China Life Insurance Market – an update

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**Hannover Re's Development in China**

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>Established Shanghai representative office</td>
</tr>
<tr>
<td>May 2008</td>
<td>Received life branch license</td>
</tr>
<tr>
<td>Sept 2009</td>
<td>Received non-life branch license</td>
</tr>
</tbody>
</table>

- **46 life clients with penetration rate of 92%**
- **All life product lines and all channels**
- **Life reinsurance premium income more than RMB 1.5 billions**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>35 staff as at end of 2011</td>
</tr>
</tbody>
</table>
Agenda

Part 1 Landscape of China Life Insurance Market

Part 2 Channels and Products
  - Variable Annuity

Part 3 Actuarial Regulations
  - New PRC GAAP

Part 4 Other Regulatory changes
  - Investment
  - Compliance; Risk Management & Internal Control

Part 5 Future China Life Insurance Market
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Landscape of China Life Insurance Market

Number of Life Insurers

- 51 life insurance companies in China market
- 26 domestic companies and 25 JV
- 46 are HLR clients

Excl. 5 pension companies and 4 health companies and Hua Hui Life
Gross premium exceeded CNY 1 trillion in 2010, up by 29% compared with 2009

From 2005 to 2010, premium of China life insurance industry grew at 24% p.a.
Beijing, Shanghai, Guangzhou and Shenzhen are first-tier cities in which 85%+ headquarters of life insurance companies are located.

<table>
<thead>
<tr>
<th>Headquarter Location</th>
<th>No. of Companies</th>
<th>Prem in 2011 (CNY Billion)</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beijing</td>
<td>29</td>
<td>680.0</td>
<td>71.9%</td>
</tr>
<tr>
<td>Shanghai</td>
<td>12</td>
<td>112.6</td>
<td>11.9%</td>
</tr>
<tr>
<td>Guangzhou/Shenzhen</td>
<td>4</td>
<td>147.7</td>
<td>15.6%</td>
</tr>
<tr>
<td>Other regions</td>
<td>6</td>
<td>5.3</td>
<td>0.6%</td>
</tr>
<tr>
<td><strong>China Total</strong></td>
<td><strong>51</strong></td>
<td><strong>945.7</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Note: the figures excluded health and pension company.
## Landscape of China Life Insurance Market

The market share of Life Insurer in China (by premium)

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Prem in 2011 (CNY Billion)</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>China Life</td>
<td>332</td>
<td>35.13%</td>
</tr>
<tr>
<td>Ping An Life</td>
<td>119</td>
<td>12.58%</td>
</tr>
<tr>
<td>New China Life</td>
<td>95</td>
<td>10.02%</td>
</tr>
<tr>
<td>China Pacific Life</td>
<td>93</td>
<td>9.86%</td>
</tr>
<tr>
<td>PICC Life</td>
<td>70</td>
<td>7.44%</td>
</tr>
<tr>
<td>Taikang Life</td>
<td>68</td>
<td>7.18%</td>
</tr>
<tr>
<td>Taiping Life</td>
<td>31</td>
<td>3.33%</td>
</tr>
<tr>
<td><strong>Top 7 domestic companies in total</strong></td>
<td><strong>809</strong></td>
<td><strong>85.54%</strong></td>
</tr>
<tr>
<td>Other domestic companies</td>
<td>98</td>
<td>10.39%</td>
</tr>
<tr>
<td><strong>Domestic Company in total</strong></td>
<td><strong>907</strong></td>
<td><strong>95.93%</strong></td>
</tr>
<tr>
<td>JV in total</td>
<td>39</td>
<td>4.07%</td>
</tr>
<tr>
<td><strong>China total</strong></td>
<td><strong>946</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Note:** the figures excluded health and pension company
## Landscape of China Life Insurance Market

### Major Joint Venture

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Foreign Shareholder</th>
<th>Prem in 2011 (CNY Billion)</th>
<th>Market Share of JV companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIA</td>
<td>USA</td>
<td>8</td>
<td>21.26%</td>
</tr>
<tr>
<td>Generali-China</td>
<td>Italy</td>
<td>4</td>
<td>9.31%</td>
</tr>
<tr>
<td>Aviva-Cofco Life</td>
<td>England</td>
<td>4</td>
<td>9.20%</td>
</tr>
<tr>
<td>Citic-Prudential Life</td>
<td>England</td>
<td>3</td>
<td>8.91%</td>
</tr>
<tr>
<td>Sino US United Metlife</td>
<td>USA</td>
<td>3</td>
<td>8.25%</td>
</tr>
<tr>
<td>Hua Tai Life</td>
<td>USA</td>
<td>3</td>
<td>7.90%</td>
</tr>
<tr>
<td>Manulife</td>
<td>Canada</td>
<td>2</td>
<td>6.01%</td>
</tr>
<tr>
<td><strong>Top 7 JV companies in total</strong></td>
<td></td>
<td><strong>27</strong></td>
<td><strong>70.84%</strong></td>
</tr>
<tr>
<td><strong>Other JV companies</strong></td>
<td></td>
<td><strong>11</strong></td>
<td><strong>29.16%</strong></td>
</tr>
<tr>
<td><strong>JV total</strong></td>
<td></td>
<td><strong>39</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Other JV companies (18), 29.16%

- AIA, 21.26%
- Generali-China, 9.31%
- Aviva-Cofco Life, 9.20%
- Citic-Prudential Life, 8.91%
- Sino US United Metlife, 8.25%
- Hua Tai Life, 7.90%
- Manulife, 6.01%

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*Image: hannover life re®*
Landscape of China Life Insurance Market
Cooperation between banks and insurance companies

1. **Bancassurance channel**

2. **Bank investing in insurance company**
   - Bank of Communication (BoComm) => BoComm Life (formerly CMG & China Life)
   - China Construction Bank (CCB) => CCB Life (formerly Pacific ING)
   - Agricultural Bank of China (ABC) => Jiahe Life
   - Industrial and Commercial Bank (ICBC) => AXA-Min Metals (pending)
   - Ping An of China => Shenzhen Development Bank
   - Bank of Beijing (BoB) => BoB ING Life
   - CITIC Bank => CITIC-Prudential Life
   - China Merchant Bank => CIGNA & CMC Life
   - Everbright Bank => Sunlife Everbright Life

3. **Insurance company investing in bank**
   - Ping An of China => Shenzhen Development Bank
   - China Life => China Guangfa Bank
In 2011, CIRC approves 10 life insurance companies. Half of them are located in Second Tier Cities. It may be the major direction of insurance company layout in the near future.

<table>
<thead>
<tr>
<th>Newly-approved company</th>
<th>Headquarter Location</th>
<th>Tier 1</th>
<th>Tier 2</th>
<th>Preparatory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kang Life</td>
<td>Beijing</td>
<td>●</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Dong Wu Life</td>
<td>Suzhou</td>
<td>●</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Ji Xiang Life</td>
<td>Changsha</td>
<td>●</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Hua Hui Life</td>
<td>Shenyang</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Li An Life</td>
<td>Nanjing</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prudential US Life (JV)</td>
<td>Shanghai</td>
<td>●</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Qian Hai Life</td>
<td>Shenzhen</td>
<td>●</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Zhu Jiang Life</td>
<td>Guangzhou</td>
<td>●</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Dai-ichi Life (JV)</td>
<td>Beijing</td>
<td>●</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Korea Life (JV)</td>
<td>Hangzhou</td>
<td>●</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
Sample of Japanese Life Insurers in China

- Tokio Marine & Nichido Fire Insurance Co., Ltd. has 14.70% share
- Nippon Life owns 50% shares.
- Open for Business: Year 2003

- Mitsui Sumitomo (MS&AD) has 7% shares
- Haier 乐事保险
  - Before 2011, New York Life owned 50%
  - In 2011, New York Life fully exited and transferred part of the equity interest to Meiji Yasuda Life
  - So far, share of Meiji Yasuda Life: 29.24%

- Sumitomo Life owns 10% shares
- Taiyo Life has 5% shares

- Daiichi Life owns 50% shares.
- Approved by CIRC for preparation in October, 2011

New Player under preparation
Agenda

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Part 2  Channels and Products
   → Variable Annuity

Part 3  Actuarial Regulations
   → New PRC GAAP

Part 4  Other Regulations
   → Investment
   → Compliance; Risk Management & Internal Control

Part 5  Future China Life Insurance Market
# Channels and Products

## Agency Channel

### Channel Feature
- Market share: 42%, in terms of 2010 premium
- Rich in product line
- Agents could sell complicated products
- Risk of misleading by agents

### Major Product Type
- Critical Illness Products
- Participating Whole Life
- Personal Accidental Product
- Unit Linked Product or Universal Life
- Medical Products
- Variable annuities Products
## Channels and Products

### Bancassurance Channel

<table>
<thead>
<tr>
<th>Channel Feature</th>
<th>Major Product Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Market share: 49%, in terms of 2010 premium</td>
<td>- 3-pay 5-year Par Endowment</td>
</tr>
<tr>
<td>- Usually investment or saving focus products</td>
<td>- 5-pay 10-year Par Endowment</td>
</tr>
<tr>
<td>- Higher premium size per policy</td>
<td>- Single Premium Par Endowment</td>
</tr>
<tr>
<td>- So far Bancassurance is the biggest channel in life market</td>
<td>- Juvenile Education Plan</td>
</tr>
<tr>
<td></td>
<td>- Deferred Annuity Certain</td>
</tr>
</tbody>
</table>
# Channels and Products

## Telemarketing Channel

<table>
<thead>
<tr>
<th>Channel Feature</th>
<th>Major Product Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Outbound calls via call centre</td>
<td>• Critical Illness Products</td>
</tr>
<tr>
<td>• Simple product or package</td>
<td>• Personal Accidental Product</td>
</tr>
<tr>
<td>• Simplified underwriting</td>
<td>• Endowment with Return of Premium</td>
</tr>
<tr>
<td></td>
<td>• Hospital Income Product</td>
</tr>
</tbody>
</table>
Channels and Products
Other DM Sales Channel - Internet, TV

Channel Feature
- Internet – customers enjoy one-stop shopping, fast
- TV - passive sales by inbound calls
- Simple product and simplified underwriting
- Still in infant stage

Major Product Type:
- Term Life
- Personal Accidental Product
- Traffic Accidental Product
- Travel Accidental Product
This regulation aims to help the insurance applicant better understand the investment-type products and reduce misleading sales.

The insurance company should describe the product information precisely using the words easy to understand.

The insurance company should provide the Provisions, Product Specification, and Application Reminder Letter (risk assessment) when sell the investment-type products.

The applicant should confirm and sign in the Application Form that he/she has read the Provisions, Product Specification, and Application Reminder Letter, and understood the product features and the uncertainties of insurance benefits.

The insurance company should illustrate the insurance benefits in the Product Specification and other sales materials with 3 scenarios: high, medium, and low.

The insurance company should pay a return visit to the applicant within the cooling-off period through telephone, mail or face-to-face meeting.
The life insurance company should submit the provisions and premium rates of human-related insurance products to CIRC for approval on innovative products or file with CIRC on traditional products.

The human-related insurance products are classified to:

- Life insurance, including term life, endowment and whole life;
- Annuity insurance
- Health insurance, including disease, medical, disability income, and care insurance
- Accident insurance

The human-related insurance products are also classified to: traditional, participating, universal life, and unit linked insurance.

The Chief Actuary and Appointed Lawyer of insurance company should review the product documents and sign the statements.

Restriction on death benefits of annuity products and no survival benefits in first 3 years of endowment products.
Variable Annuity in China
China VA Development

- **2006-2007**: A few joint-venture companies started to introduce VA products to CIRC.

- **2008**: CIRC visited Japan and US to study VA.

- **2009**: Chairman Assistant Chen advocated life product innovation.

- **Feb, 2010**: CIRC called a few companies to start VA pilot program study.

- **Jul, 2010**: Main framework of VA products, including product design and valuation, was determined.

- **Apr, 2011**: CIRC published a variable annuity handbook.

- **May, 2011**: CIRC started the pilot program.

- **Jun, 2011**: First VA product was introduced in the market.

- **Jul, 2011**: Second VA product was introduced in the market.
Variable Annuity in China
China VA Pilot Program

- Participating companies' criteria:
  - At least three year experience on unit-linked products
  - No major violations in past one year
  - Solvency adequacy ratio higher than 150% at past two quarter ends
  - Proper information system for variable annuity administration system set up

- Pilot cities
  - Beijing
  - Xiamen
  - Guangzhou
  - Shanghai
  - Shenzhen
Variable Annuity in China
China VA Pilot Program (cont'd)

- **Product Design**
  - Based on Unit Linked
  - Minimum Policy Term is 7 years
  - Four types of guarantees are allowed
    - GMDB
    - GMMB
    - GMAB
    - GMIB
  - GMWB is not allowed

- One company can sell at most one product during pilot
Variable Annuity in China
China VA Pilot Program (cont’d)

► Premium Quota per pilot company
  ● Capped at the minimum of (a) RMB 8 billion and (b) 4 times of last quarter’s actual capital under solvency basis

► Criteria on Sales Force
  ● College degree or above
  ● Sales person should meet relevant qualification according to CIRC
  ● Attended specialized training for not less than 40 hours and passed the examination
  ● Having more than one year sales experience of life insurance products with no major fraudulent practices
Variable Annuity in China
China VA Pilot Program (cont’d)

Key risk management strategies include
- Constant Proportion Portfolio Insurance ("CPPI")
- Dynamic hedging

Reserving requirement
- For guaranteed living benefits, hold the greater of
  (a) the CTE(70) from Monte Carlo simulations and
  (b) the deterministic reserve
variable annuity in china

Current Landscape

- AXA-Minmentals launched the first VA product in China
  - The product is distributed initially through Agency and more recently through Bancassurance

- MetLife launched the second VA product in China
  - The product is distributed through Bancassurance
## Variable Annuity in China
### Current Landscape (cont'd)

<table>
<thead>
<tr>
<th>Product</th>
<th>AXA - “保得盈”</th>
<th>MetLife - “步步稳赢”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy Term</strong></td>
<td>7 Year</td>
<td>10 Year</td>
</tr>
<tr>
<td><strong>Payment Method</strong></td>
<td>Single Premium</td>
<td>Single Premium</td>
</tr>
<tr>
<td><strong>Minimum Premium</strong></td>
<td>RMB 100,000</td>
<td>RMB 100,000</td>
</tr>
<tr>
<td><strong>Initial Charge</strong></td>
<td>Currently 2%, and capped at 5%</td>
<td>1.0% (RMB 5 million or above)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.5% (RMB 1~5 million)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.0% (RMB 1 million or below)</td>
</tr>
<tr>
<td><strong>Bid / Offer Spread</strong></td>
<td>2%</td>
<td>currently 0%, but capped at 2%</td>
</tr>
<tr>
<td><strong>Asset Management Fee</strong></td>
<td>1% p.a.</td>
<td>1.5% p.a.</td>
</tr>
<tr>
<td><strong>Guarantee Charge</strong></td>
<td>1.5% p.a.</td>
<td>1.2% p.a.</td>
</tr>
<tr>
<td><strong>Surrender Charge</strong></td>
<td>5%~1% decreasing from 1st to 5th policy year 0% thereafter</td>
<td>2% (1st year), 1.5% (2nd &amp; 3rd year) 0% thereafter</td>
</tr>
<tr>
<td><strong>Annuity Conversion</strong></td>
<td>After 7 years</td>
<td>After 5 years</td>
</tr>
<tr>
<td><strong>Death Benefit</strong></td>
<td>Accidental Death: Account Value + min (10% of Account Value, RMB 1 million)</td>
<td>Accidental Death: 2 × Account Value</td>
</tr>
<tr>
<td></td>
<td>Death: Account Value + min (5% of Account Value, RMB 1 million)</td>
<td>Death: Account Value</td>
</tr>
<tr>
<td><strong>Maturity Benefit</strong></td>
<td>Max (Guarantee Value, Account Value)</td>
<td>Unit Inforce × max (unit Guarantee Value, unit Fund Value)</td>
</tr>
<tr>
<td><strong>Surrender Benefit</strong></td>
<td>Account Value × (1-surrender charge)</td>
<td>Unit Inforce × max (unit Guarantee Value, unit Fund Value) × (1-surrender charge)</td>
</tr>
<tr>
<td><strong>Minimum Guarantee</strong></td>
<td>GMMB with principal guarantee</td>
<td>GMAB with 80% daily ratchet</td>
</tr>
</tbody>
</table>
Variable Annuity in China

Future Considerations ....

- Currently, there is no time frame to end the pilot program; results to be reviewed by CIRC
- Infrastructure set up cost
  - Volume needed to achieve economies of scale
  - Knowledge and experience of sales and back office staff
- Value proposition to the distributor
  - Reputational risk
  - Competing products
- Breath and depth of the capital markets
- More derivatives development in China equity market
- More risk management techniques on dynamic hedging and sophisticated CPPI
Agenda

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Part 5  Future China Life Insurance Market
Pricing & Statutory Reserve

- Actuarial Guidelines for Unit Linked Insurance Products (CIRC [2007] No. 335)
- Notice on revising the provisions about mortality table in actuarial guidelines (CIRC [2005] No. 118)
Actuarial Regulations
Key regulations (cont’d)

▶ Embedded Value
  - Embedded Value Reporting Guidelines for Life Insurance (CIRC [2005] No. 83)

▶ Solvency
  - Management of the Solvency of Insurance Company (CIRC [2008] No. 1)

▶ New PRC GAAP Reserve
  - Notice on Insurance Industry’s applying the Accounting Standards Interpretation No. 2 (CIRC [2010] No. 6)
Embedded Value
Embedded Value Reporting Guidelines for Life Insurance

- Embedded Value is made up the sum of 3 parts:
  - Free surplus: = Net Asset – Required Capital
  - Required Capital – Cost of Required Capital
  - Present Value of In-force business (PVFP)

- Net asset is calculated on statutory reserve basis

- Required Capital: normally 150% of Minimum Solvency Capital is used

- Present Value of In-force business (PVFP)
  - Including value from renewal business of in-force block
  - The options and guarantees in the insurance contract should be considered
  - Expense over-run will reduce PVFP
  - Calculated on statutory reserve basis
Solvency
Management of the Solvency of Insurance Company

- Solvency ratio = Actual Solvency Capital / Minimum Solvency Capital

- Actual Solvency Capital = Admitted Asset – Admitted Liability

- CIRC divide the insurance companies to 3 classes according to their solvency ratios:
  - <100%: insolvent companies
  - 100%~150%: solvent companies type I
  - >=150%: solvent companies type II

- CIRC may take supervisory actions to the insolvent companies, such as:
  - require the shareholders to inject capital
  - restrict paying dividend to the shareholders
  - restrict establishing new branches
  - take over the companies
  - etc.
Solvency Issues and Recent Development

- Current formula (European solvency I)
  - Asset on IFRS basis but reserve on PRC statutory basis
  - Leads to solvency ratio extremely sensitive to market fluctuation
  - Tax payment based on new PRC GAAP reserve and net assets based on PRC statutory reserve, leads to lower solvency ratio
  - Required capital is calculated on PRC statutory reserve basis

- CIRC in April 2011 launched a research program to study the future solvency regime such as European Solvency II and US risk-based capital (RBC). Some insurance companies participated in the research program. Results have not been released

- CIRC in October 2011 released the regulation guideline on subordinated debts
  - biggest change: total unpaid subordinated debts cannot exceed 50% of company's net assets (was 100% before)
  - the supplementary effect of subordinated debts on solvency was reduced substantially especially at time when poor market performance lead to shrinking net assets
To eliminate the differences between International Accounting Standards and China Accounting Standards

- Integration of the world economy and globalization of the capital configuration require that unified accounting standards between different countries and regions should be established

- Nov. 2008, joint declaration was signed by China Ministry of Finance and International Accounting Standards Board to achieve convergence between China accounting standards and International Accounting Standards in essential
To eliminate differences between the Financial Reporting of A and H shares

- Dec. 2007, joint declaration was signed by China Accounting Standards Committee and Hong Kong Society of Accountants for the equivalence of accounting standards
New PRC GAAP
Development

- New PRC GAAP (IFRS I) effective on Jan 1, 2007

- Aug 2008, MoF in China published Accounting Standard Interpretation No. 2

- Jan 2009, CIRC published Notice of Implementing the New Accounting Policy Explanation No. 2 in Insurance Industry and required:
  - Uniform implementation
  - In one step

- In Aug and Nov 2009, some companies were chosen to carry out two pilot tests and discussed on major technical problems of reserve

- In 2009, CIRC issued draft Guidance on Significant Risk Tests and chose several companies to carry out three pilot tests. In Sep, public consultation was made and feedback was collected
New PRC GAAP Development (cont’d)


- New Insurance Accounting Regulations (PRC GAAP reserve) became effective on Dec 31, 2009

- In Jan 2010, three sets of training were organized by China Insurance Industry Associations

- Since Jan 2011, premiums are calculated according to new accounting standards by CIRC
Premium split and Significant Insurance Risk Test (SRT) are required before booking the premium income.

The policy reserve is calculated as the Present Value of Cash Flows based best-estimate assumption.

Risk Margin has to be considered to mitigate the adverse deviation from best-estimate assumptions.

Residual Margin is included to prevent from day-1 gain.

The insurance company cannot hold the reserves for the purpose of smoothing earnings, such as Cat reserve, Balance reserve, or Smoothing reserve.
This Notice provides some guidelines for New PRC GAAP Reserve calculation from CIRC, including:

- Guidelines for Significant Insurance Risk Test
- Internal Control for reserve calculation
- Discount rate
- Risk margin for non-life business reserve
- Financial report for participating insurance
- Policy liability calculation for non-insurance contract
- CIRC Supervision Fee
New PRC GAAP
Premium Split and Significant Risk Tests

Able to separate the insurance risk and other risk?
- Yes → Split
- No

Insurance risk transferred in the contract?
- Yes
- No

Insurance risk is with commercial substance?
- Yes
- No

Insurance risk transferred in significant?
- Yes
- No

Insurance Contracts

Non Insurance Contracts
Reserve Formation

- **Residual Margin**: Margin for the avoidance of Day 1 Gains
- **Risk Margin**: Margin for the risks bore by insurer
- **Reasonable Liability**: PVCF @ Best Estimation Assumption

New PRC GAAP
Reserve
No catastrophic reserve, balance reserve or smooth reserve can be calculated for purpose of smoothing profits

Valuation method and assumption

- Units
  - Separately by individual contract or grouped by homogeneous risk
  - Shall not be arbitrarily changed

- Cash flow with probability weighted
  - Guaranteed benefits (e.g. death benefit, survival benefit, illness benefit, maturity benefit)
  - Non-guaranteed benefits (e.g. dividends)
  - Expenses (e.g. maintenance, claims…)
  - Premiums and relevant fees
  - Embedded derivatives
Valuation method and assumption (cont'd)

- Best estimated assumptions (BE)
- Discount rate for traditional liabilities (750-days moving average of 3 years Government bond yields)
- Risk margin (a systematic and reasonable approach using adverse scenarios)
- Residual margin (amortized based on expected income from / cost for service provided)
# New PRC GAAP

## Premium Split and Significant Risk Tests - Impact

<table>
<thead>
<tr>
<th>Company</th>
<th>Impact %</th>
<th>Impact (in RMB billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
<td>2009</td>
</tr>
<tr>
<td>Company A</td>
<td>-10%</td>
<td>-6%</td>
</tr>
<tr>
<td>Company B</td>
<td>-31%</td>
<td>-35%</td>
</tr>
<tr>
<td>Company C</td>
<td>-19%</td>
<td>NA</td>
</tr>
</tbody>
</table>

* Data source: annual reports of listed companies and market data

** New = Premiums calculated according to new accounting standards

*** Old = Premiums calculated according to old accounting standards
## New PRC GAAP Reserve – Impact for Net Asset

<table>
<thead>
<tr>
<th></th>
<th>Impact %</th>
<th>Impact (in RMB billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
<td>2009</td>
</tr>
<tr>
<td>Company A</td>
<td>29%</td>
<td>31%</td>
</tr>
<tr>
<td>Company B</td>
<td>-18%</td>
<td>-9%</td>
</tr>
<tr>
<td>Company C</td>
<td>0%</td>
<td>NA</td>
</tr>
</tbody>
</table>

* Impact % = \( \frac{\text{New}}{\text{Old}} - 1 \)
* Impact (in RMB billion) = \( \text{New} - \text{Old} \)

* Data source: annual reports of listed companies and market data
** New = Net asset calculated according to new accounting standards
*** Old = Net asset calculated according to old accounting standards
## New PRC GAAP Reserve – Impact for Profits

<table>
<thead>
<tr>
<th>Company</th>
<th>Impact %</th>
<th>Impact (in RMB billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
<td>2009</td>
</tr>
<tr>
<td>Company A</td>
<td>89%</td>
<td>54%</td>
</tr>
<tr>
<td>Company B</td>
<td>87%</td>
<td>53%</td>
</tr>
<tr>
<td>Company C</td>
<td>88%</td>
<td>35%</td>
</tr>
</tbody>
</table>

* Data source: annual reports of listed companies and market data
** New = Profits calculated according to new accounting standards
*** Old = Profits calculated according to old accounting standards
Valuation methods and assumptions are dependant on the professional judgement especially the Chief Actuary

Choice of valuation methods and assumptions have a big impact on the profit pattern of the products

Premium recognition method affects product orientation (more participating and less unit-linked products)

Bring forward the timing of profit release

No unified standards throughout the industry and the business results may not be comparable

Profits fluctuate more violently against market changes and active assumption changes

It is difficult to explain the complicated actuarial models and assumptions to board members and investors, for example, mismatch between company's investment income and the valuation discount rate for traditional product (3-year moving average)
Influence on Pre-tax Profits for the Changes of Actuarial Assumptions

<table>
<thead>
<tr>
<th>(in RMB billion)</th>
<th>Discount Rate</th>
<th>Mortality/Morbidity</th>
<th>Lapse Rate</th>
<th>Expense</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-50bp (-10bp)</td>
<td>+10%</td>
<td>+10%</td>
<td>+5%</td>
</tr>
<tr>
<td>Company A</td>
<td>-31 (-76%)</td>
<td>-10 (-24%)</td>
<td>-5.9 (-14%)</td>
<td>NA</td>
</tr>
<tr>
<td>Company B</td>
<td>-4.7 (-31%)</td>
<td>-3.7 (-25%)</td>
<td>-2.3 (-15%)</td>
<td>-1.1(-7%)</td>
</tr>
</tbody>
</table>

* 50bp lower discount rate for Company A and 10bp lower discount rate for Company B

** Data source: 2010 annual reports of listed companies
It is necessary to develop practical guidance notes for how to calculated reserve.

China Association of Actuaries (CAA) has established a working group to study the latest developments in IFRS 4 phase II, and identify issues of significance to China's insurance companies:
- Unlocking residual margin
- Unbundling of universal life contract
- Discount rate for participating contract

Possible future changes to current PRC GAAP to comply with IFRS:
- Latest development of IFRS4 Phase II project (June 2010 Exposure Draft and subsequent discussion)
- IFRS9 re-classification of financial instruments
Agenda

Part 1 Landscape of China Life Insurance Market

Part 2 Channels and Products
   - Variable Annuity

Part 3 Actuarial Regulations
   - New PRC GAAP

Part 4 Other Regulations
   - Investment
   - Compliance / AML, Internal Control & Risk Management

Part 5 Future China Life Insurance Market
Compliance, Internal Control and Enterprise Risk Management

Compliance Management


- CIRC Notice on relevant matters regarding specific applications of guidelines for the Compliance Management of Insurance Companies (2008)

- In accordance to above guidelines, insurance companies shall establish sound compliance management systems, improve the organizational structure of compliance management, clarify compliance management responsibilities to effectively identify and actively prevent and eliminate compliance risks and ensure sound and stable business operation.
Compliance, Internal Control and Enterprise Risk Management
Anti-Money Laundering Management

► CIRC measures for the Administration of Anti-Money Laundering (AML) work in the insurance sector (2011)

► Core responsibilities on AML
  • Customer due diligence
  • Big sum and suspicious transaction
  • Customer profile / record relation
CIRC issued a Notice on the basic rules for the internal control of insurance companies (No 69[2010]), effective on Jan 1, 2011.

Objectives of internal control of insurance companies shall cover the following areas:
- Regulatory compliance of conduct
- Asset safety
- Authenticity of information
- Efficiency of business operation
- Strategic safeguards

Internal control activities include:
- Sales control
- Operation control
- Control of basic management
- Control of fund utilization
In October 2010, CIRC released the guidelines for the implementation of comprehensive risk management of life insurance company (No 89 [2010]).

Company shall set up an risk management information system no later than Oct 1, 2013.

Risk management guideline requires insurance companies to establish 3 lines of defense:
- 1st line of defense – functional departments
- 2nd line of defense – risk management committee and risk management department
- 3rd line of defense – audit committee

Risk classification consists of 7 type of risks, namely market risk, credit risk, insurance risk, operation risk, strategic risk, reputation risk and liquidity risks.

There shall also be risk identification, risk assessment, risk response and control.
In August 2010, CIRC released the interim measures for the administration of utilization of insurance fund

- Expand eligible investment assets
- Establish insurance fund custody scheme
- Rectify utilization of risk management tools

Other supplementary measures issued by CIRC in 2010

- Circular of insurance company to invest in interest swap, real estates and private equity
- Circular on key investment limits
  - Liquidity fund $\geq 5\%$
  - Unsecured bond $\leq 20\%$
  - Stock and mutual fund $\leq 25\%$
  - Real estates $\leq 10\%$
  - Private equity $\leq 5\%$
  - Off shore investment $\leq 15\%$
  - Infrastructure debt investment $\leq 10\%$
In April 2011, CIRC circular of revision to interim regulation for the administration of Insurance Asset Management Company (AMC)

- Entrust fund expanded to non-insurance entities
- Criteria for AMC founding shareholders
  - Years in insurance business shortened from 8+ years to 5+ years
  - Solvency ratio requirement ($\geq 150\%$) and remove net asset requirement ($\geq$ CNY1 billion)
  - Minimum asset increased from CNY 5 billion to CNY 10 billion. If the founding shareholder is an insurance group holding company, minimum assets raised to CNY 15 billion.

- AMC minimum registered capital raised from CNY 30 million to CNY 100 million.
Agenda

Part 1  Landscape of China Life Insurance Market

Part 2  Channels and Products
   → Variable Annuity

Part 3  Actuarial Regulations
   → New PRC GAAP

Part 4  Other Regulations
   → Investment
   → Compliance / AML, Internal Control & Risk Management

Part 5  Future China Life Insurance Market
Future China Life Insurance Market
Challenges and opportunities

- China ranks #2 in the world's economy, with the growth ratio of GDP over last two decades around 9.5%, although it is expected to be slightly slower in the future.

- China life insurance market ranks fourth in the world while ranks second in the Asia as at the end of year 2010 in term of annual premium volume.

- Seven biggest companies dominate more than 85% of life market share, and domestic companies even dominate around 95%.

- Saving products are most popular and occupy most of premium income.
Future China Life Insurance Market

Challenges and opportunities

» Product development
  - Serious product homogeneity and very short product cycle
  - As China grows its economy, there are many untapped products especially in medical / health, pension, annuity and wealth management products

» Distribution channel
  - Difficulty in recruiting new agents
  - Banks entering into insurance market
  - CBRC imposes rule that bank can only sell insurance products from 3 insurers. Also, life insurers cannot place its agents to bank selling life insurance
  - Other direct marketing channels (telemarketing, internet, TV) are promising

» Life insurance market in China is still full of opportunities, due to
  - Relatively weak awareness of insurance among Chinese people
  - Limited types of insurance coverage
  - Fast aging society
  - High savings ratio
  - Accelerate emergence of middle class and urbanization
Future China Life Insurance Market

Challenges and opportunities

- Foreign life insurers are losing the market share, partly due to CIRC regulatory restriction and partly due to the lack of localization of operation and lack of flexibility by home office. As China insurance market further develops, regulatory restriction could be lifted which would provide more level playing field for domestic and foreign insurers.

- The new CIRC Chairman, Mr. Xiang Junbo (项俊波主席), focusing on consumer protection, strengthening compliance and sales practice in order to improve insurance industry image.

- One needs to commit to long term investment in China.
Thank you for your attention
The first formal and complete actuarial regulation in China

Applicable to traditional insurance

Some provisions have expired or been replaced by other regulations

Key provisions still effective

- Pricing:
  - Expense loading: maximum limits vary by product type, premium payment period and policy year;
  - Interest rates: not exceeding maximum limit specified by CIRC, currently 2.5%

- Statutory Reserve:
  - Calculation methodologies:
    - Long term health and life insurance excluding whole life annuity: 1-year FPT
    - Whole life annuity: Adjusted Levelized Net Premium method
  - Interest rates; Min. of pricing interest rates and the maximum valuation rates specified by CIRC
Appendix - Pricing and Statutory Reserve
Notice on Actuarial Guidelines (CIRC [1999] # 90)

Key provisions still effective

- Cash value: not lower than the minimum CSV required by CIRC
- Minimum Cash Value
  - Expense loading: pricing expense loading;
  - Interest rates: pricing interest rates + 2%;
  - Mortality / Morbidity: pricing incidence rates;
  - CSV Net Premium = CSV Gross Premium calculated with above assumption * (1-expense loading)
  - Min. CSV = r * Max(RSV calculated with CSV Net Premium, 0), where
    \[ r = K\% + t \times (100\% - K\%) / \min(20, n) \]
    where \( t < \min(20, n) \)
    \[ = 100\%, \text{ other cases} \]

<table>
<thead>
<tr>
<th>K</th>
<th>Endowment, Annuity</th>
<th>Term Life, Whole Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular premium, Individual Insurance</td>
<td>90</td>
<td>80</td>
</tr>
<tr>
<td>Regular premium, Group Insurance</td>
<td>95</td>
<td>85</td>
</tr>
<tr>
<td>Single premium</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Applicable to participating insurance

Some provisions have expired or been replaced by other regulations

Key provisions still effective

- **Pricing:**
  - Expense loading: same requirements as traditional insurance;
  - Interest rates: same requirements as traditional insurance.

- **Statutory Reserve:**
  - Calculation methodologies: Zillmer
  - Interest rates; same requirements as traditional insurance

- **Cash value:**
  - Same requirements and methodologies for Min. CSV as traditional insurance
  - Interest rates; pricing interest rate + 1% if the policy term < 10 years, or pricing interest rate + 2% other cases
Key provisions still effective

- Dividend:
  - The actual dividend distributed to the policyholder should not be lower than 70% of Distributable Earning
  - The calculation methodology for the Distributable Earning should be objective and consistent
  - Cash Dividend: calculated by the policy’s contribution to the Distributable Earning
  - Reversionary and Terminal Dividend:
    - Reversionary Dividend: used to increase Sum Assured
    - Terminal Dividend: normally paid in cash when the policy is terminated, calculated by the policy’s contribution to the Special Dividend Reserve.
Appendix - Pricing and Statutory Reserve
Actuarial Guidelines for Universal Life Insurance Products (CIRC [2007] #335)

Key provisions

- Sum at risk (SaR):
  - The death benefit SaR of Individual UL Insurance should be at least 5% of Account Value;
  - For annuity and group insurance the death benefit SaR can be 0.

- Universal Life Account and Credit rate:
  - The insurer should guarantee the minimum credit rate which should not be negative;
  - The universal life account should be at least logically independent;
  - The insurer should set up the smoothing reserve to smooth the credit rates;
  - The asset of the universal life account should not be lower than liability.

- Allowable charges:
  - Initial charge
  - Risk premium for insurance benefits: \(=\text{SaR} \times \text{risk premium rates}\)
  - Policy management expense: fixed amount independent from account value
  - Service fee
  - Surrender charge
Key provisions

- **Persistency bonus:**
  - The universal life insurance can offer persistency bonus whose conditions and amounts should be specified in the insurance policy and product specification.

- **Statutory reserve:**
  - Including Account Value reserve and Sterling reserve.
  - Account Value reserve is equal to the account value of Universal Life account.
  - Sterling reserve is the reserve for the liabilities not included in policy account, such as claim, operating expenses, and persistency bonus.
  - Sterling reserve is calculated as the present value of the cash flows out of the policy account.

- **Cash value:**
  - equal to Universal Life Account value – Surrender charge.
Appendix - Pricing and Statutory Reserve
Actuarial Guidelines for Unit Linked Insurance Products (CIRC [2007] #335)

Key provisions

- Sum at risk (SaR): same as Universal Life

- Investment Account and Investment Unit Price:
  - The insurer cannot guarantee the minimum investment return;
  - Net Account Value (NAV) = Total Asset – Total Liability;
  - Offer Price of Investment Unit = Net Account Value / No. of Investment Unit;
  - Bid Price of Investment Unit = Offer Price * (1+bid-offer spread);
  - $0 \leq Net\ Account\ Value \leq \text{Max}[\text{Total\ Asset} \times 2\%, \text{CNY}\ 5\ million].$

- Allowable charges:
  - Initial charge
  - Bid-offer spread: $\leq 2\%$
  - Risk premium for insurance benefits: $=\text{SaR} \times \text{risk premium rates}$
  - Policy management expense: fixed amount independent from account value
  - Asset management expense: $\%$ of Net Account Value, $\leq 2\%$ per year
  - Service fee
  - Surrender charge
Appendix - Pricing and Statutory Reserve
Actuarial Guidelines for Unit Linked Insurance Products (CIRC [2007] #335)

Key provisions

- Persistency bonus:
  - The unit linked insurance can offer persistency bonus whose conditions and amounts should be specified in the insurance policy and product specification

- Statutory reserve:
  - Including Account Value reserve and Sterling reserve
  - Account Value reserve is equal to the account value of Unit Linked account
  - Sterling reserve is the reserve for the liabilities not included in policy account, such as claim, operating expenses, and persistency bonus
  - Sterling reserve is calculated as the present value of the cash flows out of the policy account

- Cash value:
  - equal to Unit Linked Account value – Surrender charge
Pricing:
- The insurer can decide the pricing mortality rates by itself;
- The insurer can decide the risk premium rates of Universal Life or Unit Linked insurance products by itself.

Statutory reserve:
- The insurer should use CL2000-2003 as the valuation mortality table;
- The insurer should choose between non-annuity and annuity tables according to the product features prudently.