

Master in Monetary and Financial Economics

Banking and Insurance

Exam – 30 January 2018

Time: 2h

1. Identify the main pros and cons of debt in the economy and the measures available to authorities to tackle potentially excessive debt increases. (3,0/20)

- The relevance of FIs is in a large extent related to the importance of debt in the economy.
- In a “perfect” economy, **economic agents should be indifferent in the choice between capital and debt** (Modigliani and Miller theorem (1958)).
- Debt stems from markets’ and contracts’ imperfections, as well as from taxation.
- Debt is socially useful => excessive debt is economic pollution
- Macroeconomic consequences, e.g. current account and govt deficits
- Building a less credit-intensive economy:
 - o Interest rate increases by central banks to tackle excessive credit growth, even before inflation is increasing.
 - o Develop more holistic policies, to tackle issues like urban development, inequality, taxation (to reduce the bias in favor of debt and against equity).
 - o Higher capital requirements for banks.
 - o Use reserve requirements to limit banks’ money creation ability.
 - o Revise the role of monetary policy and credit in money creation
 - Better balance between public and private money creation – **printing money, under strict rules, may be a better alternative than allowing for excessive credit growth.**
 - Improve the relationship between monetary policy and credit directions, reinforcing mechanisms to channel liquidity to targeted economic activities (e.g. targeted liquidity injections as in UK during the current decade).
- Consolidate macroprudential policies, but taking into consideration the potential long-term benefits of financial inclusion:
 - o limits on LTV or DTI;

- more comprehensive and harmonized definitions of income, considering the expected permanent income (also after retirement, if the maturity exceeds the expected retirement date) and all debt obligations, living expenses, taxes and any anticipated expenditures (e.g. tuition for education);
- stressed and steady-state debt service definitions;
- regular and independent appraisals of real estate collaterals, with individual reviews for higher LTVs and amounts;
- publication of financial stability reports.

2. Characterize the evolution of bank credit in the first decade of the current century in the Portuguese financial system, as well as its main impacts. (3,0/20)

- Credit growth reached high levels during the first decade of the century.
- Before the subprime crisis - aggressive strategies in housing loans, reducing spreads and increasing LTVs => one of the highest homeownership rates worldwide => indebtedness level of households increased until 2009, mostly due to house purchase ...
- Concerning non-financial companies, indebtedness also increased significantly.
- Increase in the credit exposure to the real estate sectors crowded-out credit to other economic sectors.
- Macroeconomic consequences, e.g. current account and govt deficit
- Non-performing loans increased significantly since 2008.
- 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.

3. According to the Bank of Portugal (Financial Stability Review, June 2017):

“Expectations of a protracted low short-term interest rate environment remain, with the consequent pressure on financial sector profitability (...)”.

Please comment this quote, describing the relevance of interest rate risk for banks and the main techniques you could use to assess it, characterizing this risk in the Portuguese banking system. (3,0/20)

- sources of interest rate risk: new flows and repricing of already existing assets
- positive interest rate gaps, due to large volume of loans indexed to short-term interest rates

Measurement:

- earnings-at-risk
- interest rate gaps:
 - o static vs dynamic
 - o marginal vs cumulative
 - o behavioural assumptions behind all gaps

4. Assess the main reasons why significant capital increases were done during the current decade in the Portuguese banking system, also describing the role of capital for banks. (4,0)

- capital is the buffer for unexpected losses, protecting depositors and taxpayers
- capital increases due to losses and more demanding requirements – Basel III and EFAP
- losses mostly due to impairments (loans and real estate) and the decreasing NII

5. Identify the main indicators usually considered to characterize the aggregate credit risk of a bank's balance sheet and the impact of this risk on profitability. (3,0)

- credit risk impacts on profitability through impairments and lower NII
- this may trigger higher costs of funding

▶ 2 different dimensions:

- level of problem loans
- level of coverage of problem loans by provisions

Simplest measures only consider installments past-due, excluding the remaining EAD and the restructured loans: 30/60/90 days past due (DPD) capital and interest (as % of total credit) =>

- 30 days past-due was the credit risk ratio usually focused and used in Portugal.

- (ii) Some countries opted for less strict ratios – 60 or 90 DPD.
- (iii) 1st measure in Portugal including restructured loans: Credit at risk (Instruction No.16/2004, 16 Oct., changed by Instruction No.23/2012, 16 Aug.) => Banks have to disclose this indicator in public information on credit risk, that includes:
 - (iv) Past due loans over 90 DPD;
 - (v) Restructured credit, when restructuring occurs after 90 DPD and doesn't involve neither the payment of any past due capital or interest, nor additional guarantees.
 - (vi) Texas ratio
- ▶ Instruction No.22/2011, 17 Oct. (changed by Instruction 18/2012, 15 May) – prudential report on credit at risk, detailing the several components of the ratio.
- ▶ Instruction No. 18/2012, 15 May (replaced by Instruction No. 32/2013, 15.01.2014) - rules on identification of restructured loans.
- ▶ 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, 24 July 2014)
 - ▶ 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.

6. Characterize the main changes brought by Basel II and Basel III regarding solvency and liquidity. (4,0)

- Basel II – op risk. internal models to credit and op risk and pillars II and III
- Basel III:
 - o solvency – higher requirements with several buffers, including for SIFIs, O-SIFIs, leverage ratio
 - o liquidity – new ratios