Underlying Concepts and Principles of Dynamic Provisioning

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Structure

- Why make provisions?
- Concepts and principles of dynamic provisioning
- The Spanish model
- The FSA model
- The Peruvian model
- The proposed Indian framework
- Issues
- Why Spanish banks face problem now?
- Conclusion
Why make provisions?

• An accounting concept
  – Impairment to assets – adjustment to carrying amount of assets
  – A liability that needs to be recognised – obligation for outflow of resources
  – Timing and amount – many times uncertain – measured by substantial degree of estimation
  – Recognised in the P&L account of the reporting period
  – Enables “true and fair” financial position – raison d'être of accounting
• Do entities have strong incentives for under-provisioning? May be ‘yes’ because
  – It is generally not fully tax deductible
  – Executives take short term view to show enhanced profits. Provisioning reduces profits and hence dividend distribution, share price and most importantly, bonus payment

• Same holds good for banks also
• Banking business has another dimension – of procyclicality
  – During boom period – under-funding of provisions but over-supply of credit and profits
  – During bust – over requirement of provisions but under-supply of credit and profits

• Consequences of procyclicality
  – Accentuates business booms and busts
  – Loose credit standards during boom period
  – Restricts credit during downturn
  – Risk spill over to real sector of the economy

• How to break this procyclicality and make it countercyclical?
• Principles behind provisioning
  – Initial recognition of an asset
  – Objective evidence of impairment of an asset as a result of loss events that have impact on its future cash flows
  – This is known as “incurred loss” based approach
• Criticism against “incurred loss” based approach during the recent global financial crisis
  – Delaying loss recognition – after the loss event
  – Not pro-active *ex ante* before the loss event or “expected loss” based
  – Not forward looking
• Discomfort of accountants for “expected loss” based provisioning
  – Fear of earning management
  – Profit smoothening
  – Compromise raison d'être of accounting to give a “true and fair” picture of an entity on a reporting date/period
• Improvements in modern credit risk models
  – Expected loss based provisioning and
  – Unexpected loss based capitalisation
  – Basel II Internal Rating Based (IRB) approach gave a fillip to this
• Global financial crisis
  – G20 called upon accounting standard setter and bank regulators / supervisors to improve standards of valuation and provisioning
  – The Basel Committee (BCBS) published a document in August 2009 – *Guiding principles for replacement of IAS 39*
• The **BCBS** document advocated robust and sound provisioning methodology based on
  – Early identification and recognition of credit losses over the life of loans
  – Expected loss approach in a loan portfolio
• Post-crisis convergence of views of regulators and accounting standard setters on a forward looking expected loss based provisioning

• IASB and FASB are actively engaged in search of a solution to this complex issue
• Banks make “specific” provisions for incurred losses
• Banks also make “general” or “floating” provisions – not based on expected losses but as a prudent practice to strengthen the balance sheet
• Basel Committee incentivises for general provision by including in Tier 2 capital up to 1.25% of RWAs
Concepts and principles of dynamic provisioning

- Dynamic provisioning is a technique that allows banks to build up loan loss provisions when their profits are growing to draw on these during an economic downturn.
- Provisions should be set in line with estimates of long-run, or through-the-cycle expected losses.
- This will help in breaking procyclicality and creating countercyclical provision buffers.
Generic dynamic provisioning concept

• DP = Expected loss provision – Specific provision, or
• DP = Through-the-cycle loss ratio*Flow of new loans – Flow of specific provisions (incurred losses)

• During good times – DP is positive as EL is > SP
• During bad times – DP is negative as EL is < SP
The Spanish model

• Background
  – Before July 2000, Spanish banks were following standard provisioning system – specific provision and general provision
  – Significant credit growth in 1990s – boom period
  – Intense competition
  – Under-pricing of risk
  – Significant reduction in NPAs
  – Therefore, low specific provision – lowest among OECD countries
  – Highest provision ratio and GDP growth correlation (-0.97)
• Spain introduced in July 2000 a *statistical provision* – difference between the latent risk and *specific provision*

• The economic upswing still continued much stronger

• Accumulation of statistical provision became excessive while specific provision continued to be low

• Spain was criticised for profit smoothing
• To correct the excessive accumulation of statistical provision and counter criticism, a new dynamic provision was introduced in Spain in 2004.
• Dynamic provision had two parts – specific provision and general provision.
• Specific provision was as per actual incurred loss.
• General provision had two components – alpha and beta

• Alpha – average estimate of credit losses or expected losses based on past experience

• Beta – historical average specific provision
• **Underlying principle**
  
  – Build up general provisions that account for
    
    • Expected losses in new loans given in a period (Alpha)
    • Historical average specific provision (Beta), net off specific provisions during that period

• \( GP = [\text{Alpha} \times \text{Incremental loans}] + [\text{Beta} - \text{Delta SP/Outstanding loans}] \times \text{Outstanding loans} \)

• \( \text{Delta GP} = [\text{Alpha} \times \text{Incremental loans}] + \{[\text{Beta} \times \text{Outstanding loans}] - [\text{Delta SP}]\} \)
• Delta GP = [Alpha*Incremental loans] + 
{[Beta*Outstanding loans] – [Delta SP]}

• The formula has **two components**
  – First component (in red) recognises credit risk 
during expansion and also downturn – more 
conservative because even in downturn it creates 
general provisions
• Delta GP = \[\text{Alpha} \times \text{Incremental loans} \] + \{\[\text{Beta} \times \text{Outstanding loans}\] – \[\text{Delta SP}\]\}
  
  – Second component (in green) compares historical average specific provisions with current specific provisions and is countercyclical
  
  • Difference is positive during boom periods because current SP will be lower and will contribute to the first component, and therefore the balance of GP
  
  • Difference is negative during downturn because current SP will be higher and will subtract from the first component and therefore the balance of GP
• Alpha and Beta calibrated by the Bank of Spain for homogenous risk categories or banks can use their own calibrated parameters with supervisory approval

• To avoid under provisioning or excess provisioning, and satisfy the accountants, GP had a floor of 33% and cap of 125% of Alpha*Outstanding credit

• Total provisions = GP + SP = Alpha*Incremental loans + Beta*Outstanding loans
Example

- Previous year’s outstanding credit = 800
- Incremental credit during the year = 200
- Outstanding credit = 800 + 200 = 1000
- Alpha = 2% and Beta = 1%
- Specific provision required = 8
- Delta GP = \([\alpha \times \text{Incremental loans}] + \{[\beta \times \text{Outstanding loans}] - \Delta SP\}\)
- Delta GP = \([2\% \times 200] + \{[1\% \times 1000] - [8]\}\) = 6
- Total provision = GP + SP = 6 + 8 = 14
The FSA model

• Total provision required during a period = Long term loan loss estimates
• This can be broken down to SP and DP
• Delta DP = [Long term loan loss estimate] − [Incremental specific provision]
• Total provision required during a period = DP + SP
Example

• Assumptions
  – Ten year economic cycle
  – Average long-run loss rate of 0.8% of loans
  – Average risk weight of loans = 60%
<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<tbody>
<tr>
<td>A</td>
<td>Loans (Rs.)</td>
<td>100</td>
<td>100</td>
<td>105</td>
<td>110</td>
<td>120</td>
<td>135</td>
<td>150</td>
<td>170</td>
<td>190</td>
<td>200</td>
<td>200</td>
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<tr>
<td>B</td>
<td>Losses (%)</td>
<td>1.60</td>
<td>1.60</td>
<td>1.00</td>
<td>0.40</td>
<td>0.60</td>
<td>0.50</td>
<td>0.50</td>
<td>0.40</td>
<td>0.80</td>
<td>1.60</td>
<td>1.60</td>
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<tr>
<td>C</td>
<td>Losses (Rs.) (A*B) Incremental Specific Provisions</td>
<td>1.60</td>
<td>1.60</td>
<td>1.05</td>
<td>0.44</td>
<td>0.72</td>
<td>0.81</td>
<td>0.75</td>
<td>0.85</td>
<td>0.76</td>
<td>1.60</td>
<td>3.20</td>
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<tr>
<td>D</td>
<td>Long term losses (Rs.) (0.80*A)</td>
<td>0.80</td>
<td>0.80</td>
<td>0.84</td>
<td>0.88</td>
<td>0.96</td>
<td>1.08</td>
<td>1.20</td>
<td>1.36</td>
<td>1.52</td>
<td>1.60</td>
<td>1.60</td>
</tr>
<tr>
<td>E</td>
<td>▲ Dynamic provision (Rs.) (D-C)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.44</td>
<td>0.24</td>
<td>0.27</td>
<td>0.45</td>
<td>0.51</td>
<td>0.76</td>
<td>0.00</td>
<td>(1.60)</td>
</tr>
<tr>
<td>F</td>
<td>Dynamic provision (Rs.) i.e. Cumulative balance.</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.44</td>
<td>0.68</td>
<td>0.95</td>
<td>1.40</td>
<td>1.91</td>
<td>2.67</td>
<td>2.67</td>
<td>1.07</td>
</tr>
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<td>G</td>
<td>RWAs (Rs.)</td>
<td>60</td>
<td>60</td>
<td>63</td>
<td>66</td>
<td>72</td>
<td>81</td>
<td>90</td>
<td>102</td>
<td>114</td>
<td>120</td>
<td>120</td>
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<tr>
<td>H</td>
<td>DP Reserve/RWAs (%)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.70</td>
<td>0.90</td>
<td>1.20</td>
<td>1.60</td>
<td>1.90</td>
<td>2.30</td>
<td>2.20</td>
<td>0.90</td>
</tr>
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</table>
• Starts with a loan book of 100 during downturn, before DP implemented. No balance in DP
• As economy becomes more normal, year 4 to 9, credit losses fall and DP is built up
• When downturn hits in years 11 and 12, DP is drawn down
• Based on Spanish model, but no Alpha component
The Peruvian model

- Cyclical provision in the form of general provision, linked to rate of growth of GDP
- When GDP growth exceeds certain threshold rate (booming period), cyclical provision is activated
- When GDP growth rate falls below a threshold level, cyclical provision is deactivated
- Presumed that GDP is a better systemic growth indicator than credit
The proposed Indian framework

• Based on FSA model

• Delta DP = Expected loss – Incremental SP, or

• Delta DP = Alpha * Outstanding loans – Incremental SP

• Total provision = SP + DP

• To ensure that every year charge to P&L maintained at a level of Alpha * outstanding credit

• Therefore, DP is created when SP is less than EL and vice versa
All roads lead to Spain

- DP = Expected loss provision – Specific provision, or
- DP = Through-the-cycle loss ratio*Flow of new loans – Flow of specific provisions (incurred losses) (Generic)
- Delta GP = [\( \alpha \times \text{Incremental loans} \)] + \{[\( \beta \times \text{Outstanding loans} \)] – [\( \delta \times \text{SP} \)]\} Spain
- Delta DP = [\( \text{Long term loan loss estimate} \)] – [\( \text{Incremental specific provision} \)] (FSA)
- Delta DP= Expected loss – Delta SP, or
- Delta DP= \( \alpha \times \text{Outstanding loans} \) – Delta SP (India)
The features of Indian framework

- Expected Loss = PD* LGD
- We had seen earlier that EL is through-the-cycle or average EL
- But in Indian framework, EL is calibrated based on downturn LGD
- That is because of data inadequacy of 5-10 years. EL did not capture many business cycles or credit cycles (at least 2 to 3)
- However, a cap is placed on DP
• Difference between DP based on downturn LGD and normal LGD can be notionally computed and will count towards Tier 2 capital up to 1.25% of RWA

• Drawdown from DP will be allowed by RBI based on a system-wide slow down and not based on individual bank’s credit administration weaknesses
• **Calibration of Alpha** – based on movement of NPAs of a sample of 9 banks (32.53% of banking sector advances) (though all banks were invited, but had data quality issues) for 4 asset classes – Housing, Retail, Corporate (other than infra and SME), and Others

• **Impact** – total provisioning charge to P&L - 1.37% of gross advances (as against 1.04% now) (Range – 0.58% to 1.87%)
Issues

• **Data challenge** – individual banks should compute their Alpha – system-wide Alpha will penalise a bank with better credit quality and incentivise a bank with poor credit quality

• **Right time for implementation** – normally in an upturn so that some cushion of DP is built for downturn

• **Lending cycle effect** – no guarantee that future losses will be same as past losses
• **Profit smoothing** – can be handled with adequate disclosures

• **Interaction with accounting standards** – presently not recognised, but IASB and FASB are working on it. Some delay observed in finalising IFRS 9 (old IAS 39)

• **Slow progress in convergence between IASB and FASB**
Why Spanish banks face problem now?

- Real estate bubble that bust in 2007
- Spanish banks were probably not reporting all their losses properly in the past
- Cookie jar accounting?
- Indulged in earnings management and profit smoothening
- Showing high provisions even when these were completely depleted
• Limitations of DP
• Economic cycles can be too powerful – harsher and deeper than the past cycles
• DP is no panacea for bad management and inadequate supervision
• RBI is proactive to account downturn LGD than normal LGD
Conclusion

• The Spanish example cannot dilute the efficacy of DP
• Indian approach based on downturn LGD is better than the Spanish approach
• DP/EL based provisioning recognises losses early, distributes losses evenly over credit cycle; therefore better than incurred loss model
• Breaks pro-cyclicality
• Incentivises countercyclicality
• A good macro-prudential tool
• Enhances resilience of both individual banks and banking system as a whole
• Enhances financial stability and macro-economic stability
Many thanks