Leverage, svalutazioni e requisiti patrimoniali*

Emilio Barucci

Politecnico di Milano

28 Gennaio 2009

*Parte del materiale qui presentato è tratto da contributi di diversi autori che compariranno in ‘‘Oltre lo shock: dal caos alla stabilità dei mercati finanziari’’, Marzo 2009, a cura di Emilio Barucci e Marcello Messori.

Plan of the presentation

1. An interpretation of the crisis

Mispricing and inefficient allocation of risk

Securitization of bank assets

High leverage

Capital requirements and risk

2. Quantitative methods problems
3. Perspectives
4. Conclusions

1. An interpretation of the financial crisis

Many causes behind the crisis (weak regulation, monetary policy), but:

1. Mispricing and inefficient allocation of risk
2. Securitization of bank assets
3. High leverage of commercial banks, investment banks, hedge funds
4. Capital requirements are not effective to capture risk (both Basel I and Basel II).

1.1Mispricing and inefficient allocation of credit risk

Securitization didn't work:

Moral hazard and adverse selection

Pooling and tranching allowed to build "safe" assets

Fictitious market created by rating agencies: institutional investors (AAA constraint) and banks (spread, rating and regulatory arbitrage, small margins of traditional actviity) —>bubble

Too simple rating models

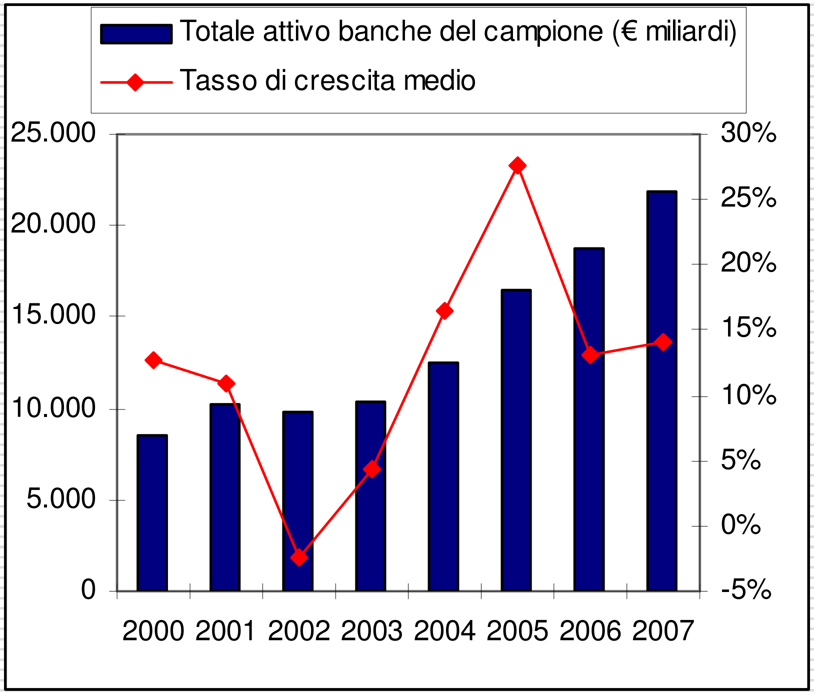
Free lunch in the economy,no systemic risk

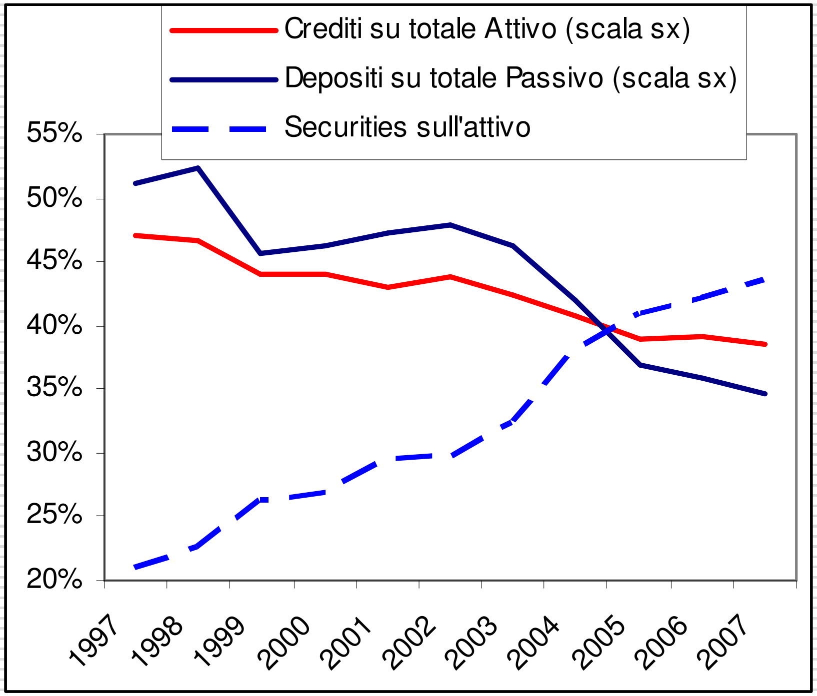
Risk remained inside financial intermediaries (banks, hedge funds, investment banks, SIV): 50% of ABS

1.2 Securitization of bank assets

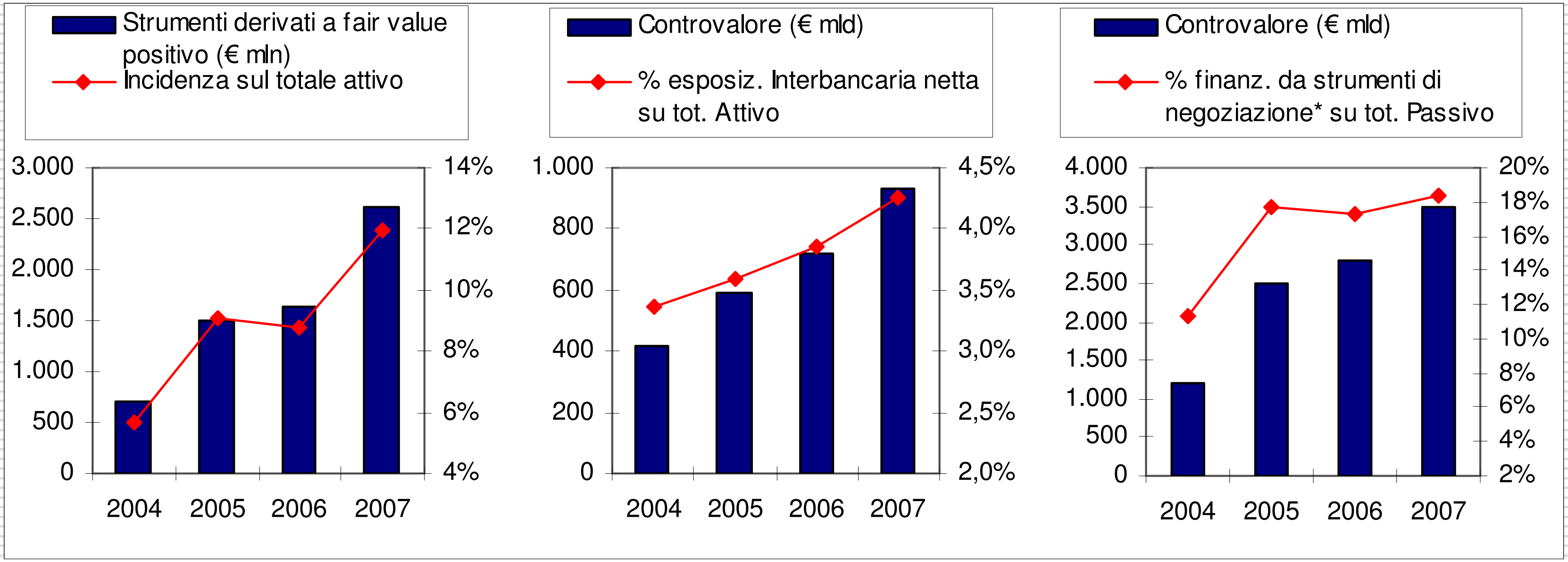
- Disintermediation of commercial banks: interest rate margin shrank during the last ten years—>proprietary trading, short term funds, derivatives, repo funding, bonds, risk derivatives
- Assets on both side of the balance
- High ROE comes form non traditional actvities and leverage

Growth of commerical bank balance and de-intermediation





Fair value of derivatives, interbanks exposure, assets funding



1.3 High leverage

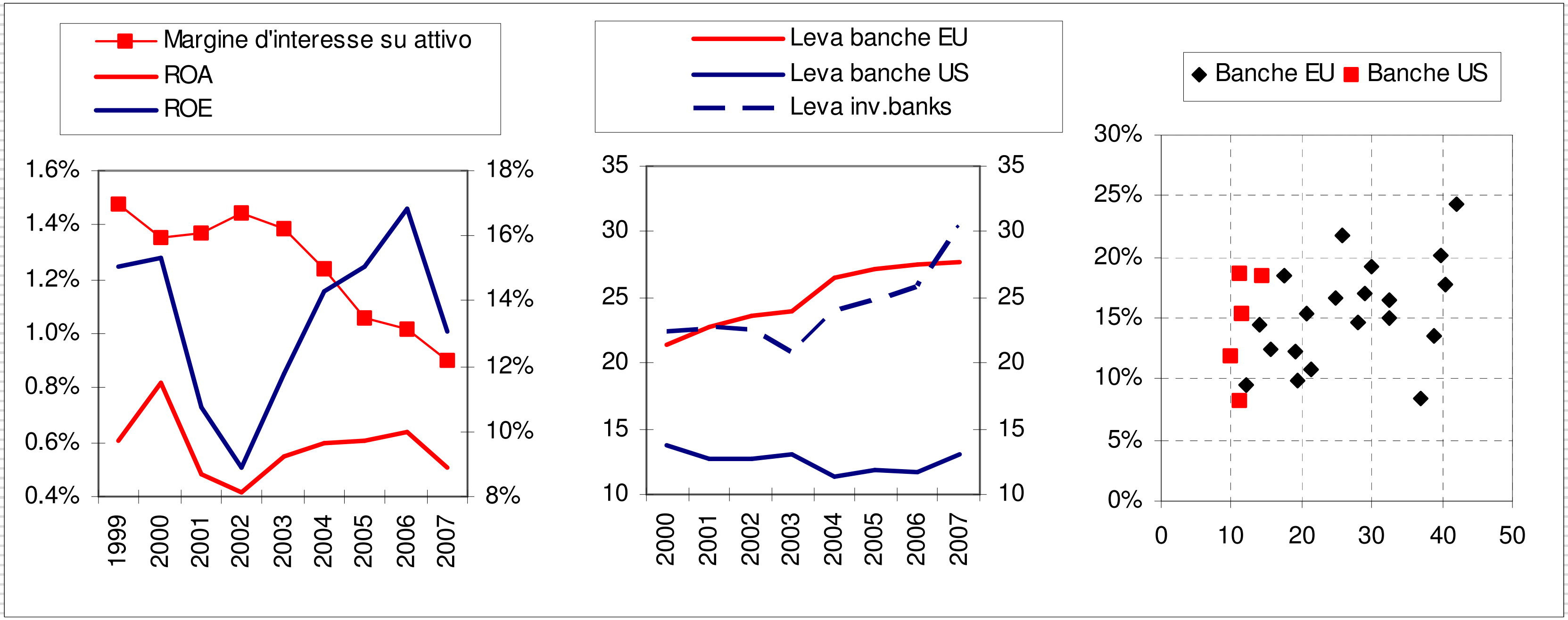
Two mechanisms:

1. Constant leverage: positive correlation between debt and balance size —> buy assets when the market goes up
2. VaR targeting: leverage ratio itself is procyclical

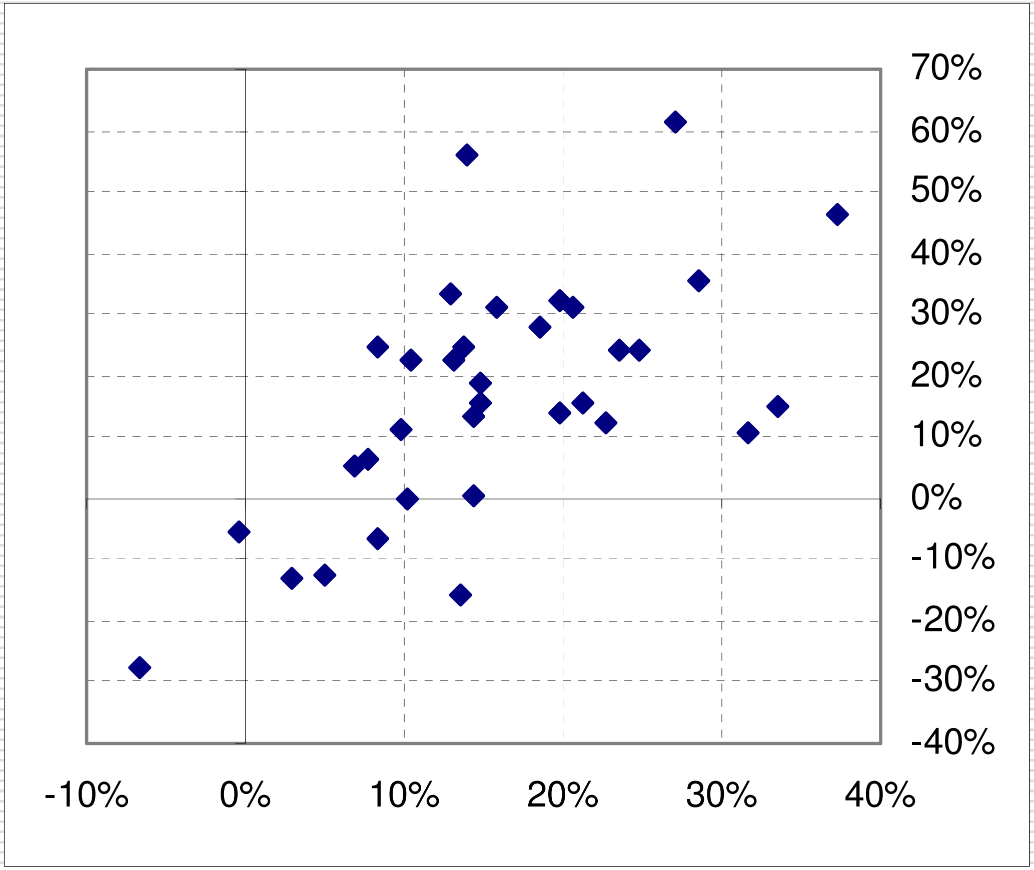
Asset backed funding, short term, unofficial leverage

The mechanisms have worked also during the crisis: sell assets when the market goes down

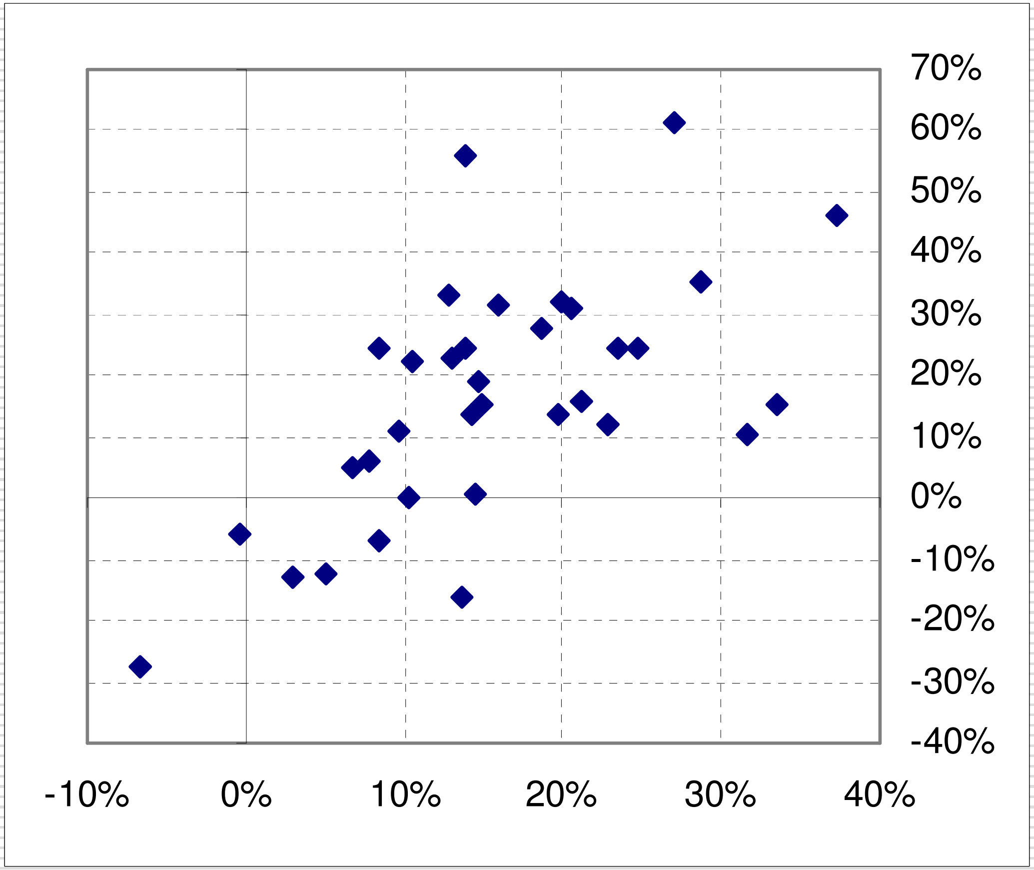
Profitability of commerical banks and leverage



Investment banks: growth of balance sheet and leverage



Growth of Repo and balance sheet



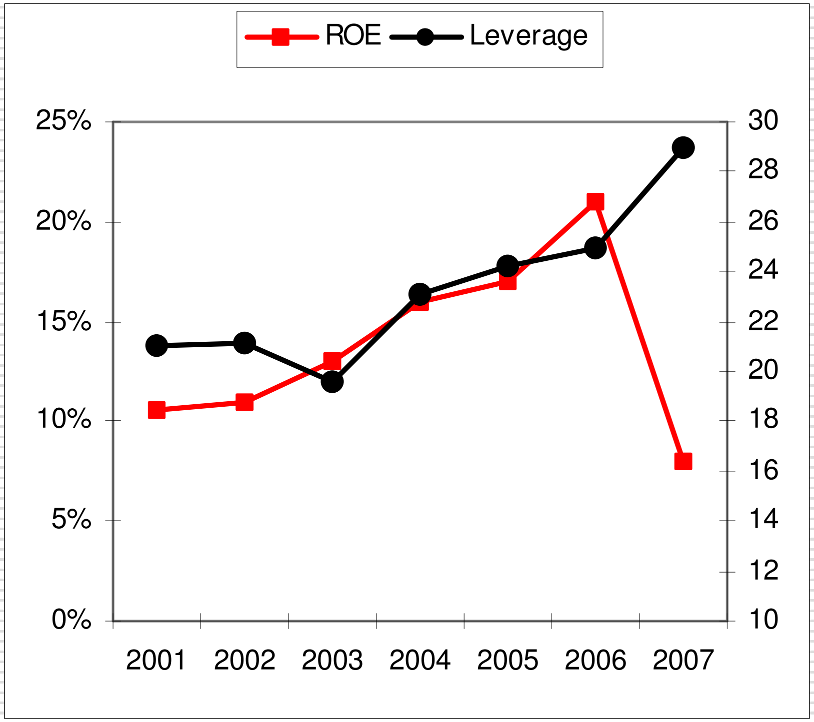
1.4 Capital requirements are not effective to capture risk

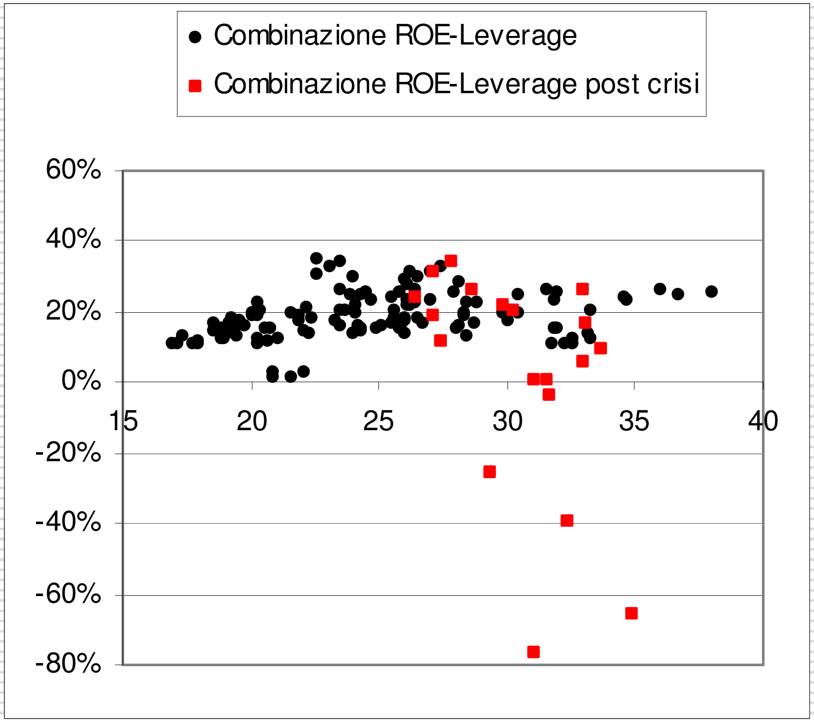
Regulation ineffective at two levels:

1. Investment banks were regulated weakley
2. US Commerical banks according to Basel I but with a leverage constraint
3. EU Banks Basel I and tehn Basel II
4. Hedge funds: no regulation
5. SIV and Conduits unregulated

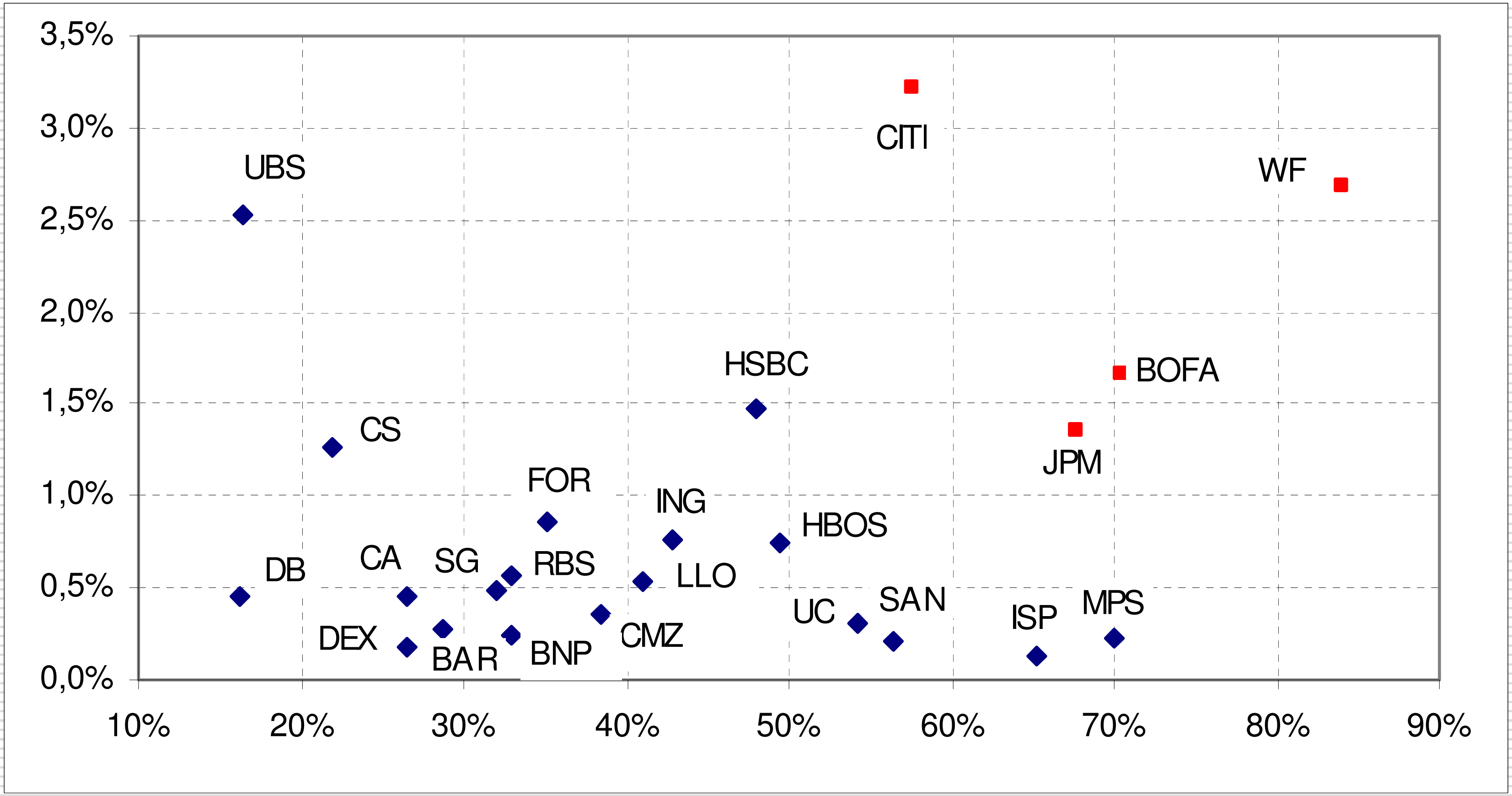
—>High leverage, correlation return and leverage, negative correlation between safe capital and losses

Relation between ROE and Leverage





Losses(/balance sheet) and safe capital



2. Quantitative methods problems

1. Intrinsic limits of the Basel II approach (connection of capital requirements to risk)
2. Limits of VaR to capture credit risk
3. Endogeneity in crisis periods
4. Liquidity risk
5. Systemic risk
6. Mark to model
7. Role of risk management inside trading and sale unit
8. Remuneration.

3. Perspectives:

1. Methodology: more sophisticated and more robust, supervision on regulatory effects, towards proprietary models
2. Organization: models aiming at reducing costs did not work, more integration of risk units,
3. Regulation: Basel II approach should be reinforced with a cap on leverage and strong antitrust action
4. Markets: no limit on financial engineering, rating agency regulation, limit over the counter.

4. Conclusions: where do we stand?

The financial crisis is not ended

Suspension of market rules (short selling, fair value, IAS) are dangerous in the long run

More concentration

State intervention is opaque

Bank of International Settlements revisions of Basel II are in the right direction, still lacking a clear route on risk management

Organization of banks is going to experience transformations (no separation by law)

Regulation of markets is still lacking.