Setting the Target Fund Size
Philippine Experience
Outline

I. Overview of PDIC

II. PDIC’s Deposit Insurance Fund

III. Setting the Target Fund Size
   — Target Fund Approach / IRT Framework
   — Expert Opinion Approach

IV. Moving Forward
Overview of PDIC
Public Policy Objectives & Mandates

**Examination and Resolution of banks**
- Examines banks
- Grants Financial Assistance
- Conducts bank investigation

**Receivership and Liquidation of closed banks**
- Acts as receiver
- Liquidates assets of closed banks
- Distributes assets to creditors

**Depositor Protection**

**Financial Stability**

**Deposit Insurance**
- Manages the Deposit Insurance Fund
- Collects assessments from member-banks
- Settles deposit insurance claims
## Membership & Risk Exposure
### As of March 31, 2015  (Amounts in Billions)

<table>
<thead>
<tr>
<th>Bank Type</th>
<th>No. of Banks</th>
<th>Total Domestic Deposits (TDD) $^a/$</th>
<th>Estimated Insured Deposits (EID)</th>
<th>% Insured (EID/TDD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Amount</td>
<td>% to Total</td>
<td>Amount</td>
</tr>
<tr>
<td>Commercial</td>
<td>36</td>
<td>PHP 7,655</td>
<td>90%</td>
<td>PHP 1,617</td>
</tr>
<tr>
<td></td>
<td></td>
<td>USD 171</td>
<td>$^b/$</td>
<td>USD 36</td>
</tr>
<tr>
<td>Thrift</td>
<td>69</td>
<td>PHP 676</td>
<td>8%</td>
<td>PHP 189</td>
</tr>
<tr>
<td></td>
<td></td>
<td>USD 15</td>
<td></td>
<td>USD 4</td>
</tr>
<tr>
<td>Rural</td>
<td>541</td>
<td>PHP 148</td>
<td>2%</td>
<td>PHP 93</td>
</tr>
<tr>
<td></td>
<td></td>
<td>USD 3</td>
<td></td>
<td>USD 2</td>
</tr>
<tr>
<td>Total</td>
<td>646</td>
<td>PHP 8,479</td>
<td>100%</td>
<td>PHP 1,900</td>
</tr>
<tr>
<td></td>
<td></td>
<td>USD 189</td>
<td></td>
<td>USD 42</td>
</tr>
</tbody>
</table>

$^a/$ Domestic deposits exclude deposits in overseas branches of Philippine Banks

$^b/$ Bangko Sentral ng Pilipinas Reference Exchange Rate Bulletin 31 March 2015 at US$1=PhP 44.796
## Fund Sources

<table>
<thead>
<tr>
<th>Source</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment Premiums</td>
<td>59%</td>
<td>63%</td>
<td>68%</td>
</tr>
<tr>
<td>Income from investment</td>
<td>33%</td>
<td>30%</td>
<td>28%</td>
</tr>
<tr>
<td>Income from Financial Assistance and Other Income</td>
<td>8%</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Fund Uses

- Deposit insurance payment
- Bank rehabilitation/resolution
- Operational expenses
PDIC’s Deposit Insurance Fund (DIF)
Deposit Insurance Fund (2004-2014)
Amounts in Billion Pesos

DIF average growth:
• 2010 to 2014 (5 yrs) = 11%
• 2004 to 2014 (10 years) = 9%
DIF

- Pursuant to Section 13 of the PDIC Charter, DIF shall be the **Capital Account** of the Corporation and shall principally consist of the following:
  
  i. Permanent Insurance Fund
  ii. Assessment collections net of operating costs & expenses, additions to reserve, and net insurance & financial assistance losses for the calendar year
  iii. Reserves for insurance and financial assistance losses
  iv. Retained earnings
Components

- **Permanent Insurance Fund**
  - the capital amounting to P3 Billion provided by the National Government
Components

- **Reserves for Insurance Losses**

  — the accumulated reserves for probable losses for banks likely to fail in the future unless intervention from third party is made, such as grant of financial assistance as part of a bank’s rehabilitation
Components

- **Retained Earnings**
  
  — the cumulative income of the Corporation, net of dividends declared to the National Government
Setting the Target Fund Size
• The Target Fund Size is set by PDIC’s Governing Body

—Section 2 (6) of the PDIC Charter gives authority to the PDIC Board of Directors to approve the methodology for determining the level and amount of provisioning for insurance and financial assistance losses
I. Target Fund Approach

- In 2003, PDIC adopted a Target Fund Approach in setting the level of DIF
I. Target Fund Approach

• Framework
  — Target fund shall be based on the potential demand and direct threat to the Corporation’s capital or reserves
  — PDIC’s existing bank rating model or methodology shall serve as basis for identifying potential candidates posing direct threat to the insurance reserves
  — Target fund policy, procedures and results shall be reviewed at least once every two years
I. Target Fund Approach

• DIF Target based on direct threat and potential demand to PDIC’s capital or reserves, measured by:

  — PDIC’s exposure to banks considered on the verge of closure or beyond resolve unless with third party intervention

  — Additional buffer for the potential failure of those others arising from unforeseen events that may cause deterioration of bank condition
I. Target Fund Approach

• The Target Fund Estimation
  — Banks are risk rated Category 1 (worst) to Category 5 (best) using PDIC’s Offsite Bank Rating Model (OBRM) (early warning system tool)

<table>
<thead>
<tr>
<th>Category</th>
<th>EID Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1 banks</td>
<td>EID</td>
</tr>
<tr>
<td>Category 2 to 5 banks</td>
<td>EID</td>
</tr>
<tr>
<td>(medium sized a/)</td>
<td></td>
</tr>
<tr>
<td><strong>TARGET FUND</strong></td>
<td><strong>Total EID</strong></td>
</tr>
</tbody>
</table>

a/ Medium sized banks refer to private/non-government owned domestic commercial banks with assets of below P100 Billion excluding banks risk rated under Category 1
I. Target Fund Approach

• The DIF Target level was set at PhP 60 Billion in 2003

• Adjusted to P90 Billion in 2004
  — increase in Maximum Deposit Insurance Coverage from PhP100 thousand to PhP250 thousand
  — PDIC then projected to be achieved in 8 years (2011)
II. IRT Framework

• In 2008, PDIC adopted the Insurance Reserves Targeting (IRT) Framework, a more risk-based approach

• The IRT is based on the risk rating of member-banks using the PDIC OBRM
II. IRT Framework

• IRT Framework Basic Principles:
  
  — The reasonable level of insurance reserves shall be determined thru a Target methodology, based on the estimated risks posed by member banks to the DIF.

  — The insurance reserves shall be maintained at a reasonable level that ensures capital adequacy.

  — Capital adequacy is essential to ensure that the Corporation can absorb losses arising from bank failures under non-systemic conditions.
II. IRT Framework

• The IRT is composed of:
  — Specific Reserves and
  — General Reserves

• The target was set annually
II. IRT Framework

- Banks are risk rated from a scale of 1 (worst) to 5 (best) using PDIC’s OBRM

Banks-at-Risk
of failing (BAR)  EID x probability x loss rate = Specific
of failure
Non-BAR  EID x 2.5% = General

IRT = Specific + General Reserves

TARGET: DIF/IRT = 100%
III. Expert Opinion

• In 2011, a study on Enhancement of Insurance Reserves Targeting Framework was conducted ¹/ which was funded under a Technical Assistance (TA) from the World Bank/FIRST Initiative

• The objectives of the TA are:
  — to review and enhance the PDIC IRT Framework and
  — to assess what measures may be put in place to sustain the adequacy of insurance reserves

¹/ Funded under a Technical Assistance (TA) from the World Bank/FIRST Initiative assigning Mr. Steven A. Seelig as Consultant
III. Expert Opinion

- Guiding Principles in Assessing Adequacy of the Fund
  - reserve should be maintained at a level sufficient to assure that the PDIC has adequate capital to absorb losses from bank failures under non-systemic (normal) conditions
  - assessment should capture risks to the fund coming from both anticipated and unanticipated losses
Conclusions on evaluation of the IRT Framework:

Pros:

- Indicators used in identifying banks at risk of failing are decent predictors of institutions likely to encounter problems

- Loss rate used reflects the most recent data
III. Expert Opinion

Cons:

— IRT approach is backward looking and does not reflect changes in economic conditions or shifts in banking strategies

— Analysis used to set the reserve is relatively static

— No conceptual basis for using another country’s target rate for the general reserves
III. Expert Opinion

Recommendations:

— To develop stress testing and failure prediction models to estimate PDIC’s risks in order to improve its capacity to assess and ensure adequacy of the DIF.

— In the absence of said models, to use historical data on periods of stress to assess DIF adequacy based on a qualitative approach.
III. Expert Opinion

Methodology:

— A 15-year historical data was used since it encompasses both the Asian and global financial crises in 1997 and 2008-2009 respectively.
III. Expert Opinion

• Criteria for Approximation
  – The fund should be sufficient to address/cover
    1. actual losses on failed banks for the worst two contiguous years
    2. failure of at least one large bank that under ordinary market conditions which would not be considered systemic
    3. additional margin of comfort to cover unanticipated risks by providing
      a) sufficient funds to cover an additional year’s failures, and/or
      b) additional commercial bank failure
Recommendations:

• Maintain 5% of EID target ratio
  — Failure of rural and thrift banks during periods of stress i.e. 2008-2010
  — Plus failures of the 6\textsuperscript{th} and 15\textsuperscript{th} largest commercial banks ranked by deposits
    (Not included in the analysis: Systemically important banks (SIBs) and those considered too big to fail banks)
III. Expert Opinion

• The 5% of EID will cover:

\[
\text{EID} \times \text{loss rate} = \text{Est. Losses}
\]

**ANTICIPATED**

Actual failure on worst years
- 2008 \[\text{EID} \times 80\% = \text{Est. Losses}\]
- 2009 \[\text{EID} \times 80\% = \text{Est. Losses}\]

Potential failure of large bank \[\text{EID} \times 50\% = \text{Est. Losses}\]

**UNANTICIPATED**

Actual failure on worst years
- 2010 \[\text{EID} \times 80\% = \text{Est. Losses}\]

Potential failure of large bank \[\text{EID} \times 50\% = \text{Est. Losses}\]

Total Est. Losses = Anticipated + Unanticipated Losses

**TARGET:** Total Est. Losses/EID = 5%
III. Expert Opinion

Recommendations:

- DIF target be tied to insured deposits instead of total deposits

  — to reflect the risk of additional exposure of the insurance fund associated with an increase in MDIC.
III. Expert Opinion

Since 2012

Ratio of Deposit Insurance Fund (DIF) to Estimated Insured Deposits (EID) and Total Deposits

- MDIC - Maximum Deposit Insurance Cover
- PIF - Permanent Insurance Fund
- AR - Assessment Rate

Key Events:
- PIF increased to P2B from P.02B
- AR adjusted to 1/12 of 1%
- MDIC increased to P250 K
- MDIC increased to P100 K
- AR adjusted to 1/5 of 1%
- PIF increased to P3B from P2B
- MDIC increased to P500 K

Percentage Changes:
- 5.7%
- 4.3%
- 1.5%
- 1.3%
Summary of Approaches

<table>
<thead>
<tr>
<th>Approach/Method</th>
<th>PAST What we have BEFORE (2003 to 2011)</th>
<th>PRESENT What we have NOW 2012 to Present</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Target Fund Approach/IRT Framework</td>
<td>Expert Opinion</td>
</tr>
<tr>
<td>Target Fund Size</td>
<td>PhP 60 Billion</td>
<td>PhP 90 Billion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Target vs. Actual

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target Ratio DIF/IRT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target</td>
<td>66%</td>
<td>77%</td>
<td>91%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Actual</td>
<td>67%</td>
<td>86%</td>
<td>97%</td>
<td>5.3%</td>
<td>5.0%</td>
<td>5.6%</td>
</tr>
<tr>
<td><strong>Target Ratio DIF/EID</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target</td>
<td></td>
<td></td>
<td></td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Actual</td>
<td></td>
<td></td>
<td></td>
<td>5.3%</td>
<td>5.0%</td>
<td>5.6%</td>
</tr>
</tbody>
</table>
Moving Forward

• Conduct a study on the DIF target to ensure capital adequacy, sustain its level, and enable the Corporation to provide continuing insurance coverage to the depositing public

— Possible fine-tuning of the methodology for setting the target fund size by using the Bank Failure Prediction and Stress Testing Models

— Incorporate the results of the DIF Target Ratio study to enhance current approaches and practices
Thank you

SANDRA A. DIAZ
sadianz@pdic.gov.ph
Management Services Sector
Philippine Deposit Insurance Corporation
Expert Opinion

- Factors Considered in Setting the Target Fund Size
  - Financial system structure & characteristic
    » Risk exposure
    » Loss experience of DIA
  - Prudential regulation, supervision and its effectiveness and failure resolution regime
  - Legal framework
    » Mandates/powers
  - Availability and accessibility of emergency/ back-up funding
Financial Models

• Bank Failure Prediction Model
  – Comprised of 3 models with “bank failure” defined as
    » 1) bank closings,
    » 2) capitalization less than 2% and
    » 3) both closings and/or capitalization less than 2%
Financial Models

• Bank Failure Prediction Model
  - Uses 5 bank condition and performance indicators/ratios representing CAEL as follows:
    » Gross Problematic Assets-to-Unimpaired Capital
    » Past Due Loans-to-Gross Loans
    » Net Interest Income-to Ave. Interest Earning Assets
    » Profit (Loss) after taxes-to-Ave. Assets (ROA), and
    » Quick Assets-to-Total Assets
  - Familiar structure for data entry using PDIC financial ratios
  - One-year forecast horizon
Financial Models

• Stress Testing Model
  
  — The model is an excel based projection model principally designed to evaluate large banks and monitor problematic banks in a forward-looking manner.
  
  — It simulates the potential impact of assumed stress variables/set of assumptions on a bank’s capital adequacy, profitability, assets, liabilities and liquidity over a chosen projection horizon
  
  — Projection horizon of 12 periods may be monthly or quarterly
Financial Models

• Stress Testing Model
  — Provides financial soundness indicators
  — Allows for stress testing to be applied on a single bank or groups of banks
  — Allows for combining all the banks and applying stress testing on a system-wide basis