Theory of Banking

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Coordinates

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Evaluation

- *Students' presentations, weight = 50 % of final grade, only if the exam is taken in the summer session*
- *Written exam, weight = 50 % of final grade in the summer session, 100% in all other sessions*

- *There is a pre-exam, on Wednesday April 5th, 2017 at 14:00*
- *Pre-exam and summer exam are exclusive*

Outline of the course

- Financial intermediaries: existence, their role in the economy, some economic effects of their presence
- Bank runs, financial crises and financial regulation
- Private banks, Central banks and monetary policy: instruments and transmission
- An overview of the 2007-2009 financial and banking crisis

Financial intermediaries: existence and activities

What is a bank?

Banks in the General Economic Equilibrium approach

On existence of financial intermediaries (Why do banks exist? What types of functions do they ensure in economic systems?)

Financial intermediaries: their role in the economy

Macroeconomic effects of financial intermediation:

- equilibrium credit rationing
- bank runs and crises
- the role of the interbank market

An introduction to regulation problems

Banks, financial crises and regulation

Monetary policy: central banks, instruments and objectives

The transmission mechanisms of monetary policy: from financial to real sector

The financial crisis of 2007-2009: facts and interpretations

The policy actions to solve the 2007-2009 crisis

Features and Functions of banks

- Banks collect deposits and other liabilities from the public and grant loans to firms, households and other agents

Banks ensure different functions

- They supply liquid liabilities
- They manage of the payment system
- The supply credit to finance investment and consumption
- They issue maturity transformation services, linking sectors in surplus to sectors in deficit

Fragility and crises

- Banks ensure useful functions but are fragile
- Bank crises are an *old story*
- Why do they take place?
  Deterioration of loan quality and borrowers' default
  Runs on deposits
- Bank crises have often been interconnected to currency crises, asset prices slowdowns, sovereign debt crises

Crises and Regulation

- Whatever the explanations of bank crises, economists agree that they have negative effects on the economy

- Bank regulation has the objective to prevent bank crises and to manage them when they occur

- The financial crisis of 2007-2009 has reopened the debate on bank regulation.

- Critical issues: new rules for intermediaries (Basel 3), (unconventional) monetary policy measures, extension of the lender of last resort function

References for the course

- F. Allen and D. Gale, *Understanding financial crises*
- J. Tirole, *The Theory of Corporate Finance*
- X. Freixas and J.C. Rochet, *Microeconomics of Banking*
- Articles and supplementary reading material discussed in class and/or posted on the course webpage

What is a bank?

Banks are institutions whose current operations consist in granting loans and receiving deposits from the public

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- Describe the distinctive features of banks by looking at some characteristics of their balance sheets
- Introduce notions and concepts useful for the course

Banks and other financial intermediaries

- *Caveat:* in financial systems, there are not only banks
- There are also other – non-bank – financial intermediaries
- They *do not collect deposits* from the public but grant loans to the economy or/and manage securities on their own or on behalf of customers

Non-bank financial intermediaries

1. *Factoring companies and Consumer credit*, that grant credit to the economy without collecting deposits
2. *Investment banks*, that finance themselves by raising funds from other intermediaries and invest in securities
3. *Mutual funds*, that pool investors' money to purchase financial assets (bonds, shares) or non-financial assets (real estate)
4. *Special Purpose Vehicles*, that securitize assets
5. *Pension funds and insurance companies*, which cover consumers' risks

Commercial and Investment banks

- Investment banks – such as Goldman Sachs, or the old Lehman Brothers – do not collect deposits from the public and do not grant credit to the economy

- On the liability side, they finance themselves by collecting funds from other intermediaries; on the asset side, they manage bonds on behalf of customers and on their own.

- Throughout the course we deal with commercial banks

The balance sheet of banks

- Now, let's turn to the structure of commercial banks' balance sheet

- Focus on main assets and main liabilities

- Asset and liability composition varies across countries

Composition of bank balance sheets in large euro-area countries: Assets
(ratio of main items to total assets, end-2010)

	Euro area	Germany	Spain	France	Italy
Loans	0.64	0.65	0.69	0.60	0.66
Loans to households	0.17	0.17	0.25	0.13	0.16
of which:					
*of which: for house purchase**	*0.12*	*0.12*	*0.19*	*0.10*	*0.09*
*consumer credit**	*0.02*	*0.02*	*0.02*	*0.02*	*0.02*
*other**	*0.03*	*0.03*	*0.03*	*0.01*	*0.05*
Loans to firms	0.15	0.11	0.26	0.11	0.23
Loans to monetay financial institutions	0.23	0.26	0.12	0.28	0.13
Non-equity securities	0.23	0.26	0.12	0.28	0.13
of which:					
*issued by non-residents**					
*issued by governments***	*0.05*	*0.04*	*0.05*	*0.04*	*0.07*
*issued by banks***	*0.06*	*0.08*	*0.02*	*0.06*	*0.06*
Shares and other equity	0.05	0.04	0.05	0.07	0.06
Other assets	0.12	0.14	0.08	0.17	0.10

Sources: ESCB harmonized statistics.

* Euro area resident counterparties.

** Euro area residents. Rounding may cause discrepancies in totals.

Italian banks: Assets

In Italy,

- loans to firms are more important than in other countries
- interbank linkages are smaller
- portfolio of securities is smaller, but the portion regarding Italian government bonds is relatively high

Balance sheet: Liability

- Deposits are a distinguishing feature of banks' balance sheet, they may take different forms
- The liability side of the banks' balance sheet varies across countries, as well

- While they typically appear as current accounts, in recent years repurchase agreements (i.e. *repos*) have increased a lot, mostly for investment banks

What is a *repo*?

- Repurchase agreements (repos) are financial contracts used by intermediaries
- Contractual parties: the bank (the borrower) and a lender, that may be another financial institution
- The lender deposits liquidity at a bank and in exchange for this cash, it receives bonds as collateral that guarantees the deposit
- Repos are a key form of collecting (short-term) funds for investment banks and have been particularly important in the 2007-2009 crisis

Composition of bank liabilities in large euro-area countries
(ratio of main items to total liabilities, end-2010)

	Euro area	**Germany**	**Spain**	**France**	**Italy**
Deposits of residents in euro area	0.51	0.54	0.64	0.44	0.55
of which:					
of banks	*0.18*	*0.18*	*0.13*	*0.21*	*0.17*
of other sectors	*0.33*	*0.36*	*0.50*	*0.22*	*0.38*
current accounts	*0.12*	*0.13*	*0.15*	*0.07*	*0.20*
deposits with agreed maturity	*0.13*	*0.14*	*0.33*	*0.08*	*0.06*
deposits redeemable at notice	*0.06*	*0.07*	*0.00*	*0.07*	*0.07*
repos	*0.01*	*0.01*	*0.02*	*0.01*	*0.04*
Debt securities issued	0.15	0.17	0.12	0.14	0.21
Capital and reserves	0.06	0.05	0.08	0.06	0.09
Other liabilities	0.14	0.16	0.07	0.23	0.10
Liabilities towards non residents	0.13	0.09	0.08	0.13	0.05
Total liabilities	1.00	1.00	1.00	1.00	1.00

Italian banks: Liabilities

In Italy,

- current account deposits are greater than in other countries, while other forms of deposits are smaller (past inflation)
- Italian banks issue more bonds than banks in other national systems
- the weight of (capital+reserves)/total assets is greater than in other countries, i.e. leverage is lower

Leverage – normally measured by the ratio of total assets to capital and reserves – was a key problem during the 2007-2009 crisis

Financial Indicators

There are also differences between countries in banking and financial indicators such as:

- the ratio of bank credit to GDP,
- the ratio of bank deposits to GDP,
- the ratio of stock market capitalization to GDP.

These indicators are used to measure bank development across countries and/or to compare bank business with the size of financial markets.

Size of banking indicators in the large euro-area countries
(end-2010 stocks as percentage of GDP for the year)

	Euro area	Germany	Spain	France	Italy
Total assets	3.50	3.32	3.27	4.02	2.45
Loans to households	0.56	0.57	0.83	0.52	0.38
of which: for house purchase	*0.40*	*0.39*	*0.63*	*0.40*	*0.23*
consumer credit	*0.07*	*0.07*	*0.06*	*0.08*	*0.04*
other	*0.09*	*0.11*	*0.12*	*0.04*	*0.11*
Loans to firms	0.51	0.36	0.86	0.43	0.57
Deposits	2.19	2.07	2.39	2.29	1.47
memo: Total bank assets/financial assets of entire economy		0.32	0.31	0.29	0.29

Sources: harmonized statistics of ESCB; Eurostat. Loans are to counterparties residents in euro area.

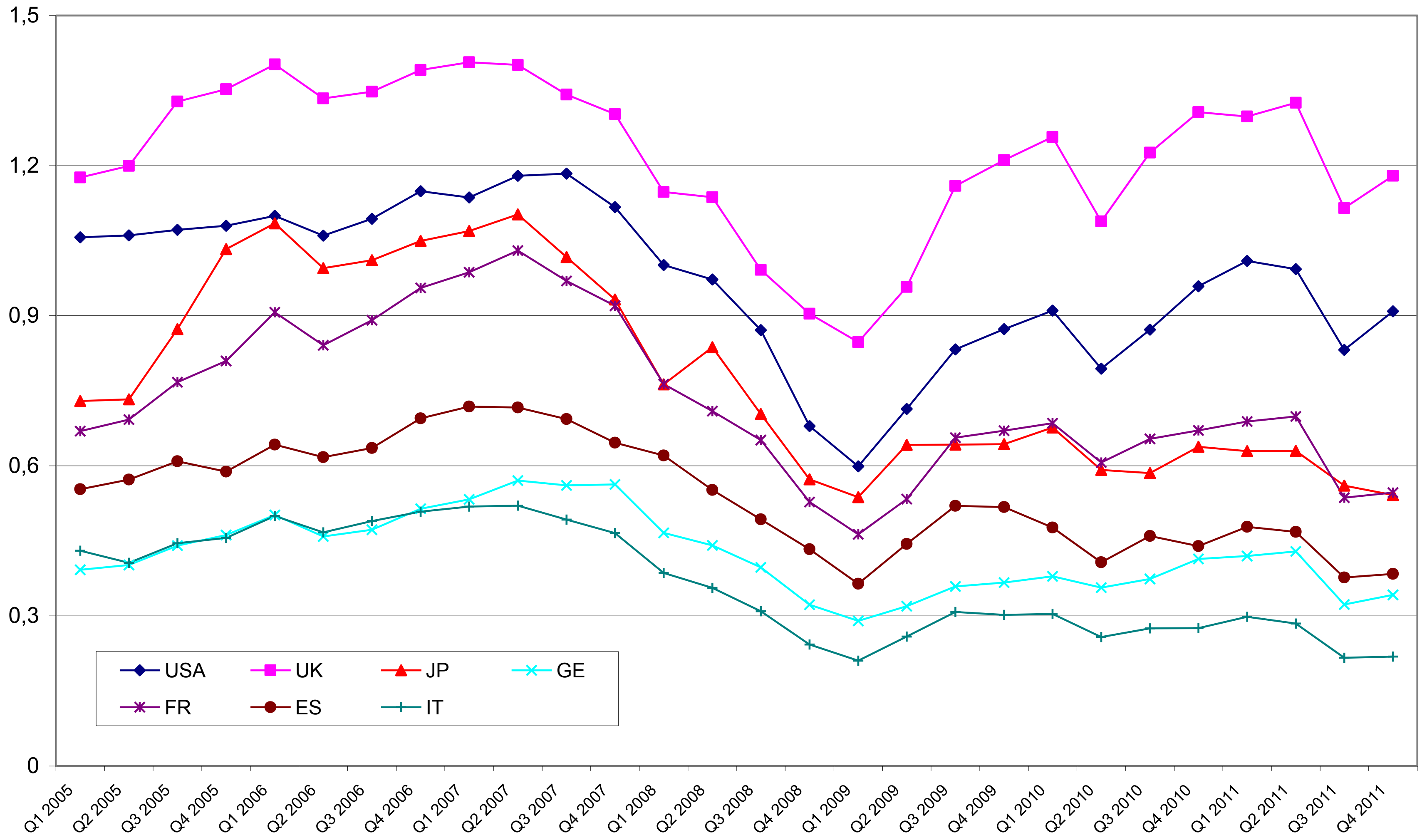
Financial indicators for Italian banks

In Italy,

those indicators are generally smaller than in other countries, with the exception of the ratio of credit to firms to GDP

This is probably related to the smaller size of the Stock Exchange and the diffusion of small and medium firms, which are highly dependent on bank credit

Stock market capitalization: ratio to GDP



Different financial systems

Different financial systems

- Capitalism takes different forms in industrial countries and the same happens to financial systems

- A very rough guide for our purposes distinguishes financial systems as follows:
  - Anglo-Saxon countries, i.e. US and UK, in which the stock market exchange is large and investment banks are very important
  - Continental Europe, i.e. Italy, France, and Germany, often classified as bank based countries with universal banks
  - Japan has its own characteristics

A final consideration

Theory of banking focuses on banks… however, it is important to bear in mind that the size of stock exchange markets, the presence of non-bank financial institutions and other economic features interact with commercial banks