# 1.2. Financial Sector Structure, Indicators and Rules

# Bank's Optimization problem

- Bank's goal: maximize the shareholder return, subject to liquidity and regulatory constraints (e.g. capital).

- Main activities:
  - Financial intermediation – receive deposits and grant loans
  - Investments in Financial Markets
  - Services provided to customers

# Universal Banking

- The Portuguese financial system is based on the principle of universal banking, having the Banking Act (RGICSF, DL No.298/92, 31st Dec.) adopted the recommendation of the White Book on the Portuguese Financial System 1992.
- The Banking ACT identifies two major types of FIs: credit institutions (CI) and financial companies, having the CIs the distinguishing feature of being authorized to grant loans and to receive redeemable funds from the public (corresponding to deposits and bonds issued above the limit generally established to non-financial companies).
- CIs not authorized to receive deposits were initially created within banking groups in the 80´s, as to circumvent ceilings on the growth of banking loans.
- Afterwards, they were mostly integrated in the banks.

# Main types of CIs

- Banks;
- Saving and Loans (including the agricultural sector) – currently similar to banks, with no major restrictions on their activity;
- Credit Financial Institutions - e.g. consumer finance + leasing companies;
- Mutual Guarantee Companies;
- Leasing Companies;

# Main types of CIs

- Factoring Companies – companies (the factors) that buy accounts receivable from their customers (i.e., invoices) at a discount, to provide them funding.
  - Full Factoring – the most comprehensive type of factoring, including the servicing and the anticipated payment of the receivables.
  - Maturity Factoring – only includes the servicing of the receivables, excluding any funding to the customer.
  - Factoring "**without recourse**“ - the factor bears the loss if their customers' debtors don't pay the invoice amount.
  - Factoring "**with recourse**“ - the factor has the right to collect the unpaid invoice amount from the seller.
  - Confirming or Reverse Factoring – the factor pays to the supplier of its customer beforehand.

# Main types of Financial Companies

(i) Brokerage in Capital Markets

- Dealers;
- Brokers;

(ii) Asset Management

- Portfolio management companies;
- Investment Fund management companies;

(iii) Money and FX brokerage

- Money and currency market brokers (wholesale);
- Exchange offices (retail);

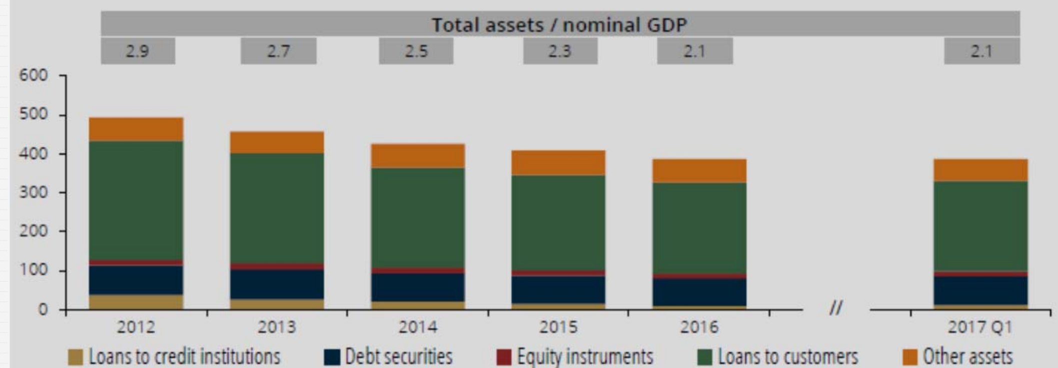
(iv) Other

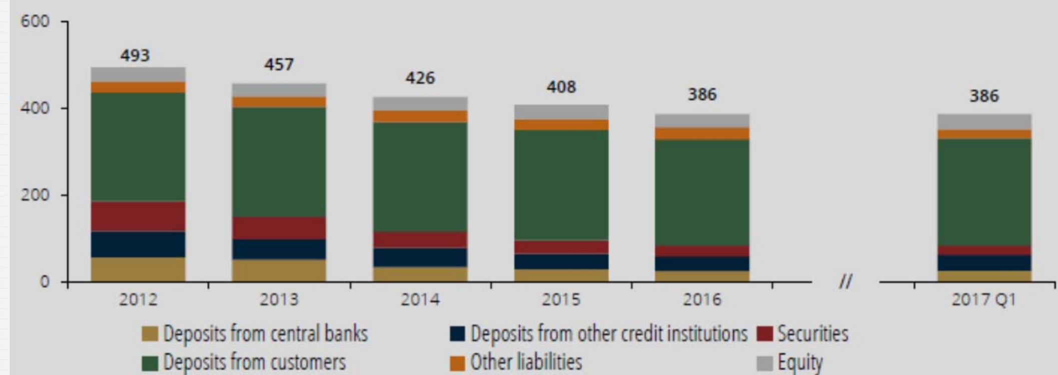
- Credit card issuer companies;
- Securitization fund management companies.

# Banking System's Balance Sheet

- Main Assets:
  - loans to customers (-)
  - debt securities (=)
  - real estate assets (=)

- Main funding sources:
  - deposits from customers (=)
  - bonds issued (-)
  - resources from central banks (-)
  - capital (=)




Source: Bank of Portugal (2017), "Portuguese Banking System: latest developments – June 2017".

# Banking System's Income Statement

- Gross Income:
  - NII = Interest charged - paid
  - Fees
  - Financial Operations

- Main costs:
  - Provisions/Impairments
  - Operational

**PROFIT AND LOSS ACCOUNT OF THE SIX MAJOR BANKING GROUPS | ON A CONSOLIDATED BASIS, AS A PERCENTAGE OF AVERAGE ASSETS**

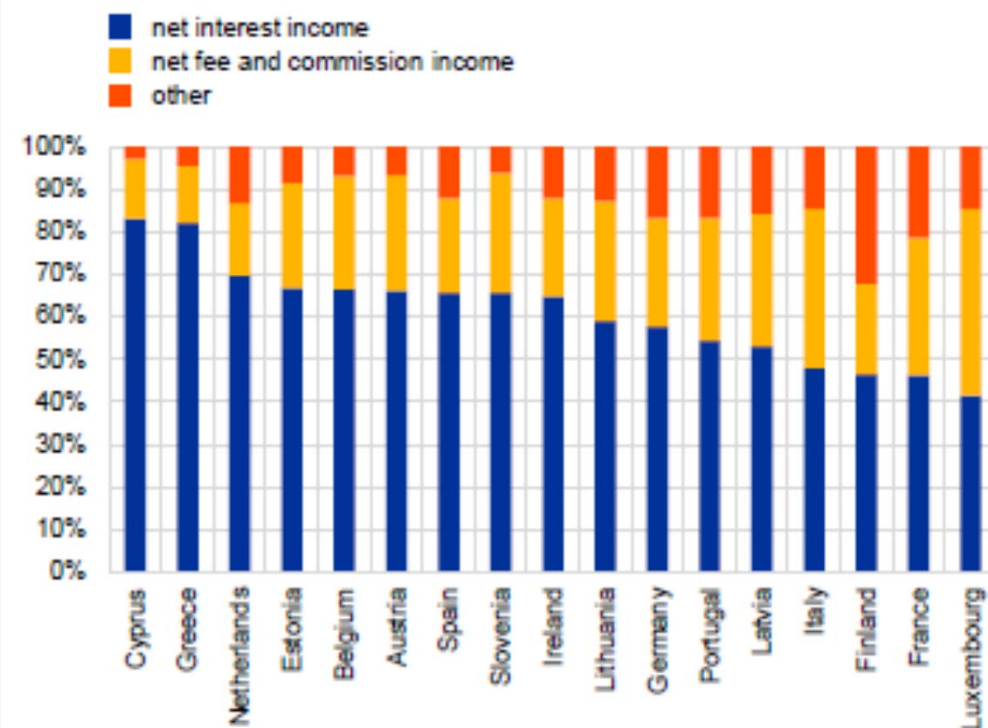
| | Quarterly income (flow) | | | | | Cumulative income (year to date) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2012 | | | | 2013 | 2012 | | | | 2013 |
| | 1Q | 2Q | 3Q | 4Q | 1Q | Mar. | Jun. | Sep. | Dec. | Mar. |
| Net interest income | 1.33 | 1.27 | 1.10 | 1.14 | 0.86 | 1.33 | 1.30 | 1.23 | 1.21 | 0.86 |
| Income (net) from services and commissions | 0.69 | 0.78 | 0.70 | 0.74 | 0.69 | 0.69 | 0.74 | 0.72 | 0.73 | 0.69 |
| Income from financial operations | 0.47 | 0.54 | 0.35 | 0.50 | 0.36 | 0.47 | 0.50 | 0.45 | 0.47 | 0.36 |
| Other income | 0.08 | 0.25 | 0.05 | 0.00 | -0.02 | 0.08 | 0.16 | 0.13 | 0.10 | -0.02 |
| **Gross income** | 2.56 | 2.84 | 2.20 | 2.39 | 1.89 | 2.56 | 2.70 | 2.54 | 2.50 | 1.89 |
| Operating costs | 1.35 | 1.34 | 1.42 | 1.53 | 1.35 | 1.35 | 1.35 | 1.37 | 1.41 | 1.35 |
| Provisions and impairment | 0.94 | 1.79 | 1.25 | 1.94 | 0.92 | 0.94 | 1.36 | 1.33 | 1.48 | 0.92 |
| *of which: associated with credit to costumers* | 0.77 | 1.51 | 1.04 | 1.26 | 0.70 | 0.77 | 1.14 | 1.11 | 1.14 | 0.70 |
| Consolidation differences and appropriation of net income | -0.05 | -0.09 | -0.32 | -0.10 | -0.18 | -0.05 | -0.07 | -0.15 | -0.14 | -0.18 |
| **Income before tax and minority interests** | 0.32 | -0.20 | -0.15 | -0.98 | -0.21 | 0.32 | 0.06 | -0.01 | -0.25 | -0.21 |
| Income tax profit | 0.12 | 0.05 | -0.09 | -0.45 | -0.04 | 0.12 | 0.08 | 0.03 | -0.09 | -0.04 |
| **Income before minority interests** | 0.20 | -0.25 | -0.06 | -0.52 | -0.17 | 0.20 | -0.02 | -0.04 | -0.16 | -0.17 |
| Minority interests | 0.09 | 0.04 | 0.10 | 0.04 | 0.00 | 0.09 | 0.06 | 0.07 | 0.07 | 0.00 |
| **Net income** | 0.11 | -0.29 | -0.16 | -0.56 | -0.17 | 0.11 | -0.09 | -0.11 | -0.22 | -0.17 |

Source: Bank of Portugal (2013), "Financial Stability Review", May.

# Key Indicators

1) Profitability

- Return on Equity: ROE= Net Income/Total Capital
- Return on Assets: ROA = Net Income/Total Assets
- Net Interest Margin = Net Interest Income/Total Assets




Source: ECB (2016), "Financial Stability Review", May.

# Key Indicators

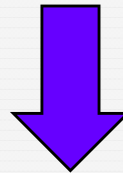
- ROE may also be seen as the product between ROA and leverage:

$$ROE = ROA \cdot Assets / Capital$$

- ROE can be decomposed even further:

$$RoE = \frac{Total\ assets}{Tier\ 1\ capital} \ X \ \frac{Tier\ 1\ capital}{Common\ equity} \ x \ \frac{Net\ income}{RWAs} \ x \ \frac{RWAs}{Total\ assets}$$

$$RoE = Financial\ leverage \ X \ Common\ equity\ margin \ x \ RoRWAs \ x \ Unit\text{-}risk$$



- Profitability may be determined by the profitability of assets, or just by the increase in leverage.

# Key Indicators

- Profitability of loans is usually measured by the RAROC:

$$RAROC = \frac{s - Ca - Cf - EL}{K}$$

**s =** minimum spread (e.g. over the Euribor)
**Ca =** administrative costs (% total credit)
**ROE =** return on equity (long-term goal)
**K =** capital requirement for the loan
**Cf =** funding cost (spread over the Euribor)
**EL** = Expected Loss (PD x LGD x EAD)

- RAROC is associated to the minimum spread to be charged in a loan:

$$s = Ca + ROE \cdot K + Cf + EL$$

# Key Indicators

2) Efficiency

- Cost-to-Income = Operating Expenses (e.g. personnel and other administrative expenses)/Operating Income (NII + Fees + Financial Operations)

3) Credit Risk

- Past due loans and interest (as % of total credit)
- Coverage ratio of Past Due Loans = Provisions (Impairments)/Past Due Loans
- Texas ratio = NPLs (non-performing loans)/tangible equity and loan loss reserves (compares problem loans with the financial resources a bank has to absorb further losses from its troubled assets).

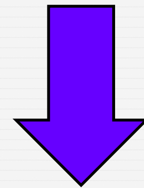
# Key Indicators

- Credit at risk (Instruction No.23/2011, 17 Out.)
  - Past due loans over 90 days
  - Restructured credit, when restructuring occurs after 90 days past due and doesn't involve neither the payment of any past due capital or interest, nor additional guarantees.

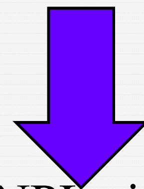
- Definition of credit risk indicators has faced harmonization and transparency problems in EU and worldwide, namely regarding forborne/restructured loans.
  - in Portugal, definitions and reporting rules for restructured loans were defined only in 2012 (Instruction No. 18/2012, 15 May, replaced by Instruction No. 32/2013, 15.01.2014).

# Key Indicators

- Restructured loans may be considered as an intermediate status between regular and non-performing loans.



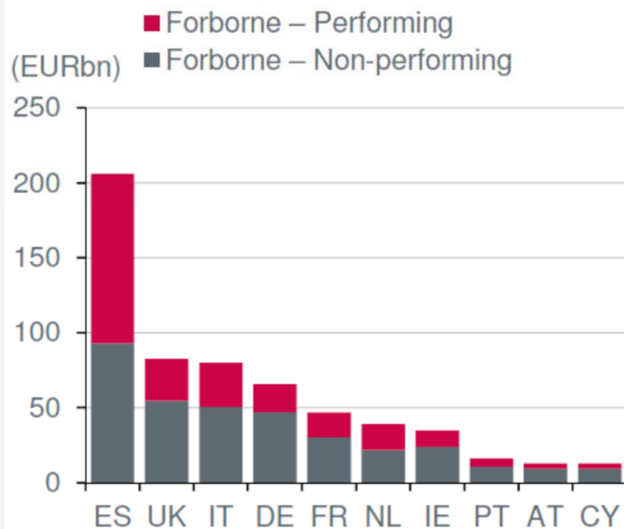
- Restructured loans must demand higher provisions/impairments and may impact on credit-at-risk ratios
- For capital requirements purposes, exposures are either performing or non-perfoming (NPE).

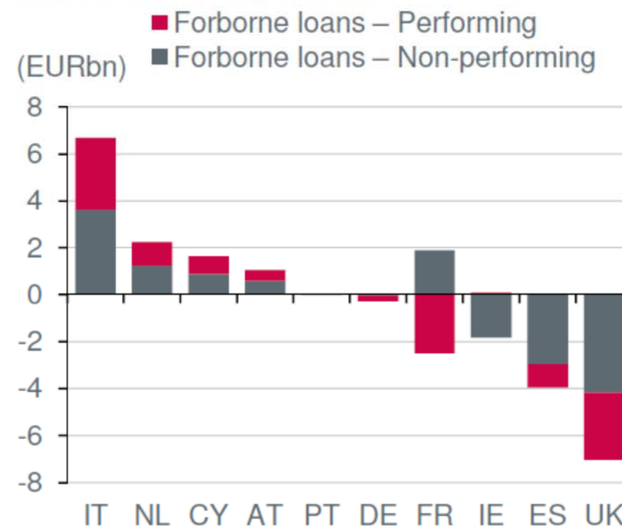


- EBA released a common definition for NPLs in EU, distinguishing between restructured loans that must be considered performing or NPE (final draft Implementing Technical Standards on Supervisory reporting on forbearance and non-performing exposures under Article 99(4) of Regulation (EU) No 575/2013, 26 June).

# Key Indicators

- Forborne exposures can be included within the performing or non-performing category depending on the status of the exposure at the time when forbearance is extended and the counterparty's payment history or creditworthiness after the extension of forbearance.
- 635B€ of forborne loans in EU, 261B€ performing.

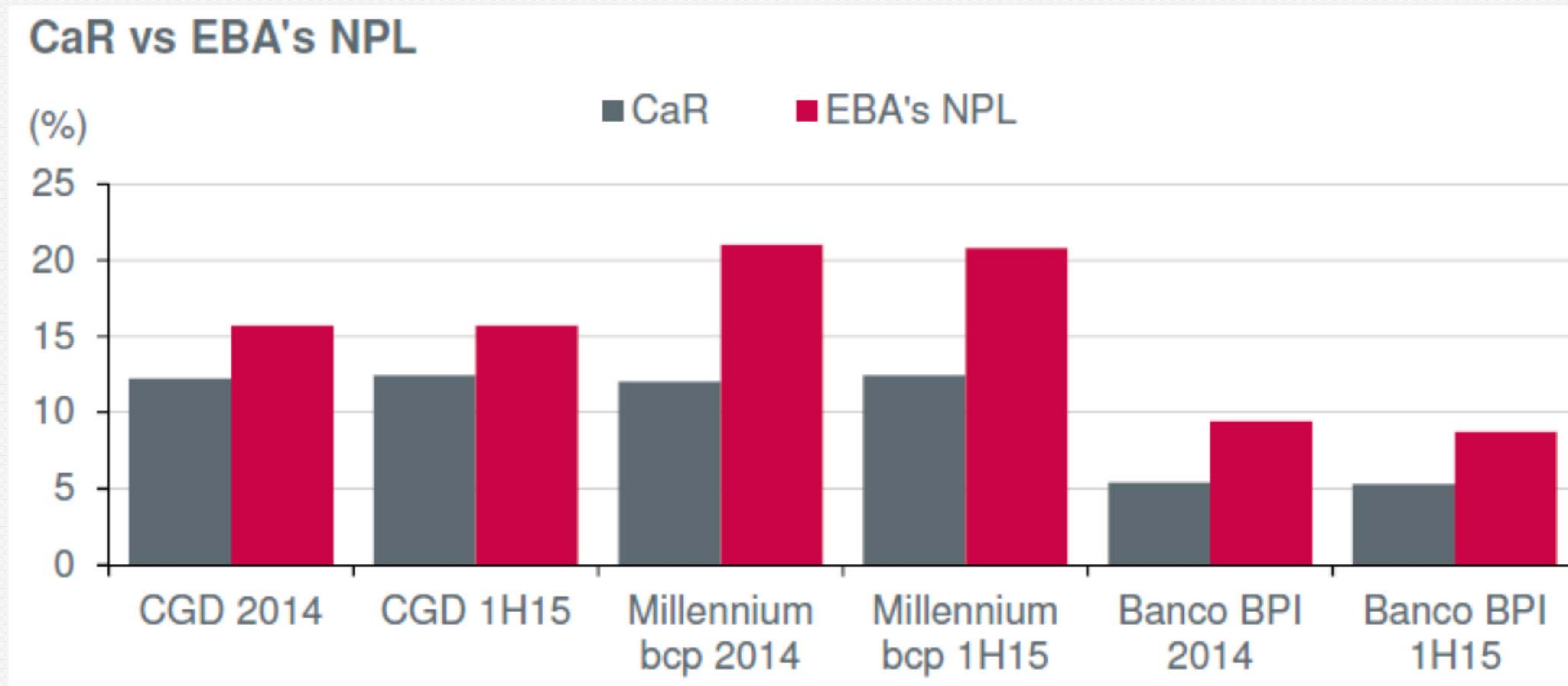



Source: Fitch (2016), 2016 Fitch Credit Outlook Conference, Lisbon, 28 Jan.

# Key Indicators

- Credit at Risk still differs significantly from the EBA definition of NPLs.




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

# Key Indicators

- Art. 178 of CRR, Reg. 575/2013:

(i) > 90 days past due (national authorities may replace for 180 days when exposures are guaranteed by residential mortgages and, in loans to SMEs, by commercial mortgages, as well as Public sector entities).

(ii) the debtor is considered as unlikely to be able to redeem the loan, with no recourse to additional bank decisions, e.g.:

(a) suspension of interest payments;

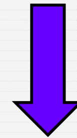
(b) loan restructuring, including the forgiveness or the postponement of capital redemption or the payment of interest or fees;

(c) request the debtor insolvency.

- **Cross-default** – NPLs > 20% of the exposure to the customer, except for retail loans.
- **Economic Groups** – when a debtor belongs to a given group, the need to consider exposures to other group entities also as non-performing must be assessed.

# Key Indicators

- BCBS - task force to analyse banks' and supervisory practices regarding asset categorisation schemes in 28 jurisdictions.



- Guidelines for the definitions of NPLs and forbearance: "Prudential treatment of problem assets – definitions of non-performing exposures and forbearance", 4 Apr.2017.
- Definition based on delinquency status (90 days past due (DPD), instead of the definition used in the IRB approach of Basel II, which allows for the use of a 180 DPD threshold for retail and public sector exposures), or the unlikeliness of repayment.
- Focuses on a debtor basis, but allows categorisation of exposures as NPE on a transaction basis for retail exposures.
- Group of connected counterparties - banks must consider the non-performing status of other connected counterparties (as in EU).

# Key Indicators

- Introduces clear rules regarding restructured loans - whenever changes to the loan terms are offered to customers facing financial difficulties, namely:

(a) A counterparty is currently past due on any of its material exposures, considering its aggregated exposure or a minimum past due amount determined by supervisors.

(b) A counterparty is not currently past due, but it is probable to be on any of its material exposures in the foreseeable future without the modification.

(c) A counterparty's outstanding securities have been delisted, are in the process of being delisted, or are under threat of being delisted from an exchange due to non-compliance with the listing requirements or for financial reasons.

(d) The counterparty cannot obtain funds from sources other than the existing banks at an effective interest rate equal to the current market interest rate for similar loans or debt securities for a non-troubled counterparty.

# Key Indicators

- Performing again – when all the following conditions are fulfilled:

(i) the contract returned to a performing status;

(ii) cure period - 2 years;

(iii) significant amounts of past due capital/interest paid during the cure period;

(iv) no partial write-offs;

(v) no repossessed collateral still to be disposed of (when the exposure is kept on balance sheet, it is deemed non-performing).

# Main Prudential Restrictions

- Rationale:

(i) Banks have to keep enough capital to:

- face unexpected losses

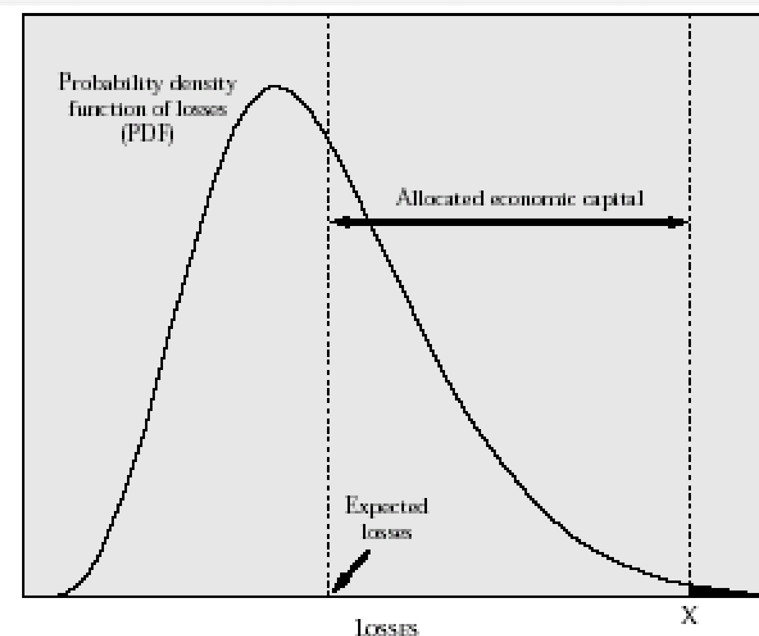
- protect depositors, bondholders and other creditors in case of insolvency or resolution.

- protect public resources and taxpayers

- finance banks' investments.

(ii) Banks have to be focused on banking business, minimizing financial participations and exposure to real estate assets;

(iii) Loan portfolios must avoid significant concentrations and minimize exposures to main shareholders.




Source: Jones and Mingo (1998).

# Main Prudential Restrictions

(1) Capital

(2) Financial Participations

(3) Credit to shareholders

(4) Large exposures

(5) Tangible and Intangible Assets

# Main Prudential Restrictions

(1) Capital:

- Own Funds include 2 tiers, with CT1/Common Equity being more subordinated.
- Common Equity core tier 1 > 8%
- Common Equity tier 1 > 9,5%
- Solvency Ratio > 11,5% (for planning purposes)

| Own Funds – Main Items |
|---|
| **Tier I** |
| **Core Tier 1** |
| Capital |
| Minority Interests |
| Reserves |
| **Negative elements of Tier I** |
| Intangible Assets |
| Pension Fund deviation outside the corridor |
| Provision insuficiency |
| 50% of the stakes in Insurance companies |
| **Tier II** |
| **Upper Tier II** |
| Revaluation Reserve of Real Estate Assets |
| Provisions to General Credit Risk |
| **Lower Tier II** |
| Subordinated Debt |
| **Negative elements of Tier II** |
| 50% of the stakes in Insurance companies |
| **Negative elements of Total Own Funds** |
| Real Estate Assets for Trading Purposes after 3 years in the balance sheet |

# Main Prudential Restrictions

(2) Financial Participations:

- Individual qualified stakes < 15% of the own funds of the participant
- Total qualified stakes < 60% of the own funds of the participant
- Qualified stake – direct/indirect financial participation >10% of capital/voting rights of the participated or allowing a significant influence in the participated management.
- Stakes > 25% of the voting rights of the participated cannot be held for more than 3 years (consecutive or not)

# Main Prudential Restrictions

(3) Credit to shareholders (art.109, Banking Act):

- Loans to a given qualified participant <= 10% of the FI’s own funds
- Sum of loans to all qualified participants <= 30% of the FI’s own funds

(4) Large exposures:

- Definition: risks to a group of interconnected entities corresponding to >=10% of the FI’s own funds
- Report of large exposures to the BoP
- Risks to a given group of customers <= 25% of FI’s own funds (Notice 7/2010)
- Sum of large exposures <= 8 x FI’s Own Funds

# Main Prudential Restrictions

(5) Tangible and Intangible Assets (Notice 5/2003):

- Net exposure <= FI's own funds (excess over the limit must be deducted to own funds).
- Total financial participations <= 40% of FI's own funds.
- These limits can be exceeded due to (deeds in lieu of) foreclosures, for 2 years (or higher, if authorized by the BdP or if considered as negative elements of the own funds).
- According to art.112 of the Banking Law, Credit Institutions cannot buy real estate properties not necessary for their premises, unless authorized by the BdP or in case of deeds in lieu of foreclosure (for 2 years, that can be extended for 1 additional year following FIs request until 2 months before the 2 initial years).
- After the 4th year in the balance sheet and during the next 5 years, the value of any real estate property will be amortized proportionally (i.e. 16,6%/year), impacting on the total own funds (but not on the CT1).

# Rules on Appraisals of Real Estate Properties

(1) As collateral

- Appraisals by an independent expert or internal independent unit:

- Accounting: every 3 years, by an independent expert or internal independent unit (3 months after the 1st defaults if the initial appraisal is more than 1 year old and LTV>75%; Notices 5/2007 and 5/2006)
- Prudential: every 3 years, for residential properties and yearly for commercial properties, involving necessarily an appraiser whenever a significant change in the property value can be anticipated or every 3 years, for loans > 5% of own funds or properties > 500 k and 1M€ (residential and commercial, respectively)
- Impacts –
  - Downward revisions => increase in LTVs => higher capital charges (risk weight of 35% for residential loan amounts up to LTV of 75% and 50% for commercial real estate loan amounts up to LTV of 50%; 75% and 100% for amounts above, respectively).

# Rules on Appraisals of Real Estate Properties

(2) Deed in lieu of foreclosure

- Appraisals –
  - Accounting: at the time of deed in lieu and every 3 years afterwards (or more frequently, if requested by the BdP or a significant price fall is anticipated)
- Impacts –
  - Downward revisions => impairments => impact on P&L
  - Upward revisions => the balance sheet value is kept, as potential gains are not recognized.

(3) Consolidated Real Estate Investment Funds (CMVM Regulation 2/2015)

- Impacts – Price devaluations impact on the bank's P&L, through real estate prices (if funds are consolidated) or through the participation units.