Prudential Responses to Credit Growth.

The case of Spain

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Financial Stability, Central Banking and Supervisory Challenges

September 6 2005, Washington D. C.

Outline

- **Motivation**
- **Supervisory concerns**
- **A prudential tool: dynamic provisioning**
  - Rationale
  - Mechanism
  - Simulation
- **IAS vs US GAAP**
- **Conclusions**

Motivation

- **Banks' lending mistakes are more prevalent during upturns**
  - Borrowers and lenders are overconfident about investment projects (i.e. financing NPV<0 projects)
  - Banks' over optimism implies lower credit policy standards
- **During recessions, banks suddenly turn very conservative and tighten credit standards (well beyond NPV>0)**
- **Banks' managers during booms:**
  - overweight concerns regarding type 1 lending policy errors (i.e. good borrowers not getting a loan)
  - underweight type 2 errors (i.e. bad borrowers getting financed)
- **The opposite happens during recessions**
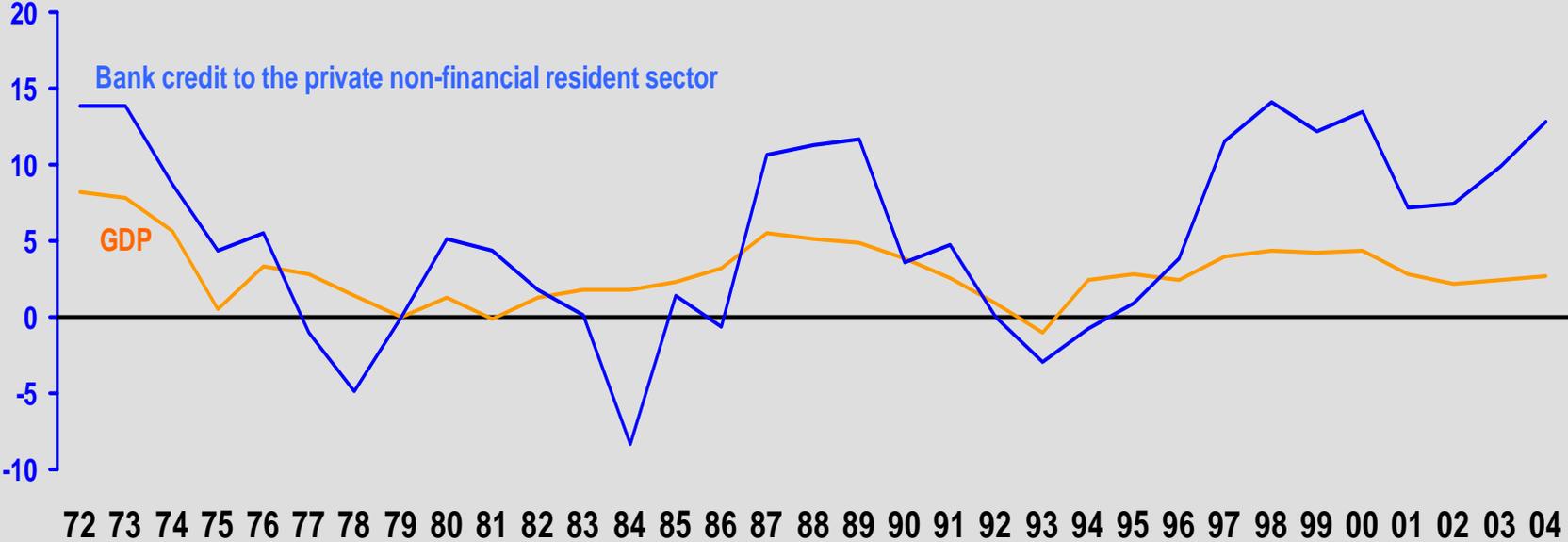
Motivation

- **Main arguments to rationalise fluctuations in credit policies based on information imperfections:**
  - Disaster myopia, Guttentag and Herring (1984)
  - Herd behaviour, Rajan (1994)
  - Agency problems, Williamson (1963)
  - Institutional memory hypothesis, Berger and Udell (2003)
- **Increasing competition makes things worse**
- **Collateral might also play a role in credit cycles**
  - Loan booms are intertwined with asset booms

Credit cycles in Spain

LONG-TERM BEHAVIOUR OF CREDIT
CREDIT AND GDP ANNUAL REAL GROWTH RATES

Bank credit to the private non-financial resident sector

GDP
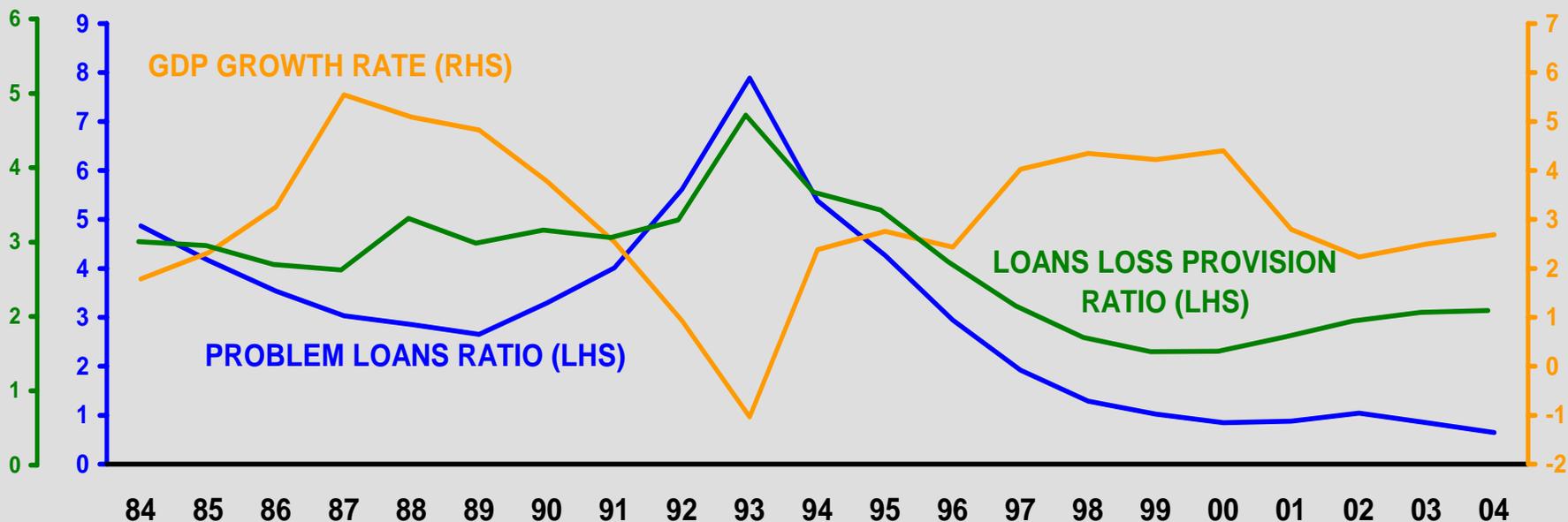
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Supervisory concerns

- **Strong credit growth in Spain the second half of the 90s**

- **Fierce competition in bank lending**

  - lower quality of borrowers and/or risk's underpricing

  - potential herding behaviour (even conservative managers)

- **Loan loss provisions to total credit were decreasing since 1994**

  - In 1999 lowest ratio across OECD countries

  - correlation with GDP -0.96 (i.e. totally backward looking)

- **Empirical evidence that credit growth affects problem loans with a 3/4-year lag**

- **We thought that one way to address this issue was through loan loss provisions**

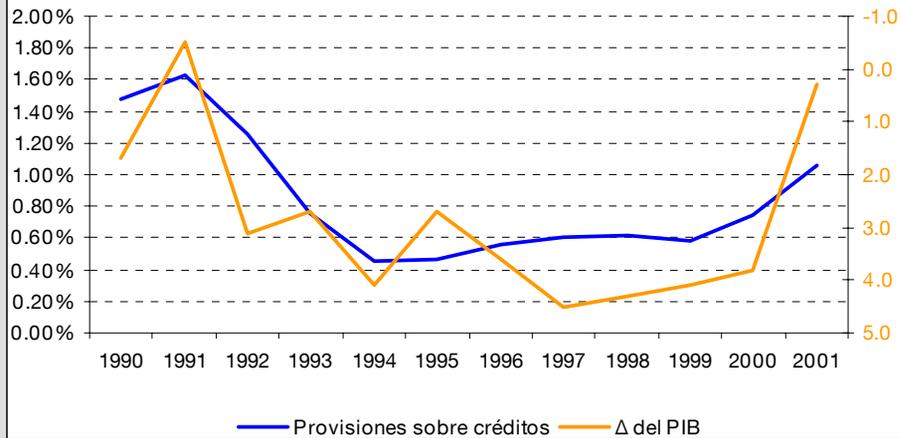# Loan loss provision ratio, problem loans ratio and GDP growth rate

LOANS LOSS PROVISION RATIO, PROBLEM LOANS RATIO AND GDP GROWTH RATE

GDP GROWTH RATE (RHS)

PROBLEM LOANS RATIO (LHS)

LOANS LOSS PROVISION RATIO (LHS)

Loan loss provision ratio US vs Spain

EEUU -Bancos-

— Provisiones sobre créditos	— Δ del PIB

España -ED-

— Provisiones sobre créditos	— Δ del PIB
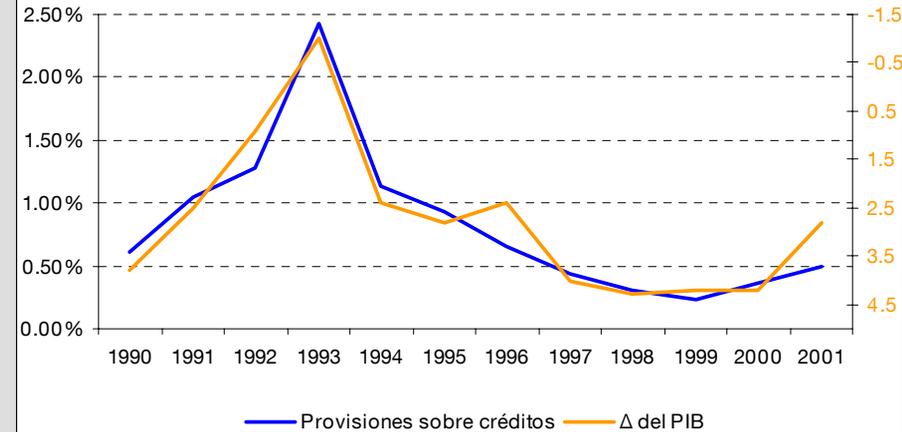
A prudential tool

- **We developed a new prudential provision to address the credit risk that builds up during credit boom periods**
- **That tool is a dynamic provision**
  - From July 2000-December 2004: the statistical provision
  - Since January 2005: the new general provision
- **It is based on the cyclical position of the economy:**
  - In good times, when problem loans and specific provisions are low, the larger the dynamic provision
  - In bad times, when problem loans and specific provisions are high, the dynamic provision can liberate funds from the previously built reserve
- **In boom periods the dynamic provision is positive, negative during recessions**
- **The underlying idea is quite simple:**
  - In good times banks increase embedded credit risk, thus, a higher loan loss provision is required to account for that increase in risk

Current loan loss provisions

- **Specific: Provisioning matrix**
- **General**
  - Not EL model
  - Incurred (and already identified in a particular loan)+ collective assessment (incurred but not yet identified)
  - Macro motivation
  - Only for business of Spanish banks in Spain
  - Annex; IAS text as main text.
  - Experience for average bank
  - Full cycle

Mechanism

Only one general fund with two components:

       1) to cover the inherent loss

       2) prudential and countercyclical component

At an aggregate level, we will have:

$$dot.gen_t = \alpha \Delta C_t + (\beta - \frac{dot.espe_t}{C_t})C_t$$

C_t is the stock of loans and ΔCt its variation

α covers the inherent loss

β is the average specific provisions for a long period of time

Mechanism

The former formula is a simplified way of presenting things

In fact, α and β are assigned according to the six risk buckets or six homogeneous risk categories

The parameter vectors are:

(0%; 0.6%; 1.5%; 1.8%; 2%; 2.5%) for α

(0%; 0.11%; 0.44%; 0.65%; 1.1% y 1.64%) for β

Six homogeneoud groups:

1. zero risk (cash, public sector debt)
2. home mortgages with LTV below 80%, corporates with rating A or above
3. loans with real gauarantees and home mortgages with LTV above 80%
4. rest of loans, including corporates and SMEs
5. consumer durables financing
6. credit cards and overdrafts

Mechanism

The formula of the new general provision is:

$$dot.gen_t = \sum_{i=1}^{6} \alpha_i \Delta C_{it} + \sum_{i=1}^{6} \left(\beta_i - \frac{dot.espe_{it}}{C_{it}} \right) C_{it} = \sum_{i=1}^{6} \alpha_i \Delta C_{it} + \left(\sum_{i=1}^{6} \beta_i C_{it} - dot.espe_t \right)$$

In good times, when loan portfolios are growing rapidly and specific loan loss provisions are low, the general provision increases as the amount of the inherent risk is increasing plus the cyclical effect of low current specific provisions versus an average loss along the cycle.

We have confirmed empirically, with Credit Register data, the well known fact among supervisors that lending in good times is riskier than that in bad times. Thus, the general provision takes that into account.

Mechanism

The new general fund is bounded upward and downward

The maximum is relatively low: 1.5% of total loans

The minimum amount is more flexible: 0.4%

In fact, the limits are set at +25% and -66% of the inherent loss for each bank

The general provision is set aside until the bank reaches the former (except for the increase in the limit)

If the general provision is negative, the general fund can be depleted only until it reaches 0.4% (the inherent risk does not dissapear in recessions)

A simulation exercise

- **Initial expansionary phase (first 2 years)**
- **Slowdown (from year 3 on)**
- **Recession (around year 7)**
- **Economic growth resumes again (from year 8 onwards)**
- **Traditional provisioning system:**
  - specific plus general
  - procyclical, dominated by specific provisions
- **New provisioning system:**
  - Specific plus new general (i.e. including dynamic component)
  - Still procyclical, but much less as the general fund is used during the slowdown
  - When we had the statistical provision, total loan loss provisions were flat along the cycle

Provisions (left) new general fund (right). % loans

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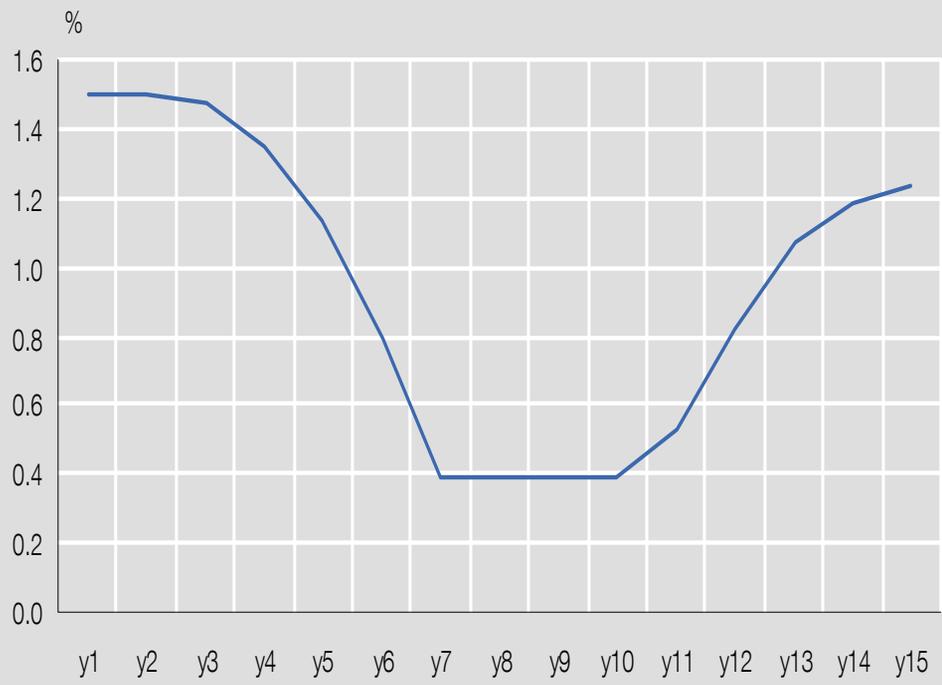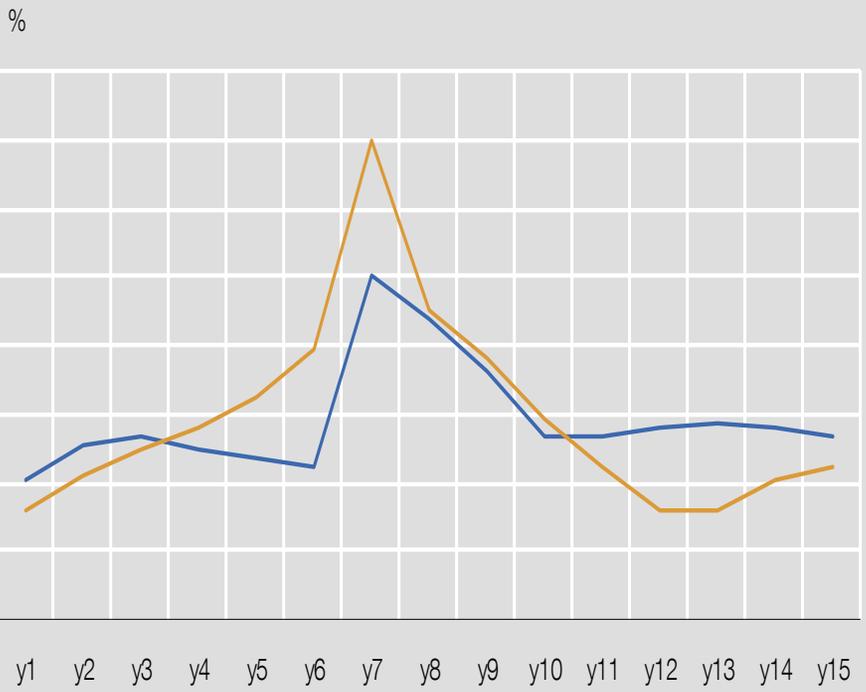
Rationale for the statistical provision

- **1) To acknowledge the inherent or latent loss as a cost**
  - *better risk management and prudent accounting*
- **2) To counterbalance the excessive procyclical behavior of the existing LLP**
- **3) To correct the excessive cyclical bias in profits:**
  - *Low (high) LLP in the upturn (downturn) may overstate (understate) profits*
  - *Bank profitability and solvency could be distorted:*
    - overvaluation of dividends, erosion of capital
- **A second instrument to maintain systemic financial stability, with countercyclical characteristics to check bank lending (Goodhart) ...**
- **...in the sense that the incoming inherent risk is properly accounted for through this general provision**

Transparency

- **Banks are required to disclose yearly the amount of the dynamic provision, apart from the specific provision**

- **Thus, users of accounting statements can "unwind or undo" the impact of the statistical provision on the P&L**

- **Transparency and prudential regulation complement each other**

IAS

- **Accountants never liked the total smoothing effect along the cycle of the former statistical provision**

- **IAS are being applied in the EU since the beginning of 2005**

- **The new loan loss provision (i.e. new specific and new general) we have developed:**

  - It is IAS compatible

  - LLP are not completely smooth out along the business cycle

  - Although total LLP are high in boom periods, the maximum is reached around the recession, when impaired assets are also at their maximum

IAS

- **IAS do not mean low level of provisions**
- **IAS considers two types of provisions**
  - for incurred and already identified losses on an individual loan
  - for homogeneous groups of risk, for incurred and not yet individually identified losses
- **Trigger events:**
  - Not only default,
  - also significant financial difficulties, adverse changes in the environment (i.e. increase in unemployment rate, decrease in property prices, industry conditions worsen) or in the personal situation of the borrower;
- **US GAAP also allow for generous collective provisions**

IAS vs US GAAP – Loan impairment

IASB	US GAAP
Standards: IAS 39	**Standards: FAS 5 & 114**
Incurred loss model	**Incurred loss model**
Impairment:	**Impairment:**
▪ **Individually evaluated for impairment**	▪ **Individually evaluated for impairment**
▪ **Collectively evaluated for impairment: incurred but cannot be individually identified yet**	▪ **Collectively evaluated for impairment: incurred but cannot be individually identified yet**

Groups of small balance items
    Loans assessed individually and not found to be impaired
	Large groups of smaller-balance homogeneous loans (excluded from individually evaluation)
	    Loan that are not identified for evaluation
	    Loans that are evaluated but are not individually considered impaired

IAS vs US GAAP – Loan impairment

IASB	**US GAAP**
Collective evaluation	**Collective evaluation**

Loans grouped on the basis of similar credit risk characteristics

Formula approaches or statistical methods may be used

Factors to consider:

    Historical loss experience or peer group

    Current observable data

    Portfolio delinquency rates

    ……...

Loans grouped on the basis of similar characteristics

Formula approach based on various factors:

    Past loss experience or peer group

    Recent economic events and current conditions

    Portfolio delinquency rates

    …….

Conclusions: Dynamic provisioning and financial stability

- **The Spanish statistical provision is a tool that helps to improve financial stability**

- **Provisioning of inherent credit risk**

- **Fosters better risk management**

- **Smooths excessive procyclicality of specific provisions**

- **Prudent accounting valuation**

- **Increases resilience of individual banks as well as the whole financial system during recessions**

- **Macro prudential instrument**

- **Improves medium term bank solvency**

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THANK YOU FOR YOUR INTEREST