratio is expressed as the ratio between the value of the stock of high quality liquid assets and the total net cash outflows for a 30 calendar day liquidity stress scenario.

Chart 6 • Liquidity gaps of domestic institutions in a cumulative maturity ladder | Per cent

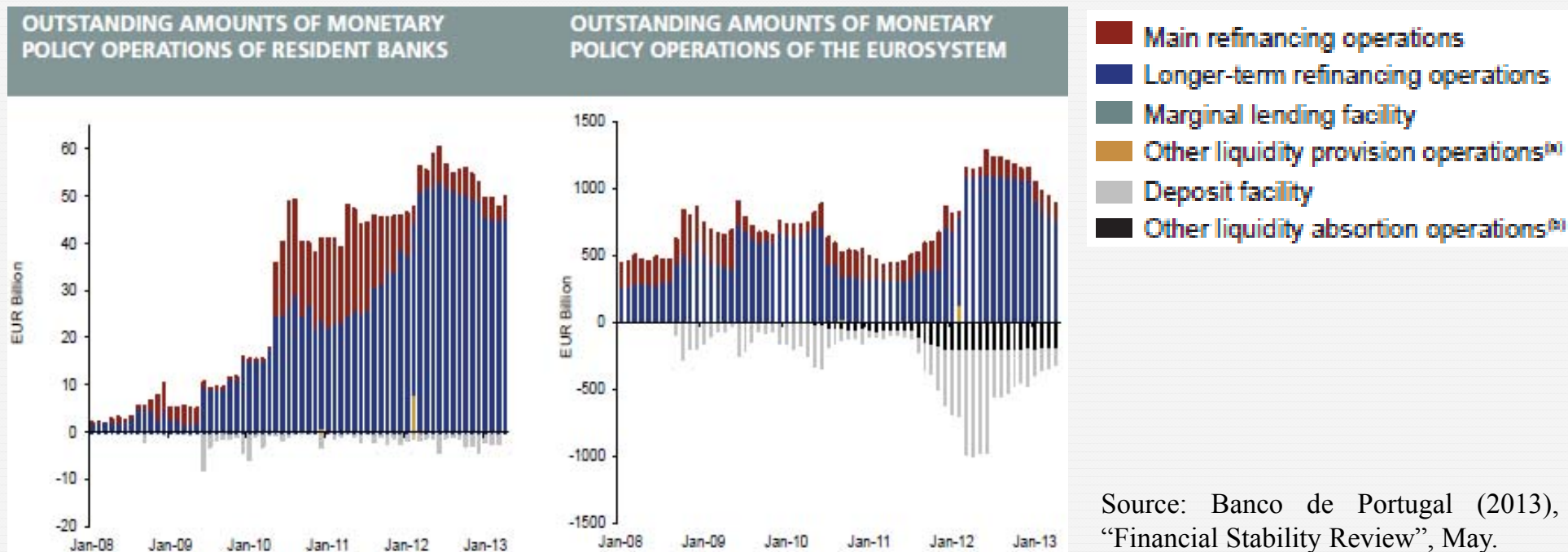


Source: Banco de Portugal (2017), "Portuguese Banking System: Latest Developments - 2Q17"

Source: Banco de Portugal (2017), "Financial Stability Review", June.

Liquidity Risk

- The stability of ECB resources increased substantially after the Long-Term Refinancing Operation (LTRO) occurred in Dec.11 and Feb.12, with a 3-year maturity (option of early repayment 1 year after).



Liquidity Risk

- Another measure decided by the ECB Council on 8 Dec.11 was the enlargement of the pool of assets eligible as collateral for monetary policy operations:
 - reduction of the minimum eligibility threshold in terms of securitized assets' ratings;
 - permission for domestic central banks to accept additional bank loans complying with specific eligibility criteria, as collateral.

Liquidity Risk

- Accordingly, on 9 Feb.2012, the ECB Council decided to approve the following temporary measures (leading to Instruction No.7/2012 of BdP):
 - **to accept bank loans with PD \leq 1.5%**, assessed by internal methods (for IRB banks) or by the COFACE rating tool (whose acceptance was extended for assessing the credit risk of debtors in the services, commercial and other activity sectors).
 - **to accept portfolios of homogenous bank loans involving debtors with no credit events:**
 - mortgage loans to households - haircut of 75%;
 - loans for household consumption purposes - haircut of 85%.

Liquidity Risk

- In 2013, the ECB decided to revise again the framework of eligible assets to monetary policy operations, namely requiring the banks to adopt the IRB approach in the calculation of capital requirements for credit risk, as a necessary condition to use loans as collaterals (Press Release of 18 July 2013).
- Accordingly, Portuguese banks had to submit action plans to BdP until Mar.14, in order to apply to IRB until Feb.15, while the haircuts depend on banks' PDs and LGDs:

$$\text{Haircut} = \left(\sum_{i=1}^n \frac{VN_i}{\sum_{j=1}^n VN_j} PD_i^{\text{stressed}} LGD_i^{\text{adjusted}} \right) + 5\%$$

Liquidity Risk

- On the 5th June 2014, the ECB announced the decision of:
 - (i) conducting targeted longer-term refinancing operations (TLTROs), aimed at improving bank lending to the euro area non-financial private sector (excluding loans to households for house purchase, over a window of two years), to mature in Sept.18, with a fixed interest rate (the current ECB repo rate +10bp) ;
 - (ii) intensify preparatory work related to outright purchases (around 100B€) of asset-backed securities purchase programme (ABSPP), with underlying assets consisting of claims against the euro area nonfinancial private sector =>

Liquidity Risk

⇒ On the 19th Nov 2014, the ECB announced the decision ECB/2014/45 on the ABSPP:

- **Minimum rating** - Eligible assets need to be investment grade by, at least, two independent agencies, with the issuer based in the Euro area.
- **Issuers** - No less than 90% of the obligors of the cash-flow generating assets backing the ABS are classified as private sector non-financial corporations or natural persons, based in the Euro area ($\geq 95\%$).
- **Granularity** - No more than 70% of the outstanding amount of a tranche of ABS (with the same or fungible ISIN) may be purchased and held pursuant to the ABSPP at any time.

Interest Rate Risk

- IRR stems from the sensitivity of the balance sheet and the P&L to interest rate shifts.
- 2 types of interest rate risk:
 - Risk of Net Interest Income fluctuation
 - Risk of optionality embedded in assets and liabilities, e.g. prepayment of loans and early redemption of deposits
- Sources of interest rate risk:
 - liquidity flows:
 - Direct – new loans, issued debt or deposits received
 - Indirect - prepayments, early redemptions
 - repricing of existing assets and liabilities

Interest Rate Risk

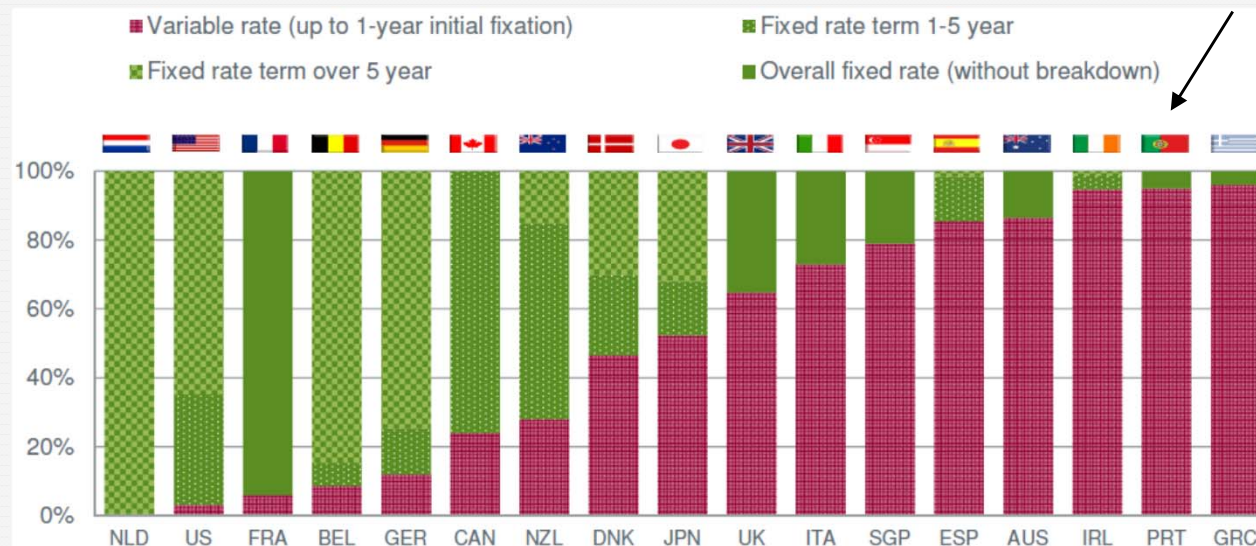
- Measurement:

- interest rate or repricing gaps - differences between assets and liabilities to be repriced in different time buckets (usually up to 1 year), excluding non-interest rate bearing balance sheet items (e.g. fixed assets and capital, even though capital may be considered as a fixed rate liability). As in liquidity risk, these gaps may be static or dynamic.
- Earnings-at-risk (EaR) – very unfavorable outcome from several scenarios for interest rates.

- Hedging of gaps is done through the spot market, forward/futures, options or swaps, as well as by changing the pricing structure of balance sheet.

Interest Rate Risk

- Portuguese banks usually have positive interest rate gaps, as credit rates are mostly indexed to money market rates (e.g. Euribor), while among liabilities only bonds issued are usually indexed, as term deposits are mostly short term liabilities (though may be renewed) with interest rates fixed by the bank => **short term interest rate decreases are, *ceteris paribus*, unfavorable to banks.**
- However, we must also bear in mind that higher interest rates may reduce credit risk.



Source: Fitch (2016), 2016 Fitch Credit Outlook Conference, Lisbon, 28 Jan.

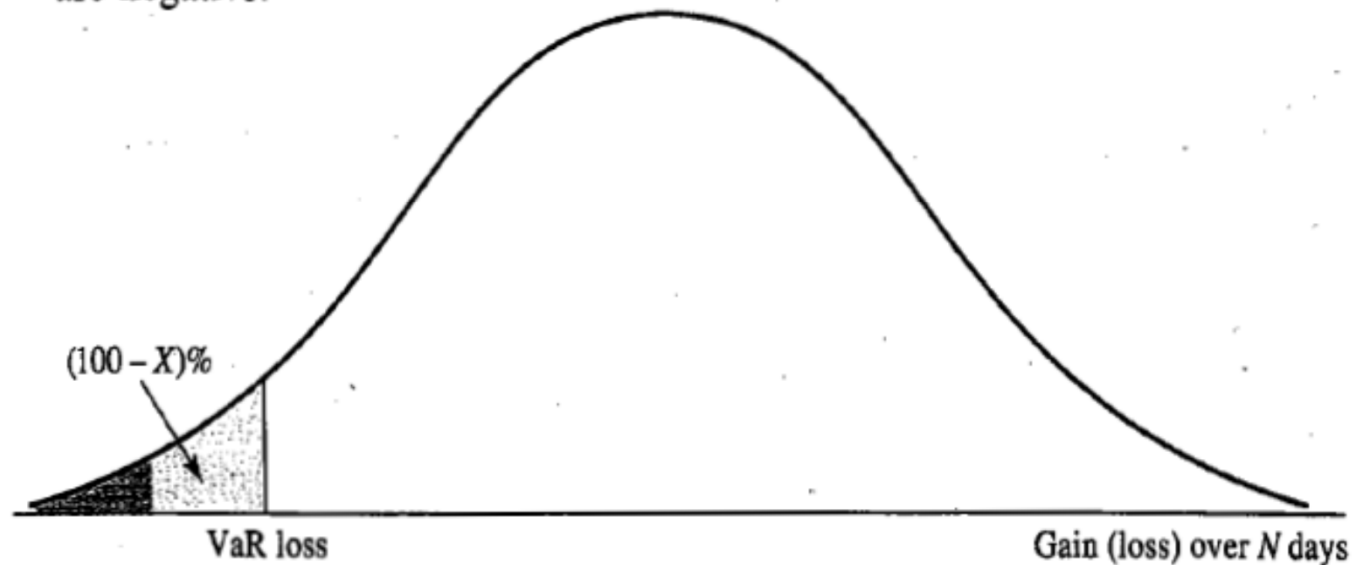
Market Risk

- Corresponds to the risk of losses due to the impact of interest rate, exchange rates or other financial asset price moves on the value of actively traded portfolios.
- Variations in asset prices included in *available for sale (AFS)* or *held-to-maturity* portfolios don't impact on the P&L.
- Usually, the Portuguese Government debt depreciation does not impact on the net income, as most investments are in AFS portfolios and banks opt for keeping these securities when their prices fall.
- Conversely, these debt exposures offer interest gains from the yields and results from financial operations when banks sell the securities following price increases.
- In Jun. 2008, the impact on reserves due to fluctuations in Government debt securities held in AFS portfolios was neutralized, even though in 2011 EBA decided to impose a prudential filter on the systemically important banks, meanwhile removed.

Market Risk

- The market risk of a portfolio is usually computed through VaR for a high confidence level and a short maturity (usually 99%, 10-day), offering a conservative loss measure.

Figure 20.1 Calculation of VaR from the probability distribution of the change in the portfolio value; confidence level is $X\%$. Gains in portfolio value are positive; losses are negative.



Source: Hull, John (2009)

Market Risk

- The simplest methodology to calculate VaR is based on the assumption of normally distributed daily returns (delta-normal method):

$$\text{VaR} = \omega' \Sigma \omega \times N(p) \times \sqrt{T}$$

where Σ is the variance-covariance matrix of the portfolio's assets and ω corresponds to the weights of each asset in the portfolio.

- If the portfolio only comprises one asset, the VaR results only from the volatility of that asset.
- The VaR calculation can be done from historical observations (being key the choice of the period to consider), or through non-parametric methods, based on return simulation):
 - Monte Carlo – based on the normality of returns
 - Bootstrapping – replicates samples with the empirical distribution of the observed returns.

Market Risk

- Additionally to the VaR calculation, stress tests and backtests are usually performed.
- Stress tests are often done by assuming values for the volatilities and correlations observed in previous financial crisis.
- Backtests correspond to the comparison between losses observed in the past and losses estimated by the VaR, being determined whether the percentage of days with losses higher than VaR exceeded the VaR confidence level.
- C-VaR – while VaR is the level of losses that are not expected to be exceeded, in given term and with a given probability, the expected shortfall (or Conditional VaR, C-VaR) is the expected loss if the loss is higher than the VaR (i.e. the mean of the losses higher than the VaR).

1.4.3. The New Business Model

New Business Model

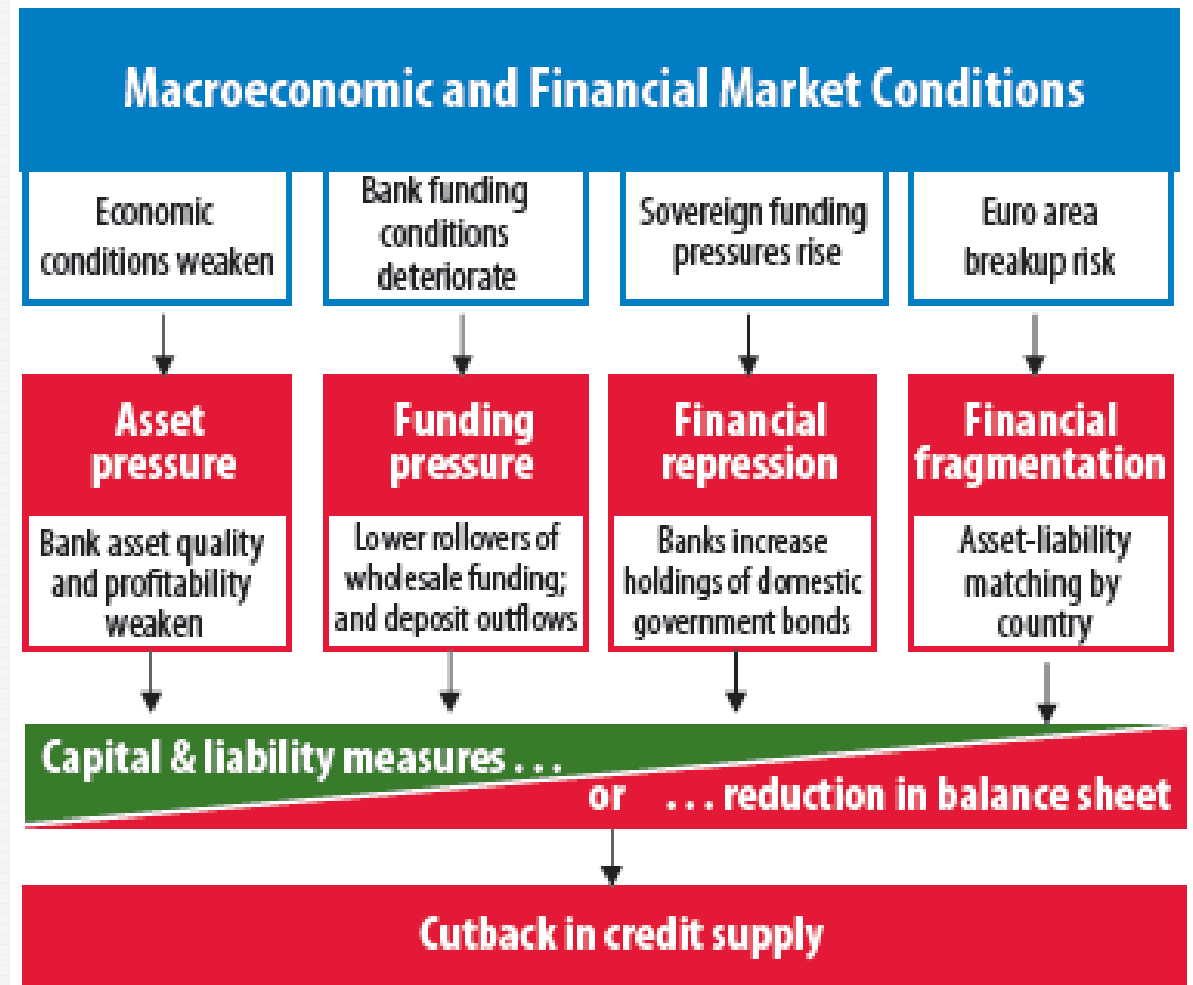
- Main changes in Portuguese banks' business model after the subprime crisis and the Economic and Financial Adjustment Program:

1. Deleveraging
2. Funding shift
3. Higher Government debt exposure
4. Profitability fall
5. Capital strengthening

Deleveraging

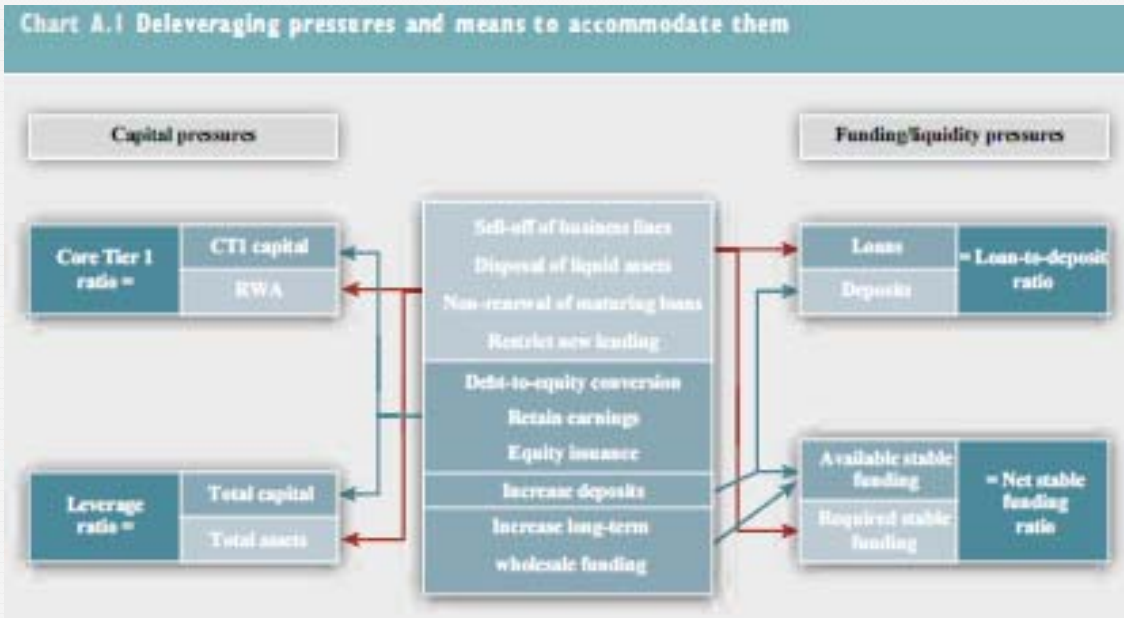
- The new business model for banking activity in Portugal has been significantly conditioned by the need to reduce the leverage level of banks and economy.
- Deleveraging requirements imposed by the Troika: leverage ratio (loans/deposits) $\leq 120\%$

Source: IMF (2011), "Global Financial Stability Report", Sept.



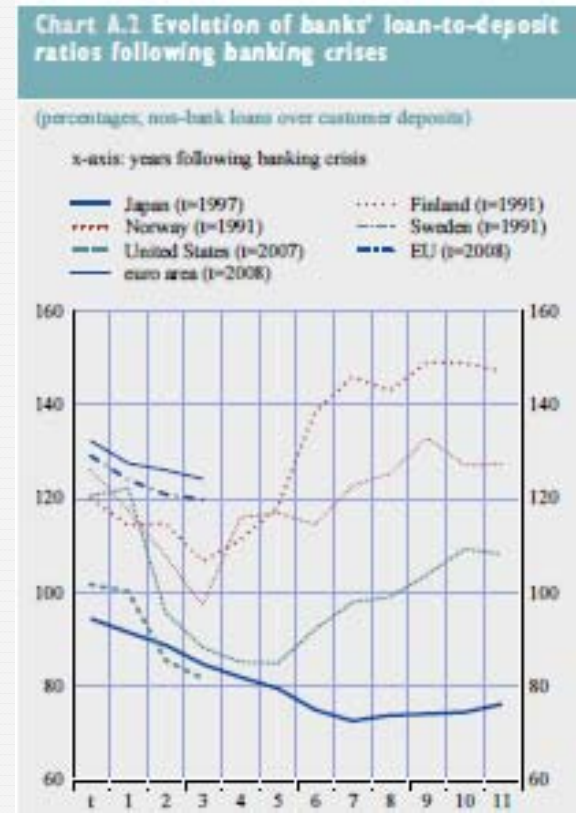
Deleveraging

- Therefore, Portuguese banks had to decrease their leverage levels to figures closer to the Euro area average and in line with the pattern observed in previous financial crisis.



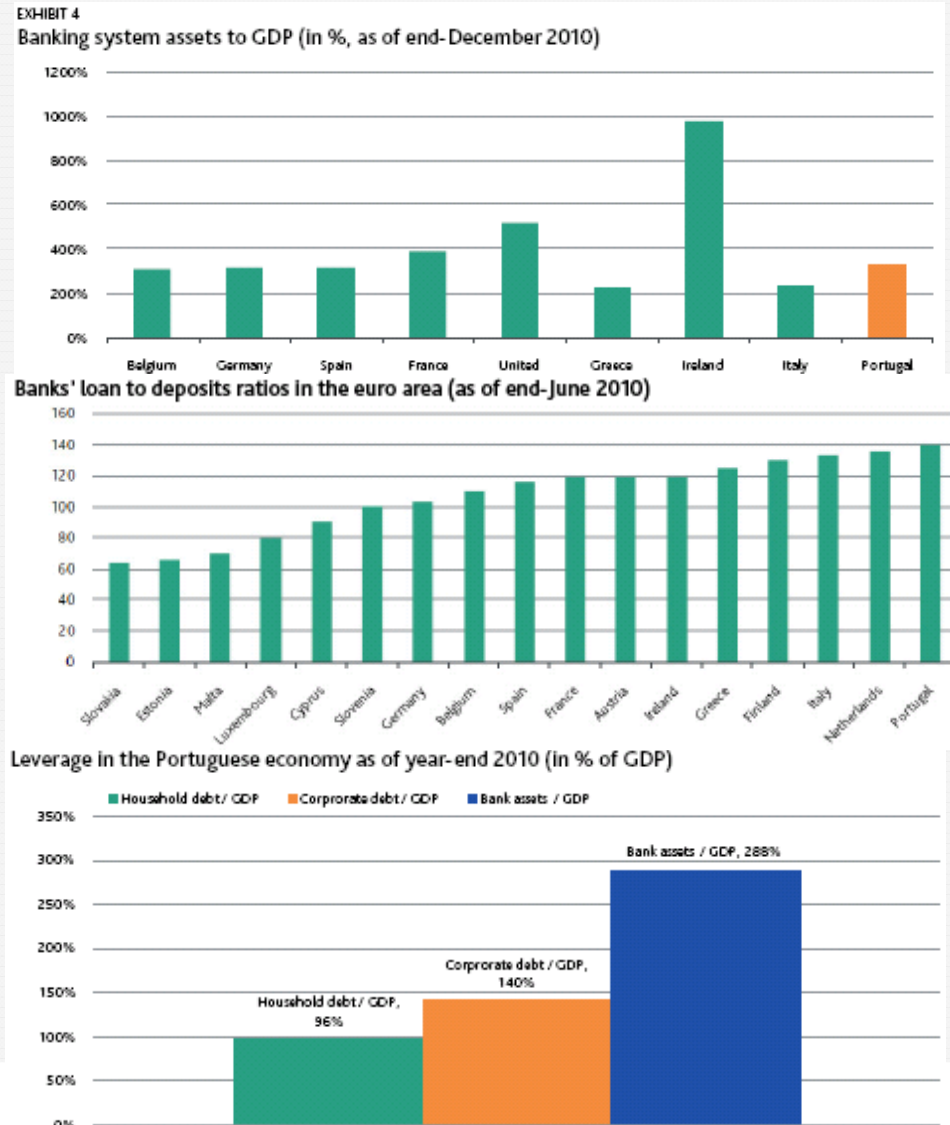
Source: European Central Bank (2012), “Financial Stability Review”, June.

Source: Banco de Portugal (2011), “Financial Stability Review”, Nov.



Deleveraging

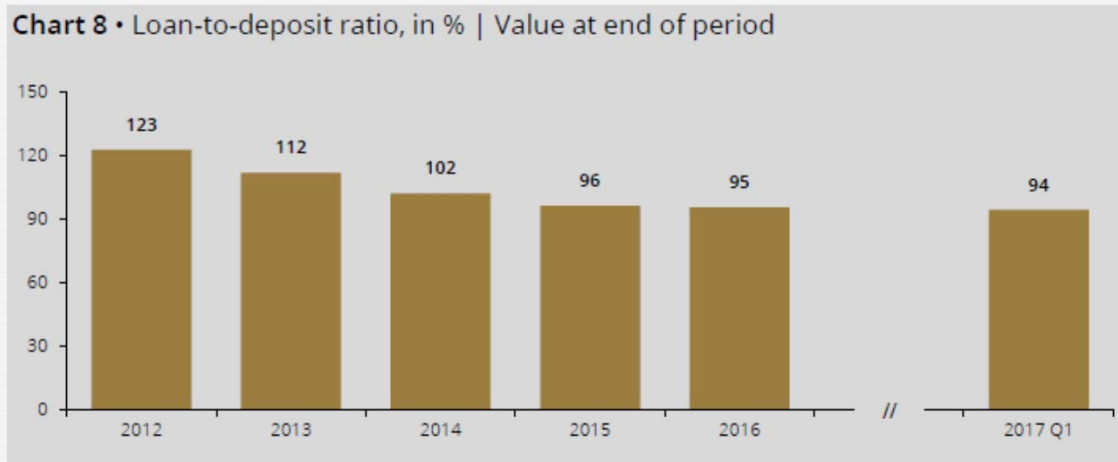
- Actually, Portugal exhibited one of the highest loan to deposit ratios in Europe.



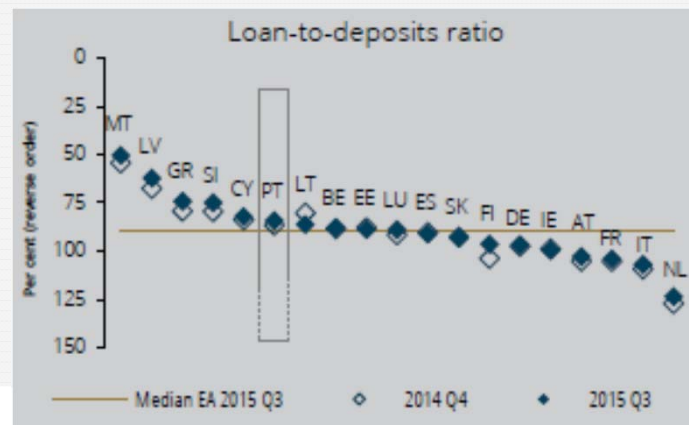
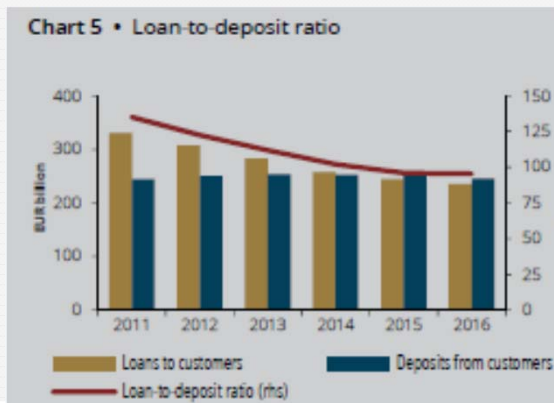
Source: Moody's (2011), "Banking System Outlook - Portugal", 28 July.

Deleveraging

- Deleveraging led to a decrease of more than 50 pp in the loan-to-deposit ratio since 2010 (158%), already to one of the lowest levels in Europe ...



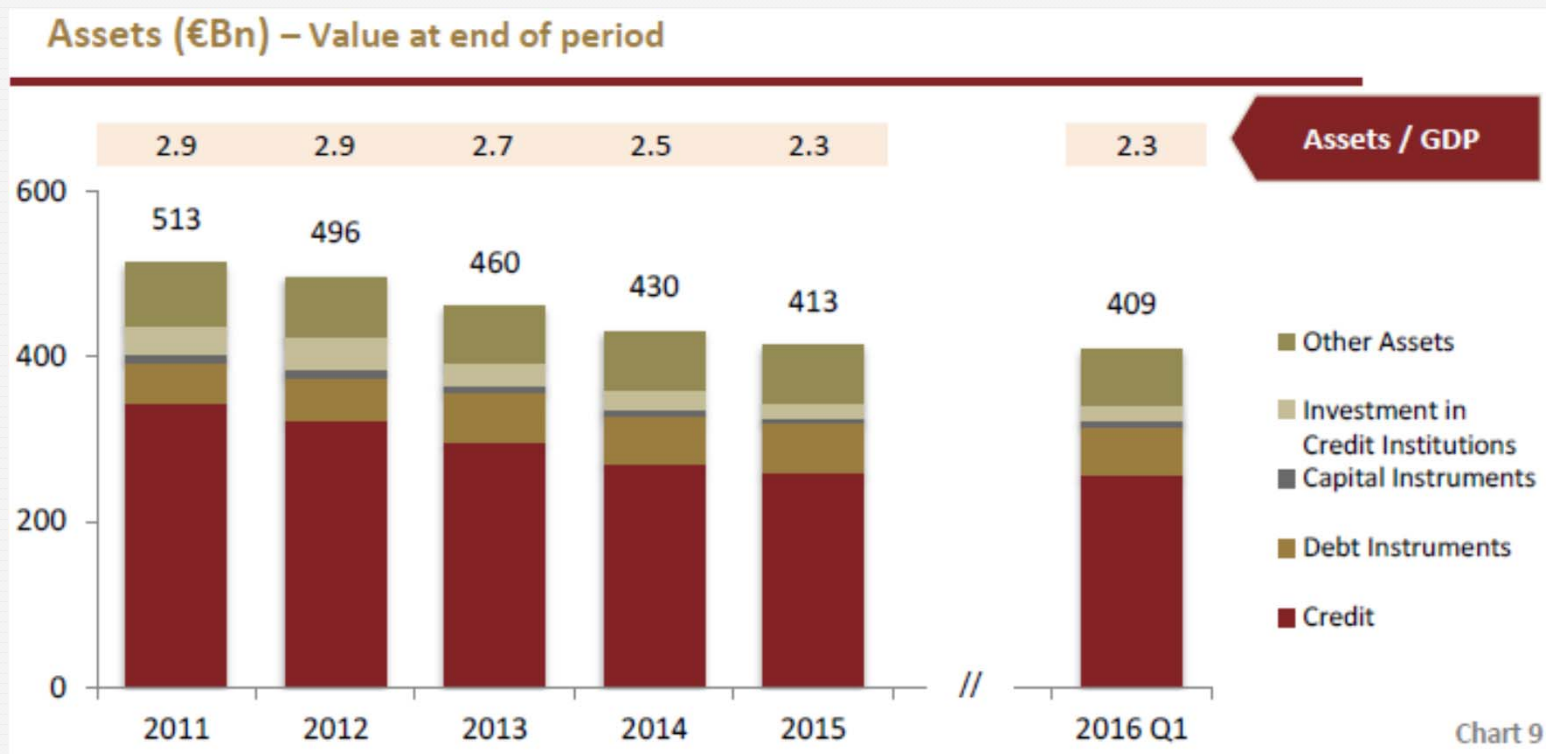
Source: Banco de Portugal (2017), “Portuguese Banking System: Latest Developments - 1Q17”



Source: Banco de Portugal (2016), “Financial Stability Review”, May.

Deleveraging

- ... mostly based on the asset side ...

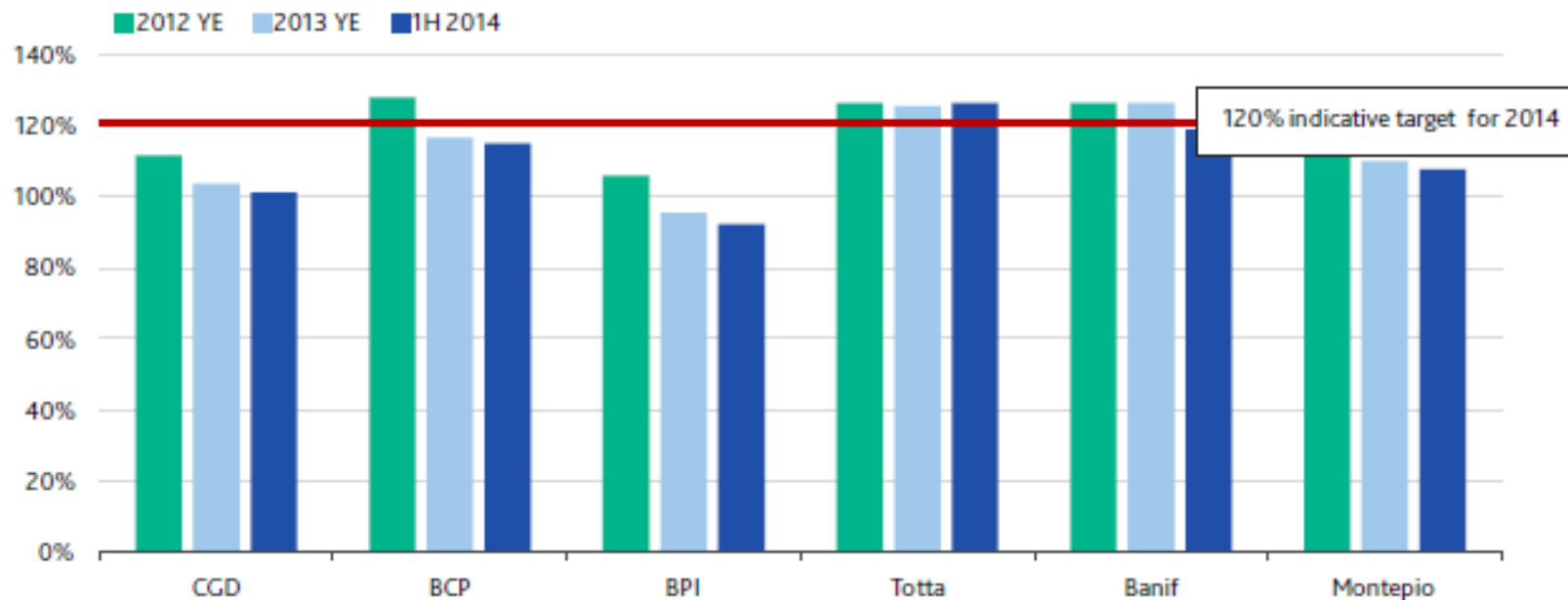


Source: Banco de Portugal (2016), "Portuguese Banking System: Recent Developments - 1Q16"

Deleveraging

- ... and occurred in most banks.

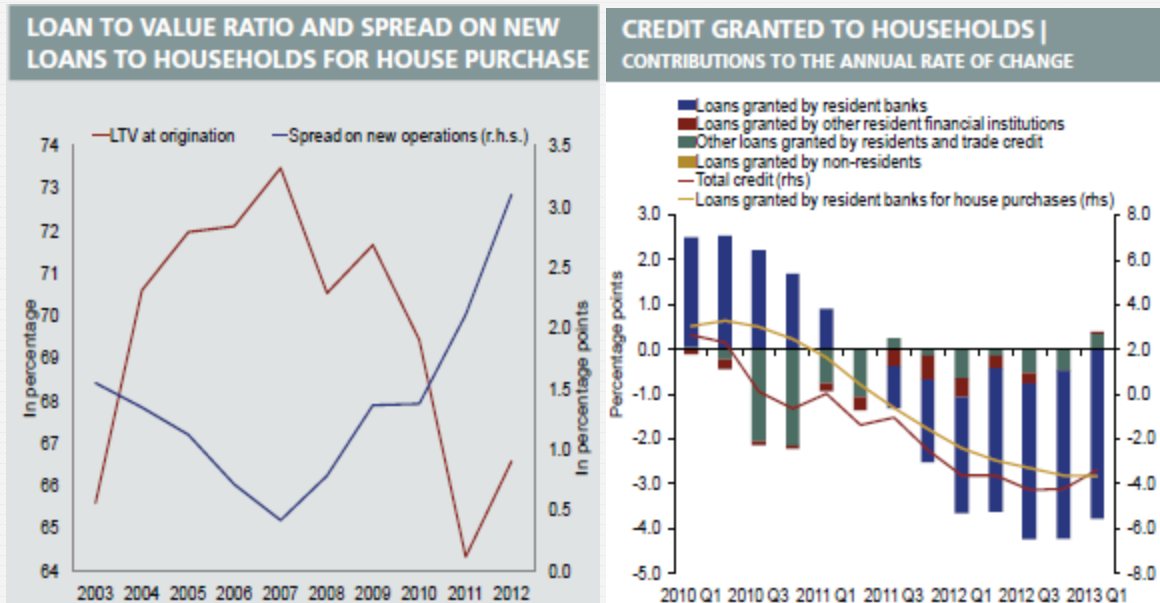
Nearly All Moody's Rated Banks(*) Have Reduced Their Loan-to-Deposit Ratio Below the 120% Threshold Set By The Bank of Portugal and Troika



Source: Moody's (2014), "Banking System Outlook – Portugal", 7 Oct.

Deleveraging

- As a consequence of deleveraging, credit growth declined substantially, including for households, ...

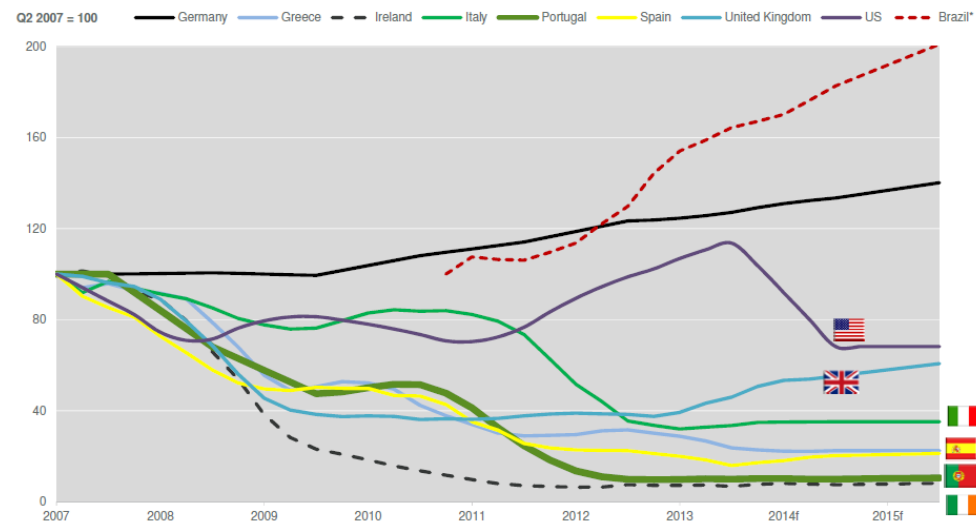


Source: Banco de Portugal (2013), “Financial Stability Review”, May.

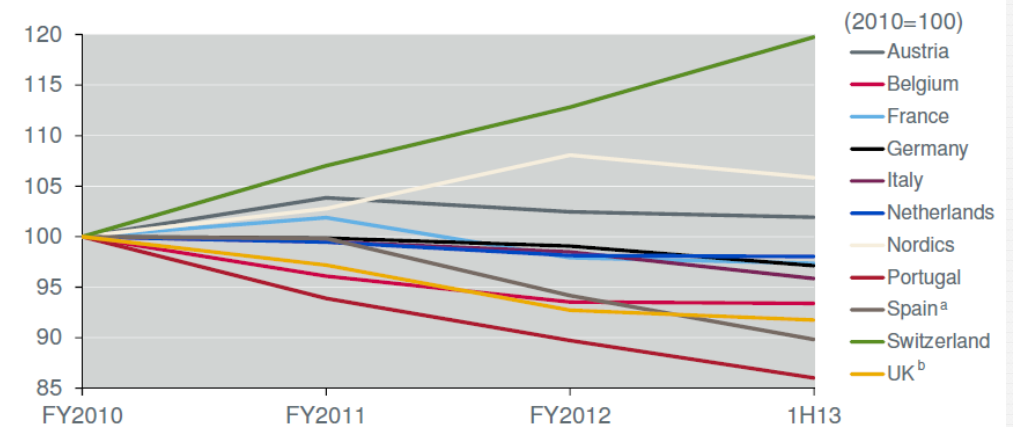
Deleveraging

- ..., more markedly than in other countries.

Index of Gross New Mortgage Lending



Gross Loan Growth (2010=100)

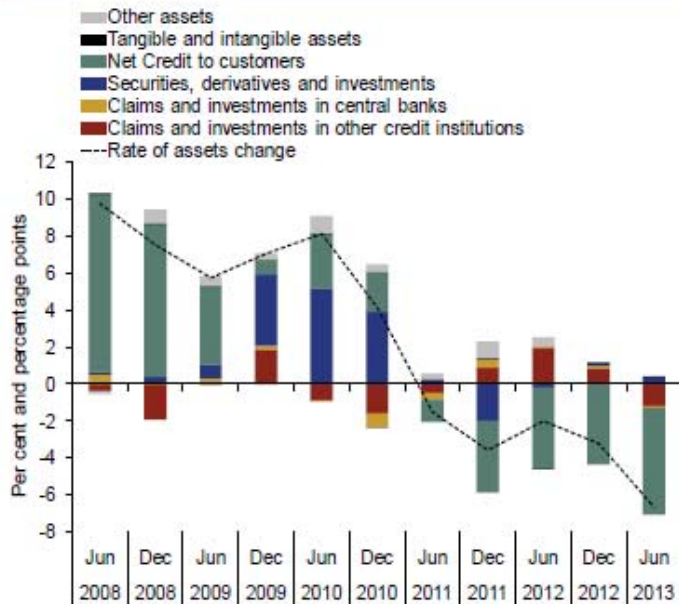


Source: Fitch (2014), “Residential Mortgages and Property Market Outlook”, presentation at the Conference “Why is Funding Key to Recovery”, 2014 Fitch Credit Conference, Lisbon, 6th Feb.

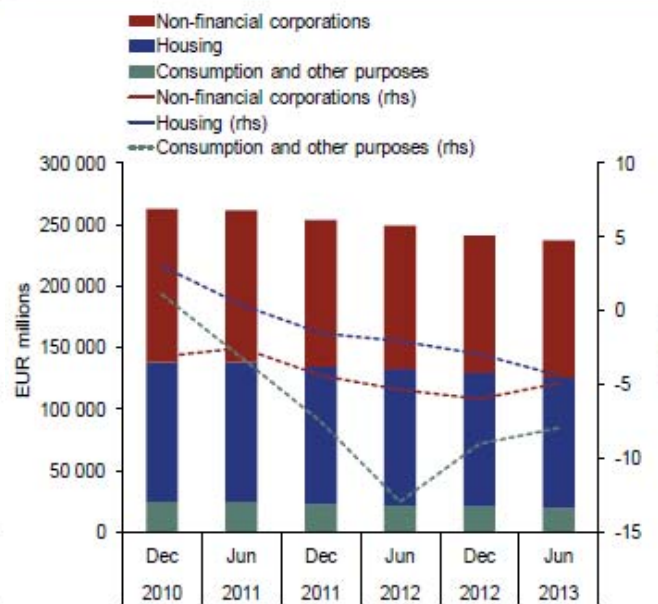
Deleveraging

- Nonetheless, reduction of loan portfolios was mostly in the corporate segment, namely due to the typically lower maturities.

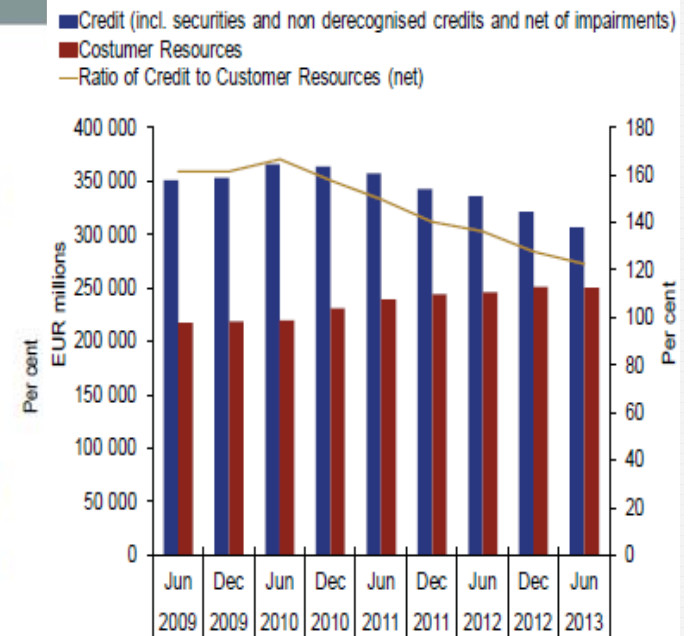
CONTRIBUTIONS TO ANNUAL CHANGE OF ASSETS | ON A CONSOLIDATED BASIS



CREDIT EVOLUTION – NON FINANCIAL PRIVATE SECTOR



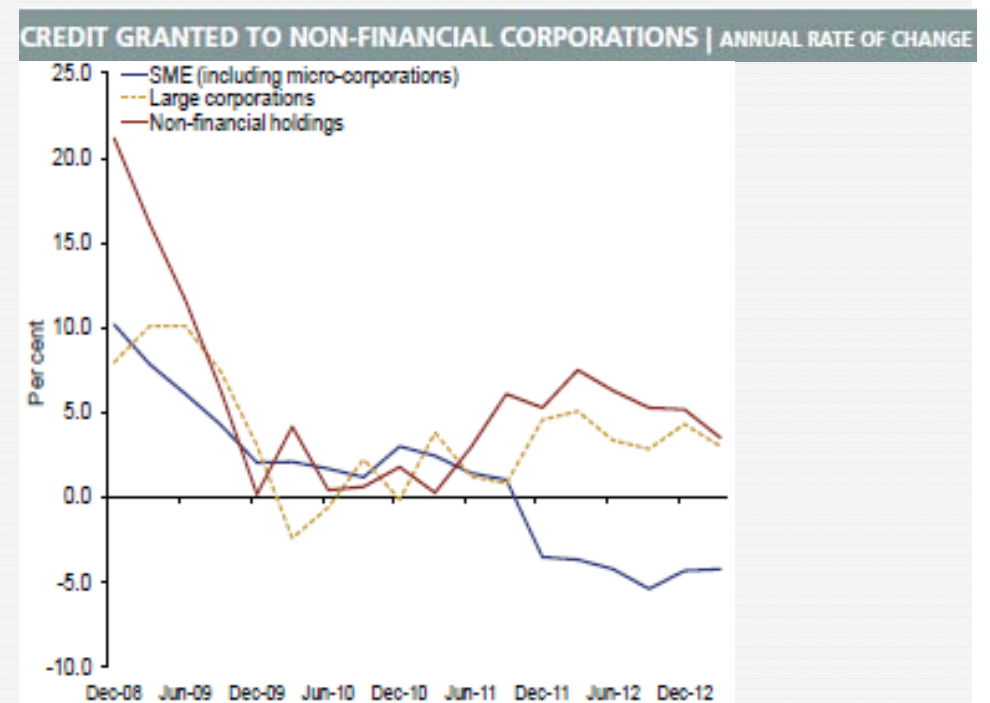
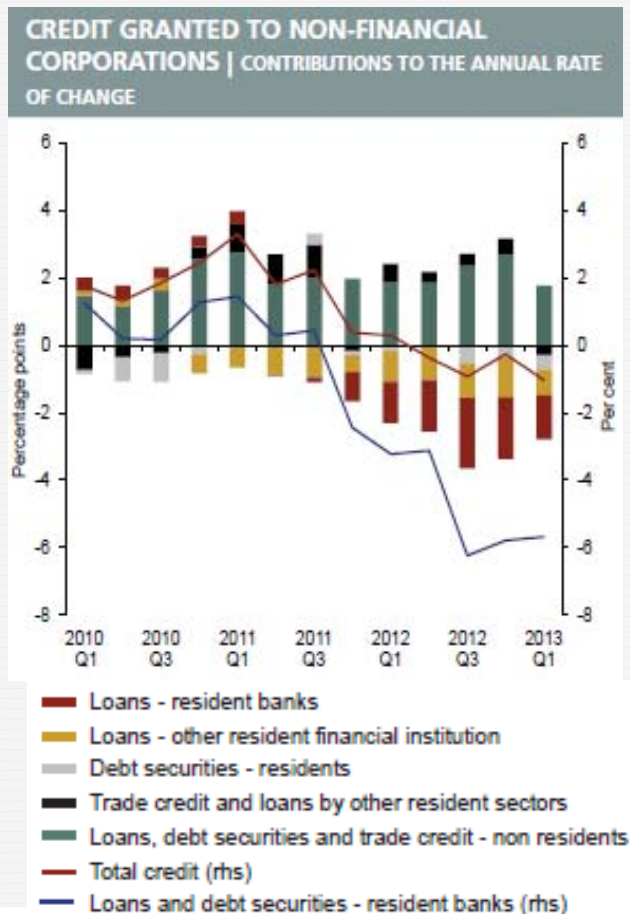
LOAN-TO-DEPOSITS RATIO



Source: Banco de Portugal (2013), "Financial Stability Review", Nov.

Deleveraging

- The deleveraging requirements and the lack of access to markets has reduced the availability of credit mainly to SMEs ...

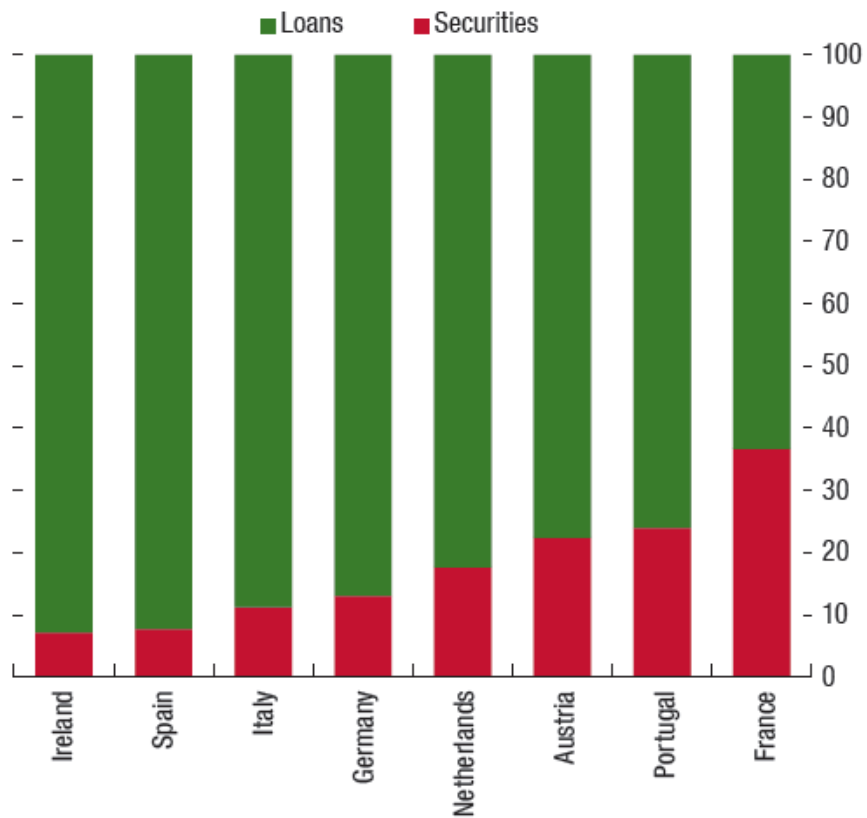


Source: Banco de Portugal (2013), "Financial Stability Review", May.

Deleveraging

- ... which is particularly relevant, given the weight of banks in the corporate funding.

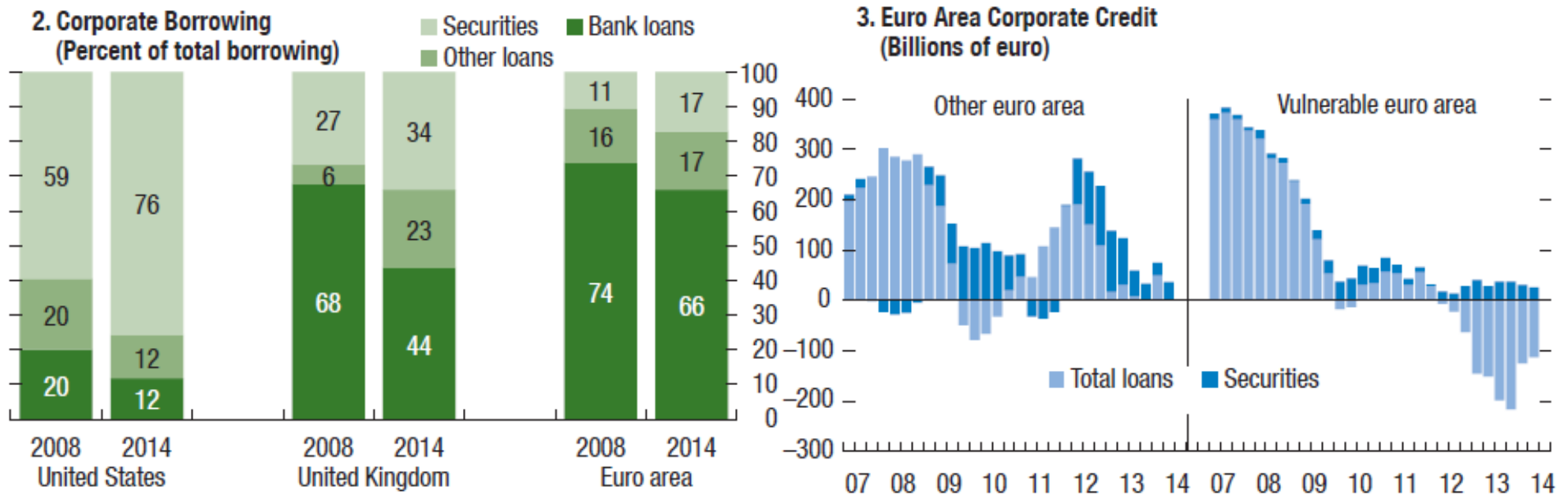
Figure 1.34. Sources of Nonfinancial Corporate Credit, 2013:Q3
(Percent of total)



Source: IMF (2014), "Global Financial Stability Report", Apr.

Deleveraging

- Therefore, companies in Europe turned to non-bank credit, but not enough to avoid the fall in bank lending.

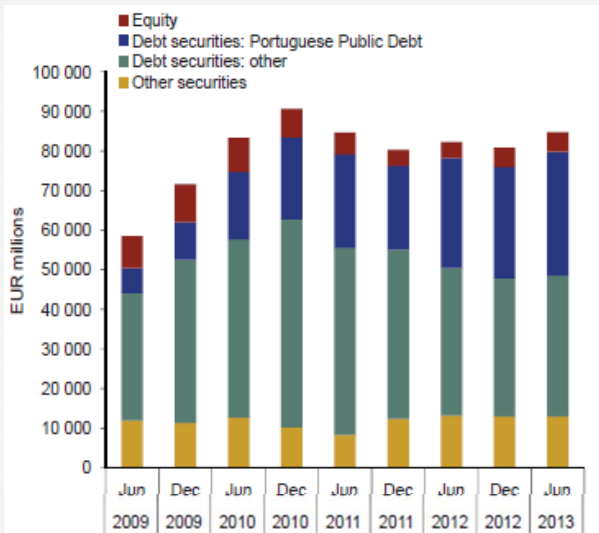


Source: IMF (2014), "Global Financial Stability Report", Oct

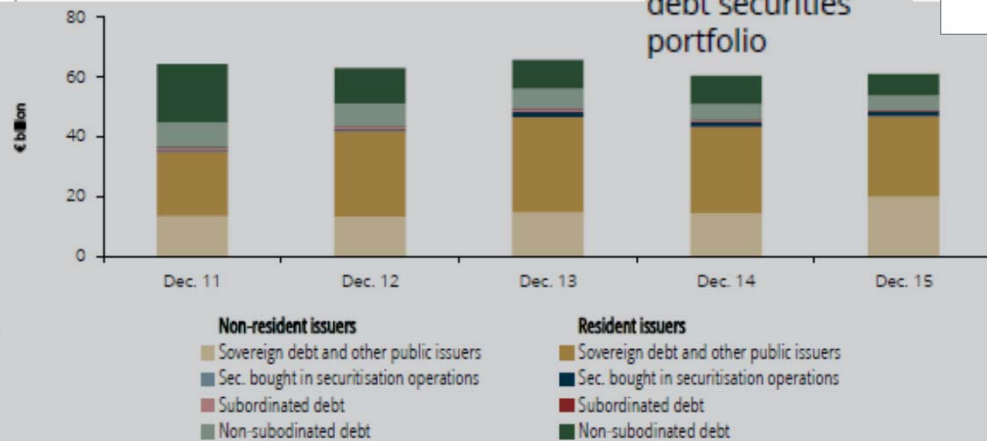
Higher Government Debt Exposure

- This increase was instrumental to mitigate the Net Interest Margin decrease.

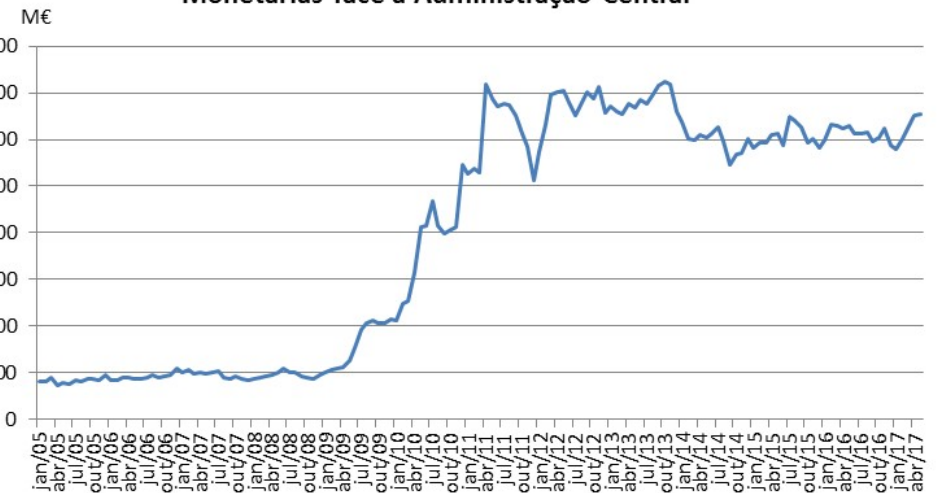
SECURITIES PORTFOLIO



Breakdown of the debt securities portfolio



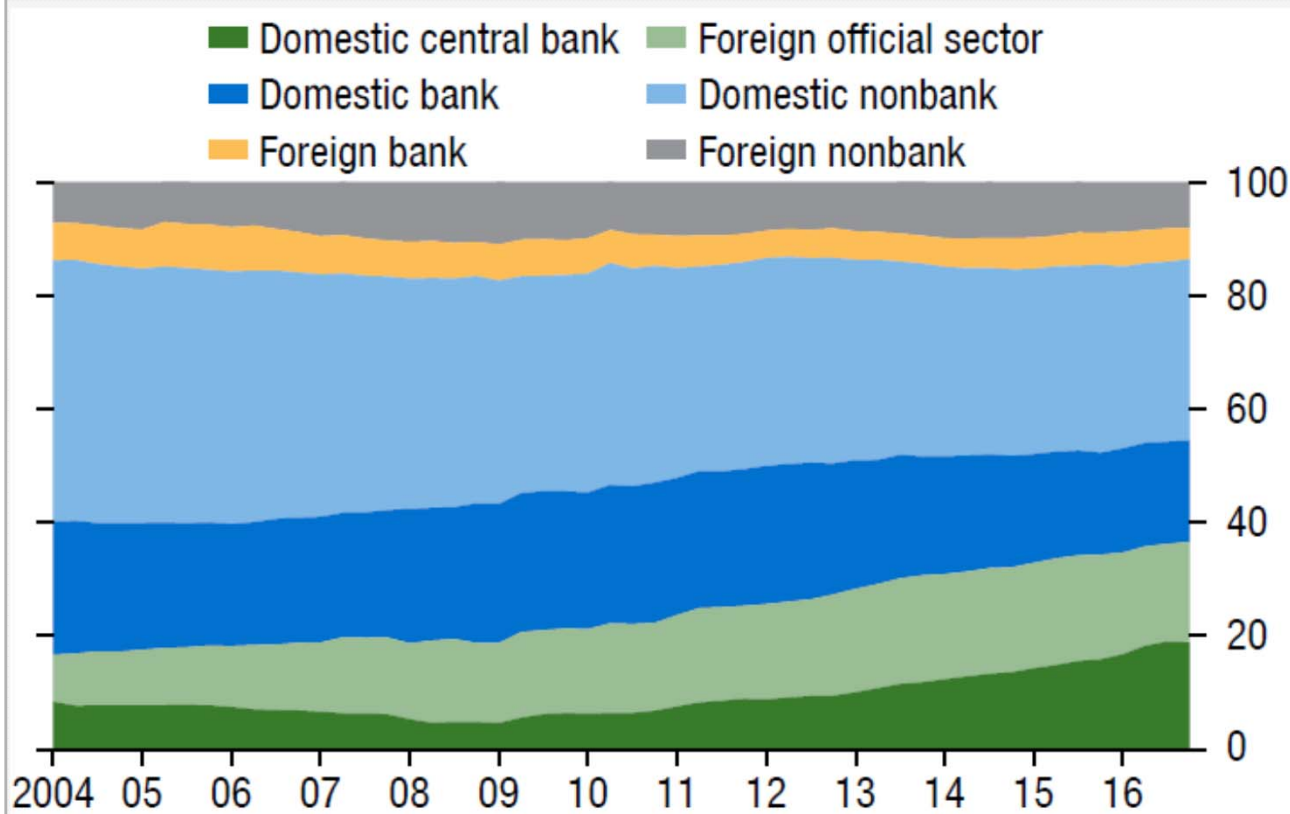
Evolução dos Activos das Outras Instituições Financeiras Monetárias face à Administração Central



Source: Banco de Portugal (2017, 2016, 2013), “Financial Stability Review”, June, May and Nov., respectively and Monthly Bulletins.

Higher Government Debt Exposure

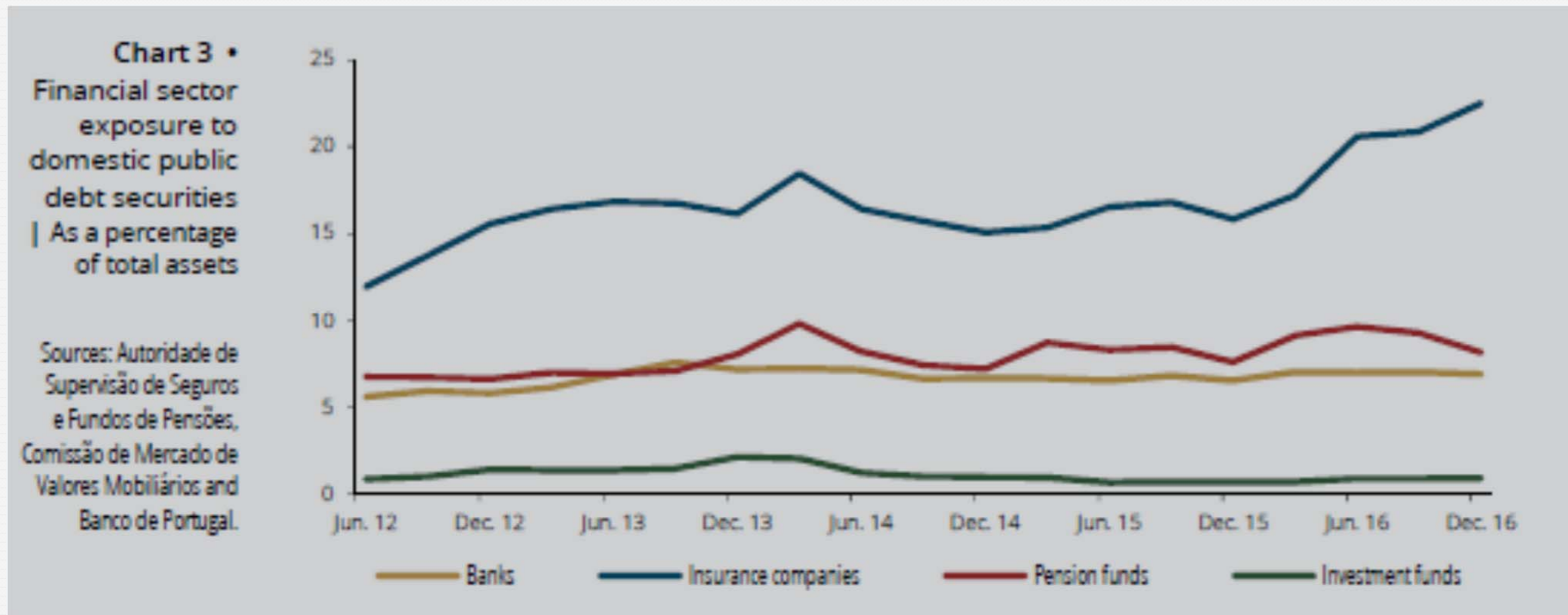
- Among advanced economies, sovereign debt holdings by central banks have been increasing due to the large scale asset purchase programmes.



Source: IMF (2017), "Global Financial Stability Report", October.

Higher Government Debt Exposure

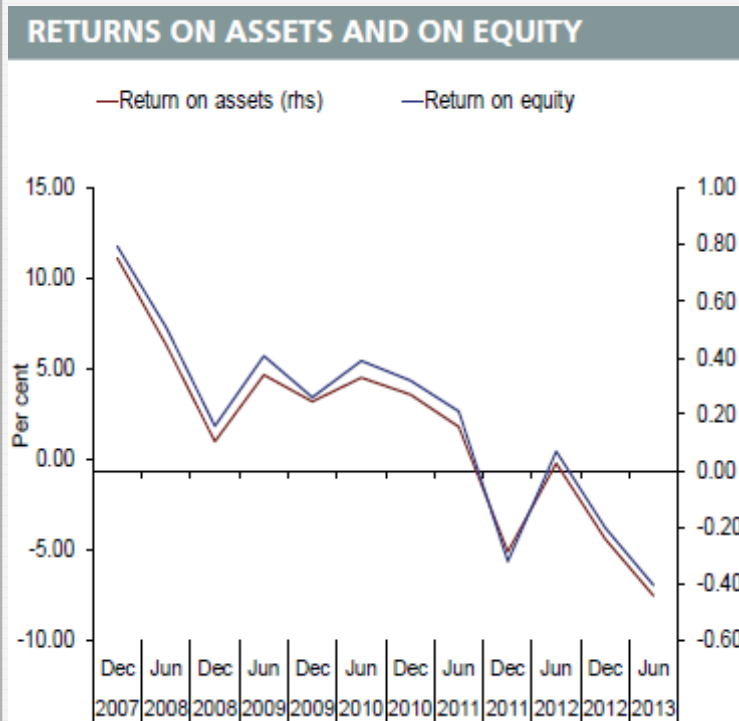
- As a % of total assets, insurance companies exhibit a higher exposure to Portuguese Government Debt:



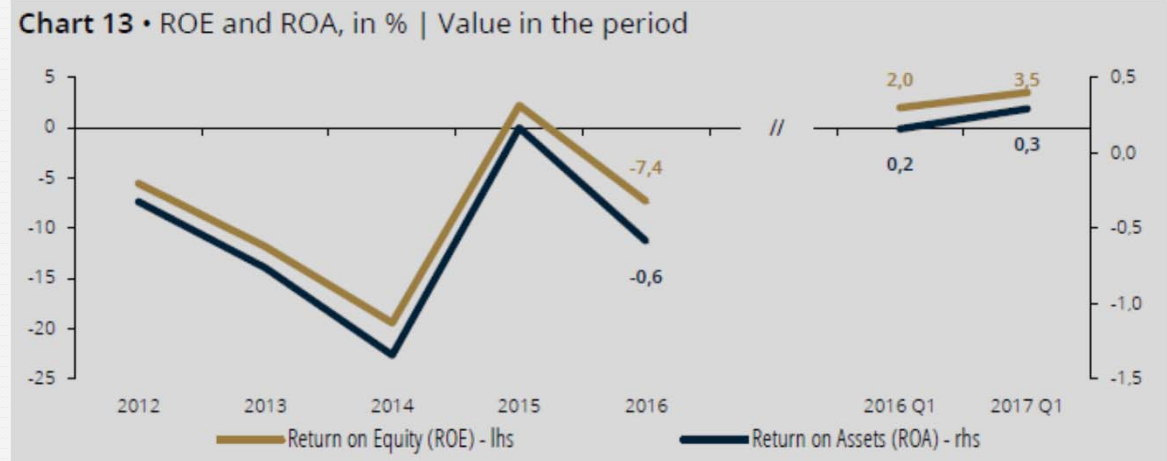
Source: Banco de Portugal (2017), “Financial Stability Review”, Jun.

Profitability

- Downward trend in profitability, with losses for 4 consecutive years ...



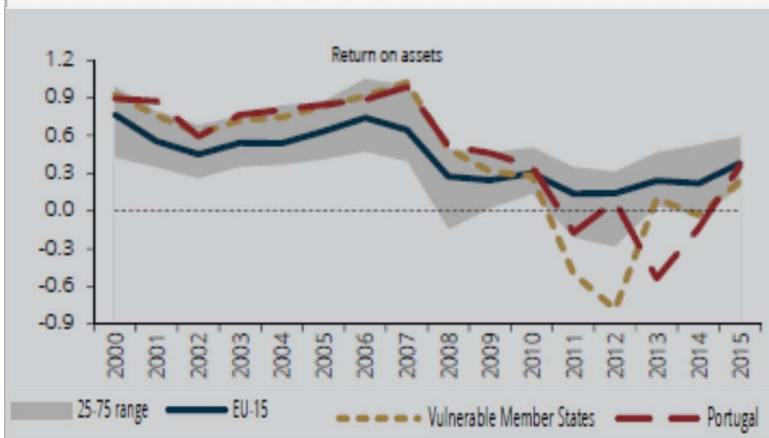
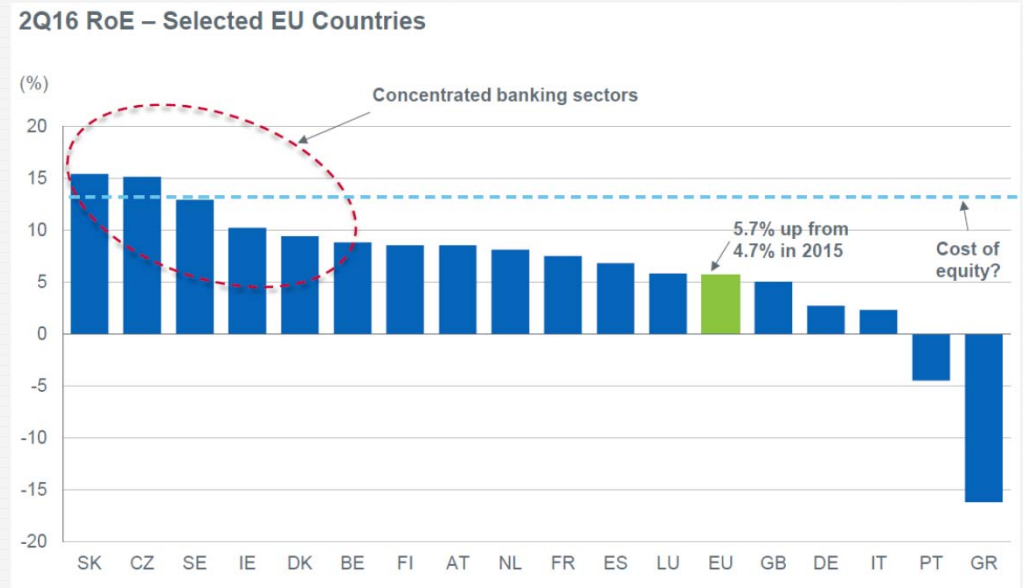
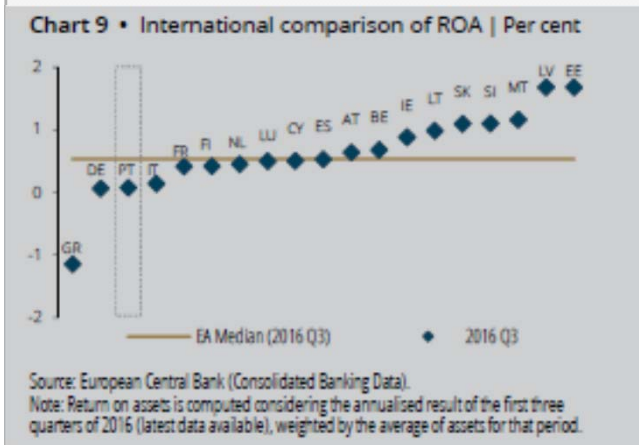
Source: Banco de Portugal (2013), “Financial Stability Review”, Nov.



Source: Banco de Portugal (2017), “Portuguese Banking System: Latest Developments - 1Q2017”.

Profitability

... more severe than in EU, but already exhibiting signs of recovery...



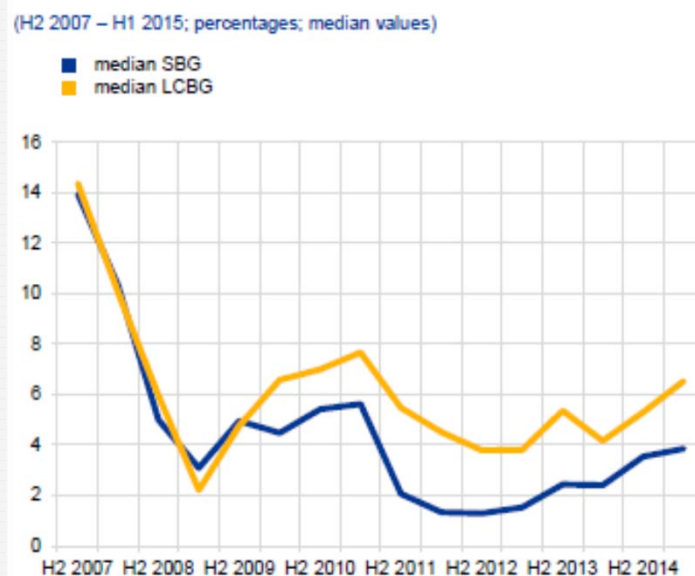
Profitability

- ... in line with the Euro Area.

Pre- and post-provision return on assets of euro area significant banking groups and global banks (H1 2007 – H2 2013; percentages)



Return on equity for euro area significant banking groups (H2 2007 – H1 2015; percentages; median values)



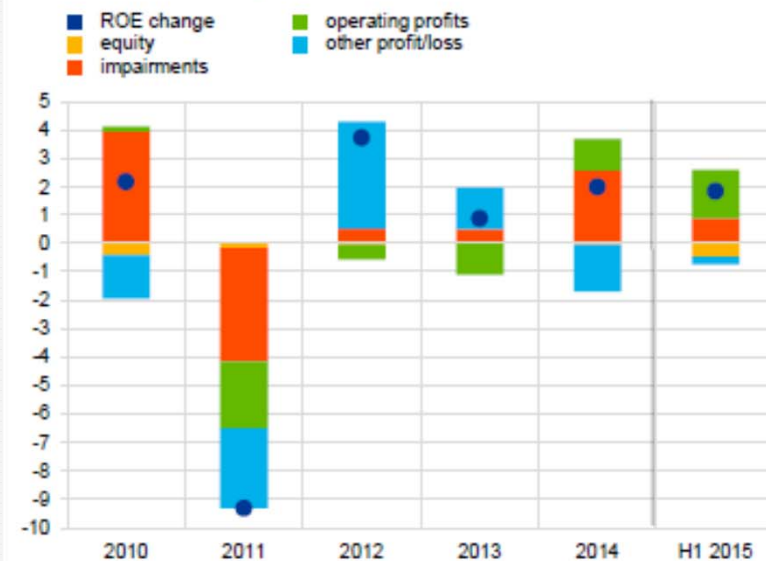
Source: ECB (2014), “ECB Financial Stability Review – Press Conference presentation”, 28 May, ECB (2014), “ECB Financial Stability Review”, May.

Profitability

- This recovery is based on falling impairments and increasing operating profits, mainly due to a surge in non-interest income (fees and net trading income).

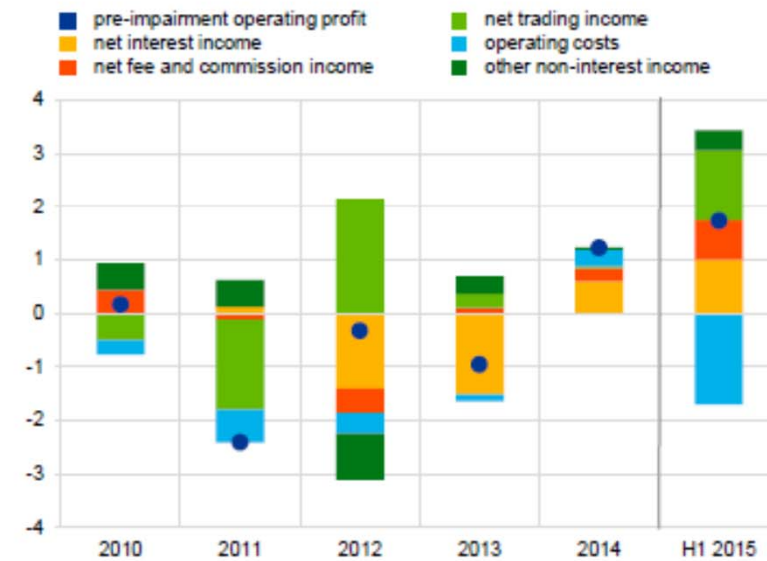
Decomposition of changes in the return on equity of euro area significant banking groups

(2010 – H1 2015; percentage points)



Contribution of main operating profit components to the change in euro area significant banking groups' return on equity

(2010 – H1 2015; percentage points)



Source: ECB (2015), "ECB Financial Stability Review", Nov.

Profitability

- Returns in Portugal were negatively impacted by:
 - unfavorable NII behavior until 2013, as a consequence of falling Euro interest rates

RETURNS – BREAKDOWN OF COMPONENTS

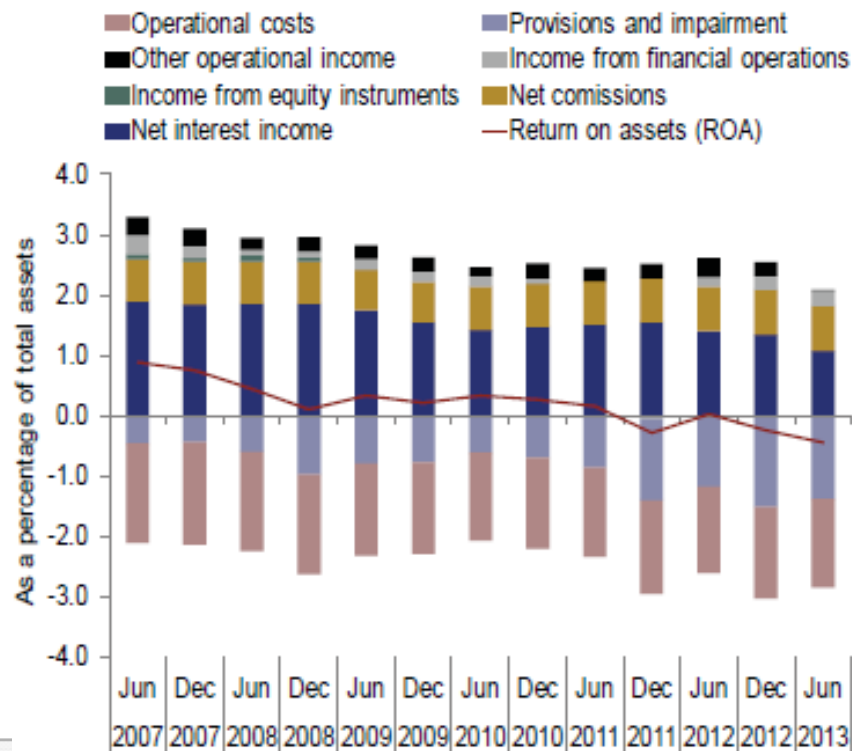
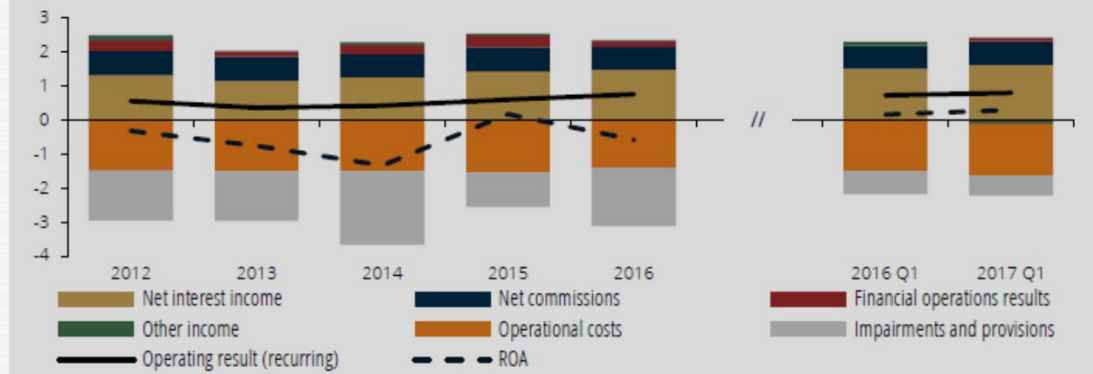


Chart 14 • Income and costs, in % of average total assets | Value in the period



Source: Banco de Portugal (2017), “Portuguese Banking System: Latest Developments - 1Q2017”.

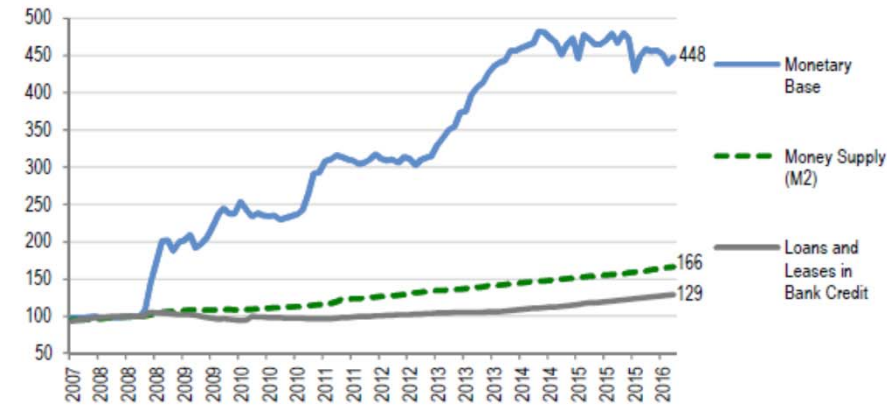
Source: Banco de Portugal (2013), “Financial Stability Review”, Nov.

Profitability

- ... as the expansionary monetary policy hasn't been able to provide a significant stimulus to credit and economic growth.

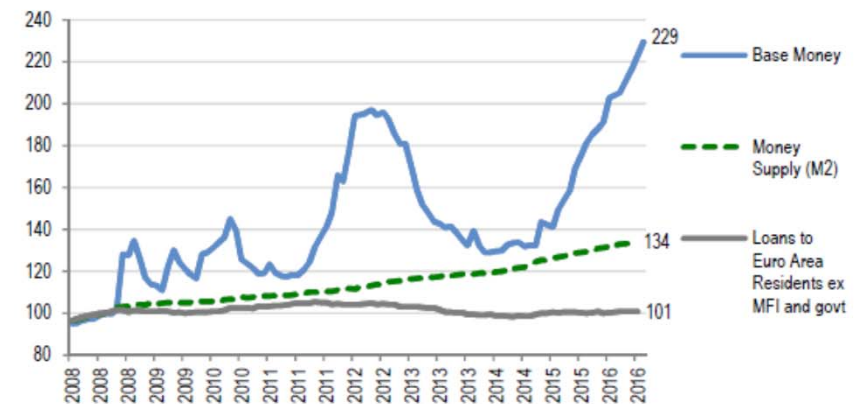
US

Indexed to 100 at Aug 2008



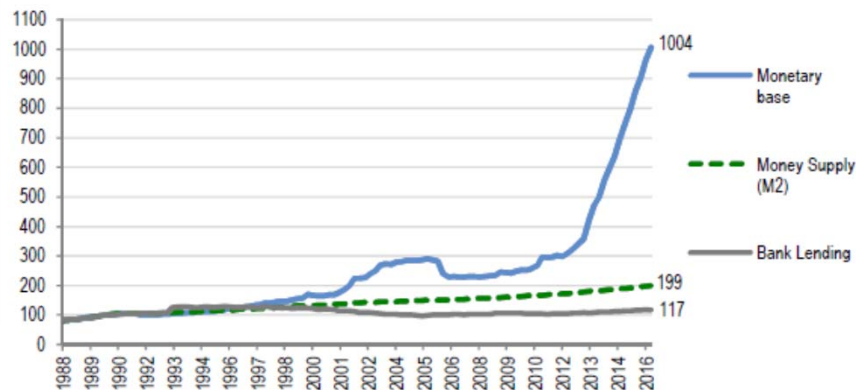
Europe

Indexed to 100 at Aug 2008



Japan

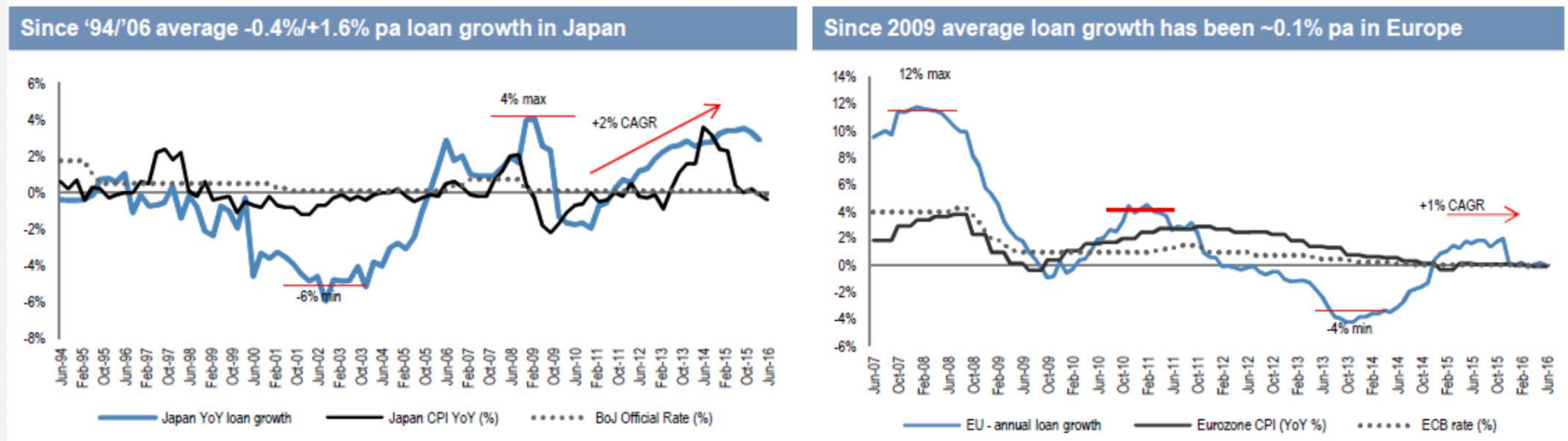
Indexed to 100 at Mar 1990



Source: JP Morgan Cazenove (2016), "European Banks - Lessons from Japan: EU Banks between a rock and a hard place"

Profitability

- Low interest rates didn't drive loan growth – the Japanese experience of balance sheet deleveraging is similar in Europe.



Source: JP Morgan Cazenove (2016), "European Banks - Lessons from Japan: EU Banks between a rock and a hard place"

Profitability

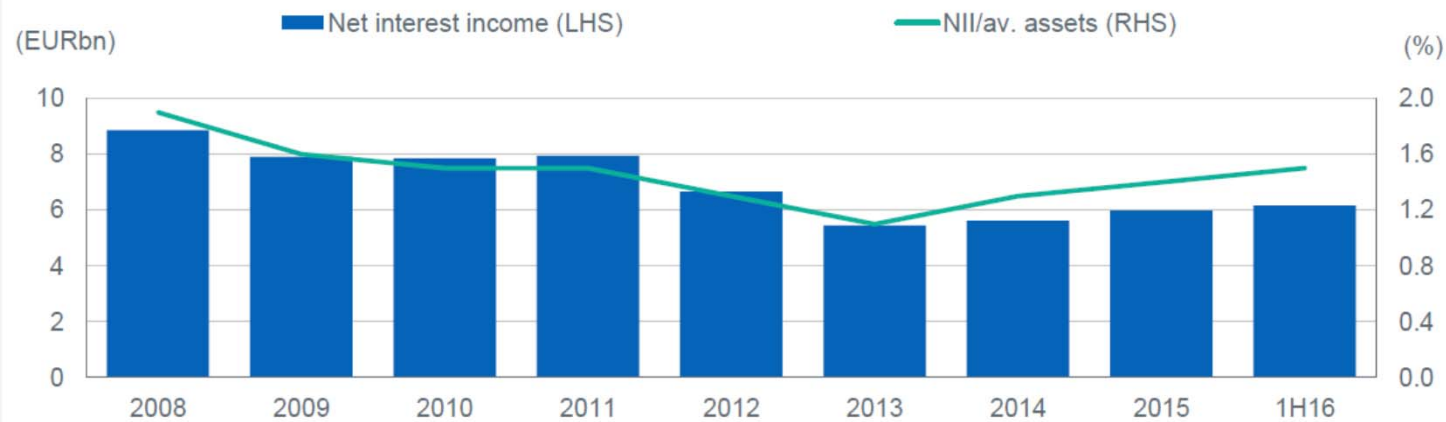
- Recent recovery of NII mostly due to the reduction of deposits' rates

Chart 16 • Banking interest rates (new business), in % | Average value of the period



Source: Banco de Portugal (2017), “Portuguese Banking System: Latest Developments - 1Q2017”.

Net Interest Income

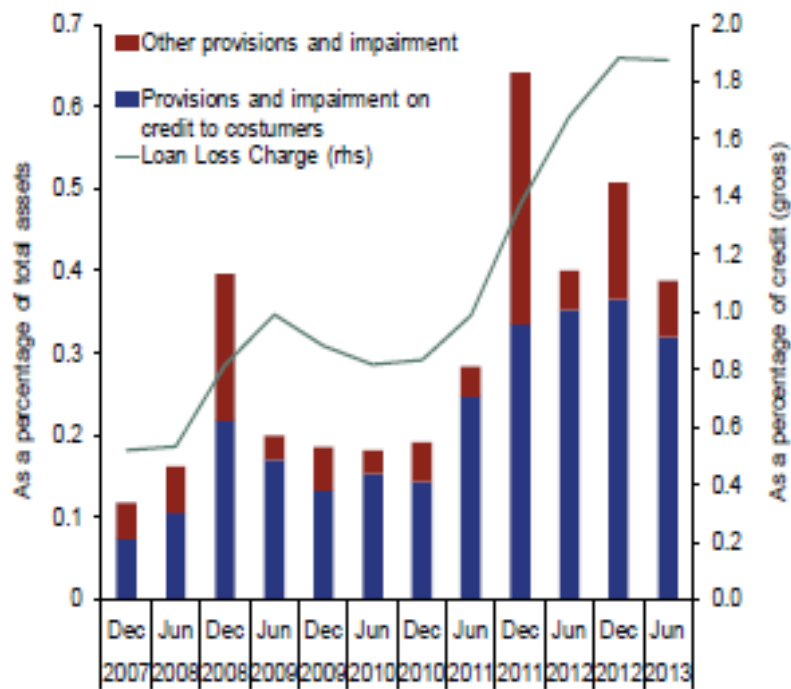


1H16: Annualised net interest income

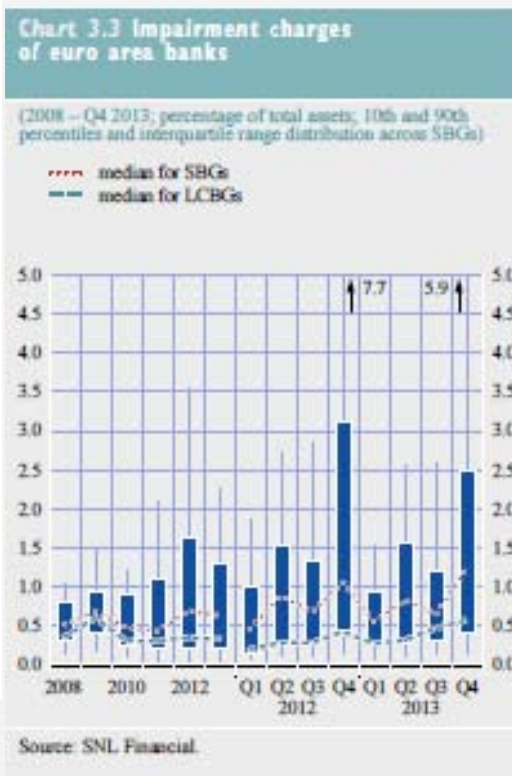
Fitch (2017), “Credit Outlook Lisbon 2017”, 26 Jan.

Profitability

- **increasing impairments** in financial assets, loans and real estate properties, in line with other stressed euro area countries.

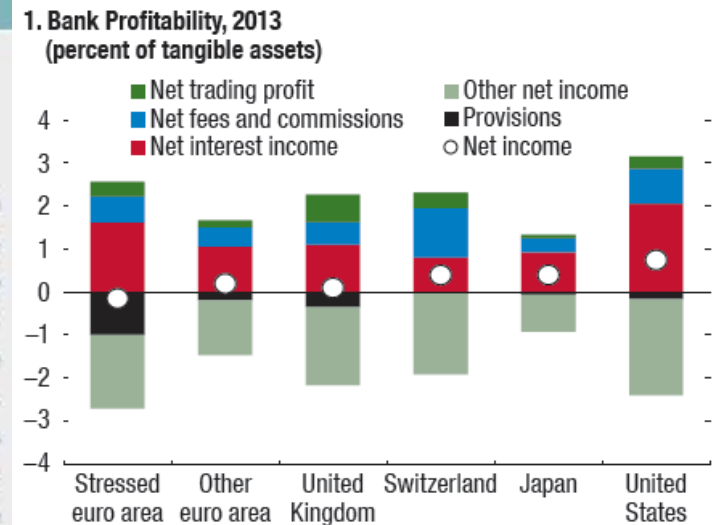


Source: Banco de Portugal (2013), “Financial Stability Review”, Nov.



Source: ECB (2014), “ECB Financial Stability Review”, May.

Provisions for nonperforming loans have acted as a drag on bank profitability . . .

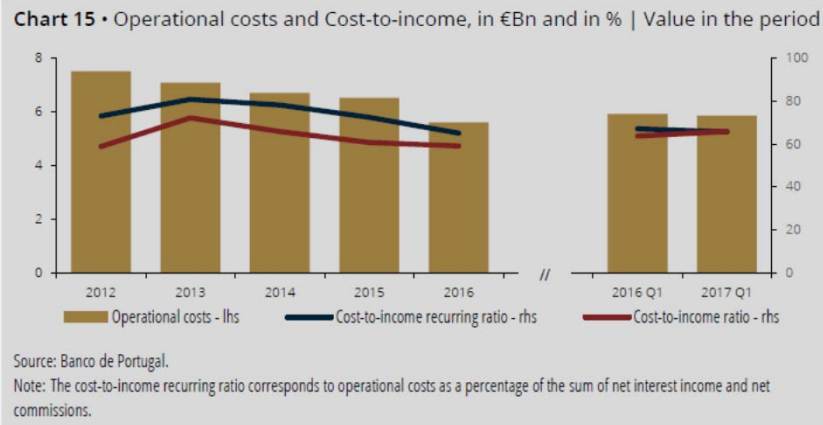


Sources: SNL Financial; and IMF staff estimates. Note: Based on a large sample of banks headquartered in each region.

Source: IMF (2014), “Global Financial Stability Report”, May.

Profitability

■ Notwithstanding the containment of operating costs, there were no significant improvements of cost-to-income ratios, that still compare unfavourably:

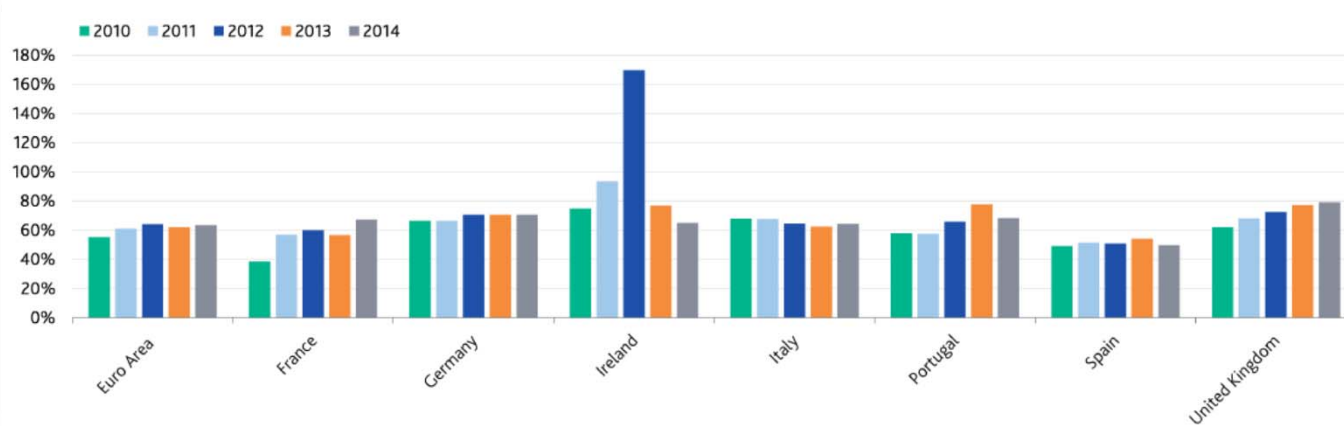


Source: Banco de Portugal (2017), “Portuguese Banking System: Latest Developments - 1Q2017”.



Source: Banco de Portugal (2017), “Financial Stability Review”, June.

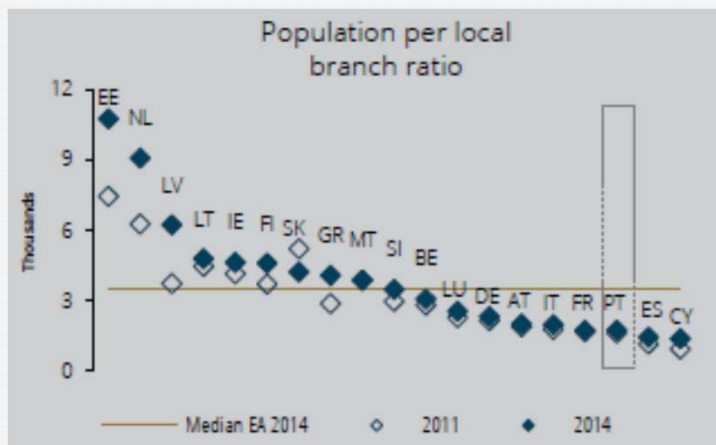
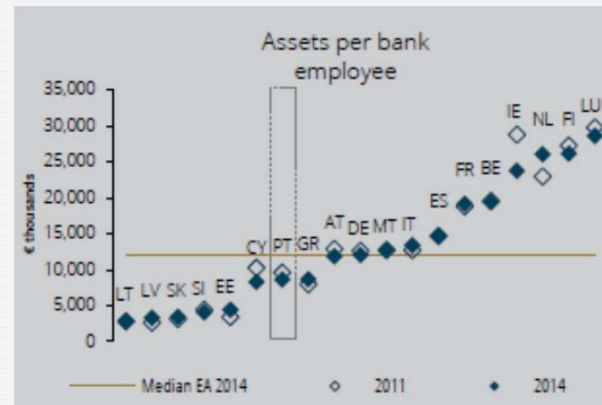
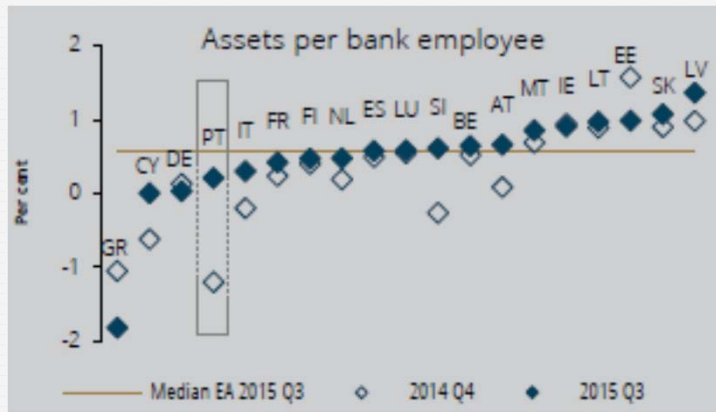
Cost-to-income ratio for selected banking systems (Moody's rated banks)



Source: Moody's (2015), “Banking System Outlook – Portugal”, 15 Oct.

Profitability

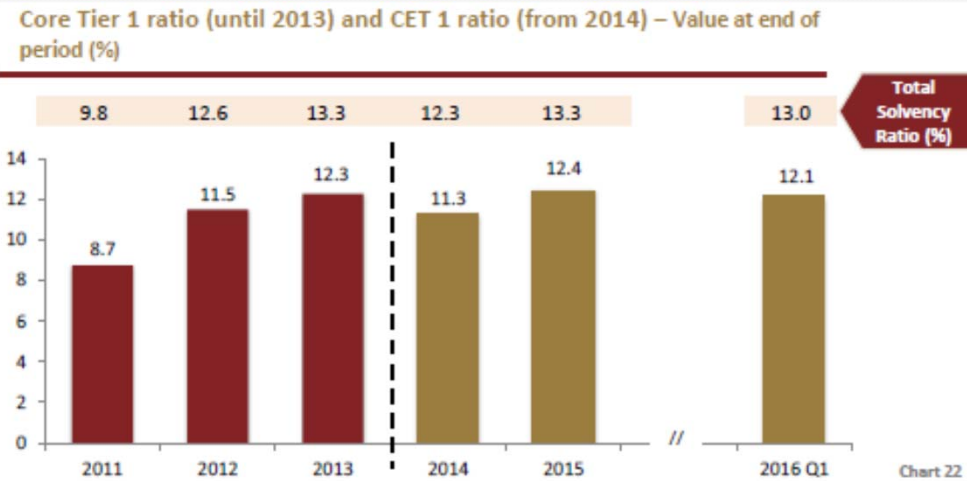
- Several additional indicators illustrate the need to reshape the size of the banking sector:



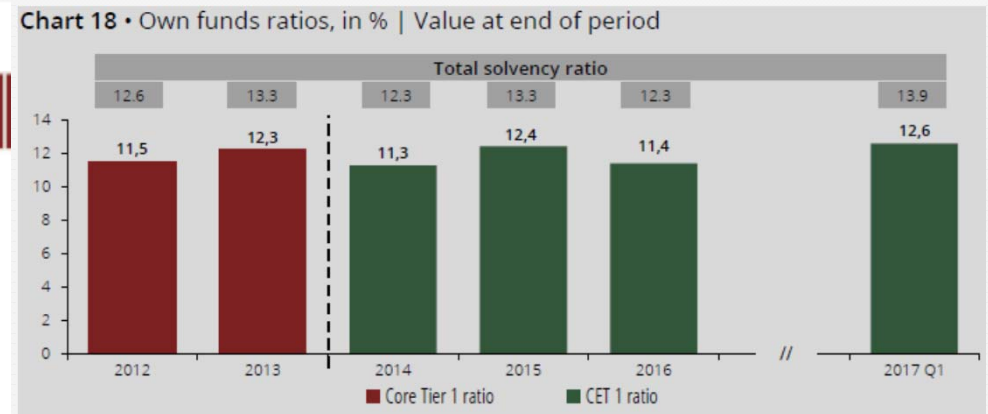
Source: Banco de Portugal (2016), “Financial Stability Review”, May.

Solvency

- **Capital increases** to face higher levels of capital requirements and loan losses...



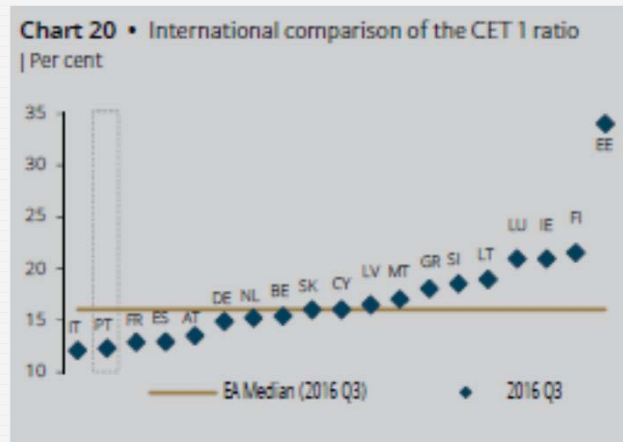
Source: Banco de Portugal (2016), “Portuguese Banking System: Recent Developments (updated:1Q).



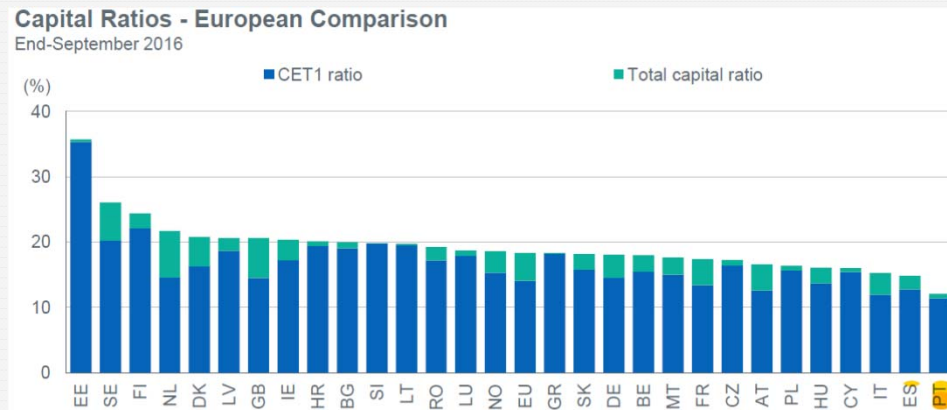
Source: Banco de Portugal (2017), “Portuguese Banking System: Latest Developments - 1Q2017”.

Solvency

- ... in line with the evolution in Europe, but still comparing unfavorably to other EU countries ...



Source: Banco de Portugal (2017), “Financial Stability Review”, June.



Fitch (2017), “Credit Outlook Lisbon 2017”, 26 Jan.

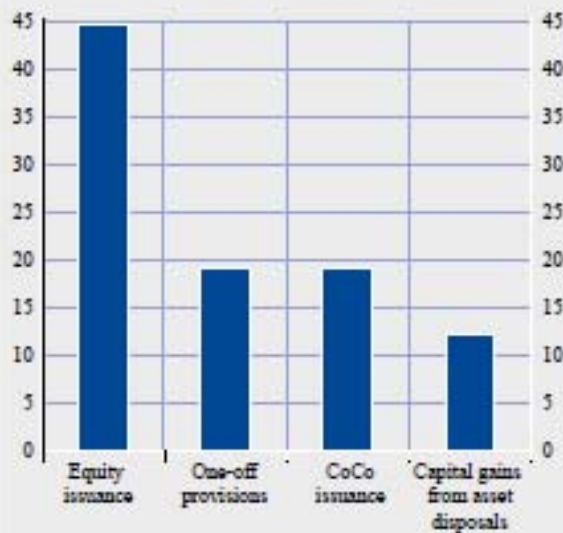
Solvency

- **Capital increases** were mostly performed through equity issuance both in Europe and in Portugal, ...

Balance sheet strengthening by euro area significant banking groups

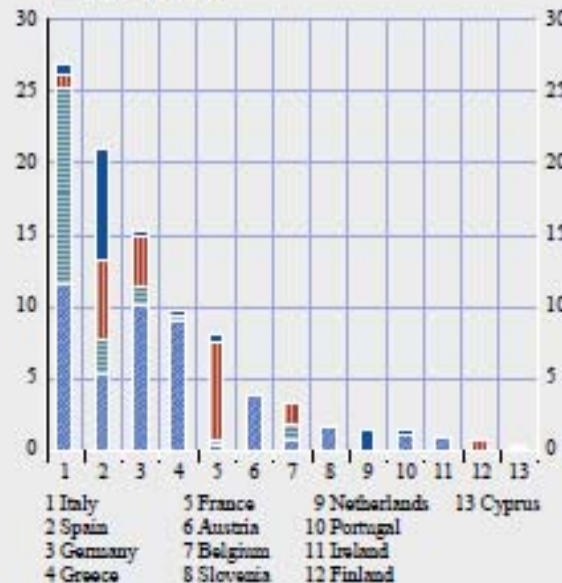
(since July 2013; EUR billions)

a) By instrument



b) By country

— capital gains from asset disposals
 ■ CoCo issuance
 ■ one-off provisions
 ■ equity issuance

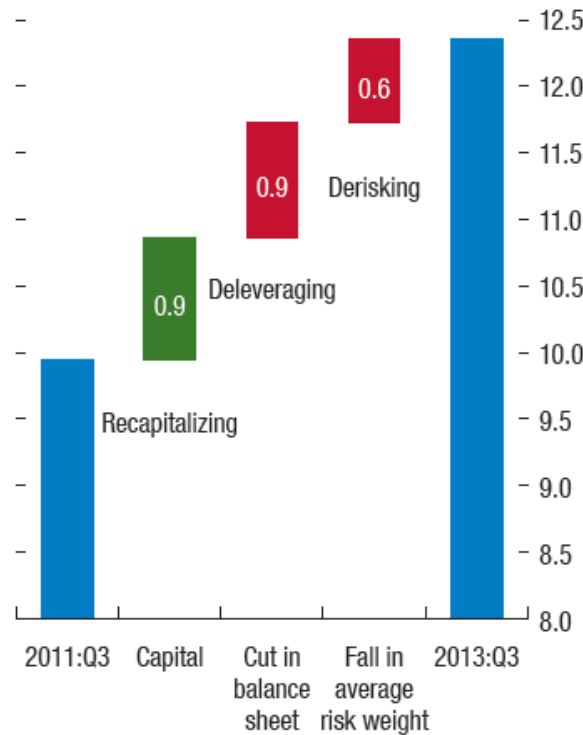


Source: ECB (2014), “ECB Financial Stability Review”, May;

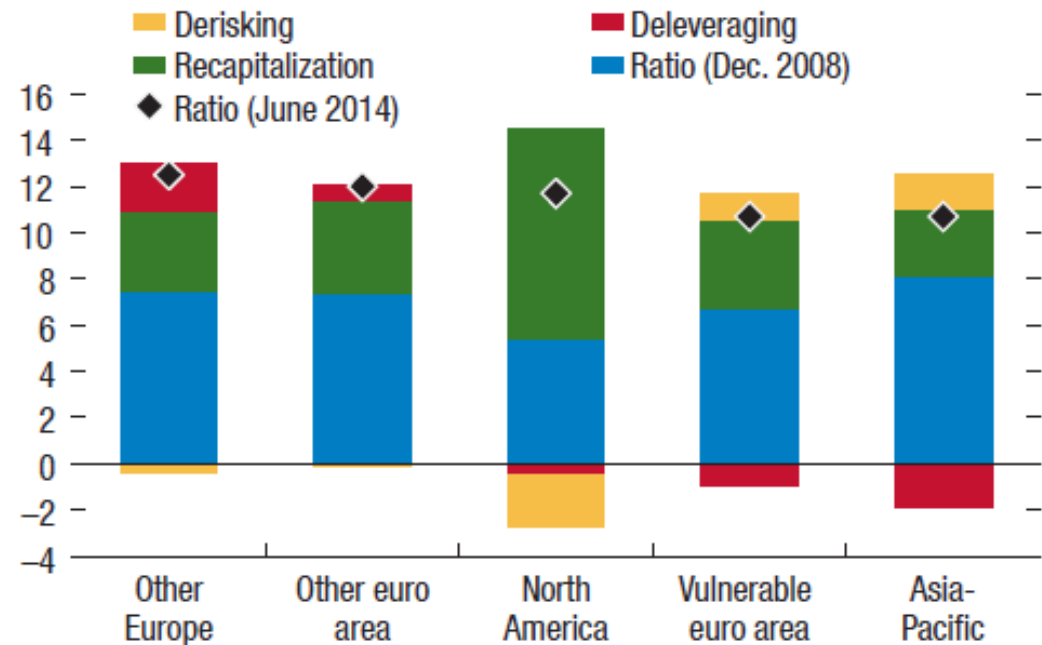
Solvency

- ... though deleveraging was also very relevant to increase capital ratios.

Figure 1.7.1. Change in Large European Union Bank Core Tier 1 Capital Ratios
(Percent of risk-weighted assets)



3. Change in Tier 1 Capital Ratio, 2008–14
(Percent of risk-weighted assets)



Source: IMF (2014), "Global Financial Stability Report, April and October.