Dynamic provisioning: a buffer rather than a countercyclical tool?

Santiago Fernández de Lis

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1. Why is the financial system procyclical and what can be done
2. Dynamic provisioning: how it works
3. Existing experiences:
   • Spain 2000
   • Colombia 2007
   • Peru 2008
4. Two simulation exercises
   • Asymmetric market discipline
   • GDP vs. credit in EMEs
5. Comparison between Spain, Colombia and Peru
Financial markets are procyclical by nature

- **Value of collateral**
  - Increases in good times (related wealth effects)

- **Risk assessment**
  - Lax in good times, harsher in bad times

- **Fair value accounting**
  - Value of portfolio increases in boom periods

- **Human capital**
  - Institutional memory of the last crisis is lost

- **Principal-agent problem**
  - Bonuses linked to business growth in good times and retrenchment in bad times

- **Banks: herd behavior**
  - Common trading techniques and homogeneous risk assessment

- **Pro cyclicality: Exacerbated by financial regulation?**

- **Investors: herd behavior**
  - Incentives are in relative, not absolute, terms
How can procyclicality be limited?
Rules vs Discretion

How to design counter-cyclical tools?

**Rules**
- Buffers depend on clear metrics
- Not dependent on judgment and not subject to influence or pressure

**Discretion**
- No fixed standards
- Bank regulator must judge the appropriate level of buffers in each case

- Better if policymakers’ commitment is not credible
- Key: requires accurate calibration of the business cycle

- Decisions adapted to economic and macroprudential conditions
- Depends on the quality and independence of the regulator
- Possible time-inconsistency
How can procyclicality be limited? Provisions vs Capital

What regulatory tool should be used?

Capital

- Goal: to create a buffer that protects banks from UNEXPECTED losses
- Recent regulatory efforts focused in capital ...
- ... but consensus points to both tools in the regulatory setting

- Basel III:
  - “Capital conservation buffer”: to be phased-in 2016 - 2019. Level: 2.50% in 2019
  - “Countercyclical buffer”: to be activated if excessive credit growth (0 - 2.5%)

Provisions

- Goal: to protect banks from EXPECTED losses
- Protection against cyclical losses fits better into the role of provisions (cycles are not unexpected). Credit mistakes are made in the good times
- Could be used to smooth profits (against transparency)

- FSB-IMF-BIS progress report to the G20 (27 October 2011) mentions dynamic provisions among other macro-prudential tools, but does not include specific recommendations
Dynamic provisioning: The theory

Normal provisioning

- Provisions depend on contemporary NPLs
- In the upturn: GDP and credit grow above potential, so does credit. Collateral prices rise. Low NPLs, low provisions
- In the downturn, the opposite

Dynamic provisioning

- Goal: to smooth provisions along the cycle and avoid procyclicality
- Aim: try to obtain a flat provisioning effort in terms of the ratio of provisions to credit
Experience in Spain (I): Why dynamic provisions?

**Euro adoption:** profound impact
- ECB Interest rates in the late 90s: very lax monetary conditions in Spain
- Acceleration of credit, GDP & inflation in the aftermath of monetary union
- Increase in house prices

**Increasing anxiety in the Bank of Spain**
- Monetary and exchange rate policies no longer available
- New regulatory tool needed
Experience in Spain (II): How were dynamic provisions established?

Objectives

1. To contain credit growth by increasing the cost (in terms of provisioning effort) of the granting of new loans
2. To protect Spanish banks from future losses as a consequence of the relaxation of lending standards typical of boom phases (buffer related to expected losses)

Functioning: 3 types of provisions

1. Specific provisions: depend on observed bad loans
2. Generic provisions: 1% of the credit stock
3. **Statistical provisions**: designed to offset specific provisions along the cycle. Depending on credit growth

Results

1. The system was criticized by international accounting bodies (implied profit smoothing) and Spanish banks (disadvantage vs their European peers)
2. By 2004 the accumulation of provisions was regarded as excessive: listed banks’ coverage ratio (provisions over bad loans) was 400% on average in December 2003) --- Reform
Experience in Spain (IV): How it really worked

Provisioning to credit and GDP
(As % of credit, left scale, and % GDP growth, right scale)

- 2000-2004: Statistical provisions more than compensated the decrease in specific provisions
- The reform in 2004 reduced the pace of accummulation (lower cap)
- Generic provisions smoothed the impact of the crisis in the early stages (2007-2010)
- ... but they increased again since 2010 (another reform)
- Overall, the anti-cyclical impact was smaller than expected, specially in the downturn

<table>
<thead>
<tr>
<th></th>
<th>Boom phase</th>
<th>Crisis</th>
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<tbody>
<tr>
<td></td>
<td>Years</td>
<td>Average credit growth</td>
</tr>
<tr>
<td>Expected</td>
<td>4</td>
<td>13%</td>
</tr>
<tr>
<td>Observed</td>
<td>8</td>
<td>16%</td>
</tr>
</tbody>
</table>
Experience in Spain (III): Reforms in 2004 and 2010

2004 reform

- Specific provisions
- Generic provisions: absorbs the old statistical provision

\[ \text{Generic provisions} = \alpha \Delta \text{Credit} + \beta \text{Credit} - \text{Specific provisions} \]

Where

- \( 0 \leq \alpha \leq 2.5\% \)
- \( 0 \leq \beta \leq 1.64\% \)

<table>
<thead>
<tr>
<th>Type of risk</th>
<th>( \alpha )</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>No apparent risk</td>
<td>0.0%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Low risk</td>
<td>0.6%</td>
<td>0.11%</td>
</tr>
<tr>
<td>Low-medium risk</td>
<td>1.5%</td>
<td>0.44%</td>
</tr>
<tr>
<td>Medium risk</td>
<td>1.8%</td>
<td>0.65%</td>
</tr>
<tr>
<td>Medium-high risk</td>
<td>2.0%</td>
<td>1.10%</td>
</tr>
<tr>
<td>High risk</td>
<td>2.5%</td>
<td>1.64%</td>
</tr>
</tbody>
</table>

Rationale:
- Generic provision would be higher with: 1) higher risk profile; 2) higher volume of risks; 3) higher growth of total risks; 4) lower specific provisions in the period

Caps and floors for generic provisions
1. Cap: 125% of Alpha x Total risk (before 300%)
2. Floor: 33% of Alpha x Total risk (before 0%)

2010 reform

- Recognition of expected losses: the period of recognition is shortened
  - The amount not covered is to be fully provisioned in 12 months (25% quarterly)

- Use of collateral
  - The value of the assets used as collateral in real estate loans is included in the calculation of the severity of the losses.
  - Haircuts to be applied between 20% (first residence) and 50% (land)
  - Floor reduced from 33% to 10%

- Repossessed assets
  - Banks are encouraged to clean up the value of repossessed assets
  - Banks must provision 10% of the asset’s value at repossession, 20% after 12 months and 30% after 24 months

Net impact of reform depended on each institution situation
Experience in Colombia

First model: 2007
1. Commercial and consumer lending (90% of all loans covered)
2. 3 types of provisions:
   • Individual: based on NPLs
   • Countercyclical: covers changes in borrower’s credit risk due to changes in economic cycle.
   • Generic: 1% of total loans
3. The supervisor decided which matrix of coefficients is used, depending on the cyclical position. Criticized for being highly discretionary.

Reform in 2010: rule-based mechanism
1. For commercial and consumption loans, individual provisions were broken down into two components, one procyclical and one countercyclical, with no generic component
2. The remainder of the loan portfolio (housing): individual and generic provisions (at 1% of total loans)
3. Countercyclical provisions depend on 4 indicators with clear trigger values for each of them:
   • Deterioration of the portfolio: ≥ 9%
   • Efficiency: ≥ 17%
   • Stability: 0% ≤ X ≤ 42%
   • Growth of the credit portfolio: ≤ 23%
4. If any of the four indicators is not met the bank must accumulate anticyclical provisions. If all four indicators are met the accumulated provisions can be run down.
Experience in Peru

- Context: credit boom after 2003
- Authorities decided to introduce business cycle-adjusted provisions to limit credit growth and to generate a buffer
- Cyclical provisions are activated or deactivated according to an automatic mechanism based on GDP growth
- Activated in December 2008 to September 2009, and again in September 2010 to date

Activation of cyclical provisions

Average of the y/y GDP growth rate of the last 30 months…

... goes from a level below 5% to one above it

... is already above 5%, and...

... the average of the y/y GDP growth rate of the last 12 months is 4 percentage points lower than the value of this average one year before

... the rule has been deactivated by rule B2 below for 18 months

Cyclical provisions are part of generic provisions, not related to individual loans and not tax deductible
Experience in Peru

<table>
<thead>
<tr>
<th>Type of debtor</th>
<th>Generic rate (%)</th>
<th>When the rule is not activated</th>
<th>Additional when the rule is activated (cyclical)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate</td>
<td>0.7</td>
<td>0.40</td>
<td></td>
</tr>
<tr>
<td>Large firms</td>
<td>0.7</td>
<td>0.45</td>
<td></td>
</tr>
<tr>
<td>Medium firms</td>
<td>1.0</td>
<td>0.30</td>
<td></td>
</tr>
<tr>
<td>Small firms</td>
<td>1.0</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>Micro firms</td>
<td>1.0</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>Consumer revolving</td>
<td>1.0</td>
<td>1.50</td>
<td></td>
</tr>
<tr>
<td>Consumer Non-revolving</td>
<td>1.0</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Mortgage</td>
<td>0.7</td>
<td>0.40</td>
<td></td>
</tr>
</tbody>
</table>
Based on initial simulations what happens if there are restrictions to the use of generic provisions to distribute profits in the bad times (asymmetric market discipline).

**Conclusions of the exercise:**

- Dynamic provisions, as originally designed, did not avoid procyclicality...
- ...but provided a cushion that was useful in the bad times.
- If dynamic provisions were meant to lead to a constant level of provisions over credit along the cycle, the constraints on profits distributions in the downturn need to be factored into the system.
Simulation exercise: 
Provisions based on GDP or credit

- Provisions based on GDP allow for financial inclusion in EMEs
- … but GDP is not a banking variable
- … and implies homogeneous treatment of banks, with implications for competition

![Graph: Provisions over credit, emerging country](image1)

- Based on Credit
- Based on GDP

![Graph: Provisions over GDP, emerging country](image2)

- BASED ON CREDIT
- BASED ON GDP
## Comparison between Spain, Peru and Colombia

<table>
<thead>
<tr>
<th></th>
<th>Spain</th>
<th>Peru</th>
<th>Colombia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduced</strong></td>
<td>July 2000</td>
<td>November 2008</td>
<td>June 2007 (commercial)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>June 2008 (consumption)</td>
</tr>
<tr>
<td><strong>Based on</strong></td>
<td>Rule: Credit (stock and growth)</td>
<td>Rule: GDP</td>
<td>Rule based in 4 indicators</td>
</tr>
<tr>
<td><strong>Discret/continuous</strong></td>
<td>Continuous</td>
<td>Discreet (on/off)</td>
<td>Continuous</td>
</tr>
<tr>
<td><strong>System vs. institutions</strong></td>
<td>Institution- specific</td>
<td>System-based</td>
<td>Institutions specific</td>
</tr>
<tr>
<td><strong>Thresholds</strong></td>
<td>Fund limits: 10%-125%</td>
<td>Potential GDP (5%) implicit minimum threshold. Change in GDP growth also plays a role</td>
<td>Implicit threshold in the provisioning coefficients set by the authorities</td>
</tr>
<tr>
<td><strong>Symmetry</strong></td>
<td>Yes, generic provisions can increase or decrease</td>
<td>Yes, “pro-cyclical” provisions can increase or decrease</td>
<td>The use of provisions in the downturn is subject to considerable constraints</td>
</tr>
<tr>
<td><strong>Use: individual or general</strong></td>
<td>General. Can smooth profits in the downturn</td>
<td>Can offset specific provisions. Indirectly can smooth profits in the downturn</td>
<td>Individual</td>
</tr>
<tr>
<td><strong>Amount</strong></td>
<td>Depends on specific provisions, credit level, credit growth and riskiness of portfolio</td>
<td>Depends on riskiness of portfolio</td>
<td>Depends on specific (individual) provisions and riskiness of portfolio</td>
</tr>
<tr>
<td><strong>Tax deductibility</strong></td>
<td>Yes (1% limit)</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Conclusions

1. **Provisions vs capital:** anti-cyclical capital buffer already adopted in Basel III; dynamic provisions among desirable macro-prudential tools, but not proposals yet. Related to the debate on international accounting harmonization (expected loss). Transparency issues and profit smoothing relevant.

2. **Double objective of dynamic provisions:** (i) to smooth credit growth and (ii) to allow for the creation of buffers in the good times to be used in the bad times. Spanish experience seems to show they are more useful as a buffer.

3. **Asymmetric market discipline** may undermine the usefulness of dynamic provisions as a counter-cyclical tool, as illustrated by the Spanish case.

4. **Rules vs discretion:** a rules-based system is desirable, but practical application is challenging. Balance between (i) availability of high quality data to calibrate the cycle “ex ante” and (ii) to ensure a credible commitment by the authorities. The Peruvian system seems more rules-based than the Spanish and (a priori) the Colombian systems. The experience of Spain suggests that a theoretically rules-based system may be applied in a discretionary way (reforms in 2004 and 2010).

5. **For Emerging Market Economies** one important consideration is to allow for financial inclusion. A system based on GDP accommodates financial inclusion, but is not based on a banking sector variable and is not institution-specific.

6. **Caveat:** regulation cannot completely eliminate pro-cyclicality.