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Managing Director
Towers Watson Hong Kong & Asia Pacific Risk Consulting Practice Leader
August 2010

Working in the insurance industry since the 1980s and in Asia since 1989
Before Towers Watson he was Asian Regional CEO and Executive Director Board Member of international life insurance operations of a UK-parented insurer including their joint venture in Korea
Lead advisor of more than 200 actuarial appraisal assessments of economic value of Asian insurers and widely regarded as a leading practitioner in economic value determination and Mergers & Acquisitions of insurers in Asia
Leader in Actuarial Expert Opinions in Prospectuses for IPOs of Asian insurance businesses
- Actuarial advisor to China Life, Korea Life, Vietnam Life…
- Appointed Actuary for ten insurers in Hong Kong, Singapore and Vietnam
- Expert Witness testimonials and Independent Actuary for High Court sanctioned business transfers
- Memberships of numerous insurance-related, actuarial, regulatory and professional committees:
  - Regulatory Committees such as Insurance Advisory Committee, the statutory body that oversees the Insurance Authority in HK
  - CIRC and IRDA committees
  - Professional actuarial committees
- He holds both a BSC (Honours) degree and Post Graduate Certificate of Education in Mathematics from Manchester University, UK. And is a Fellow of six professional actuarial bodies.
Agenda … Some Food for Thought

- M&A is hot in Asia…
  - Challenges in M&A. Bigger picture.
  - Actuaries, financials and price…
  - Some insights into top-down pricing considerations and metrics…
  - Useful metrics and benchmarks?
  - Final food for thought…

Risk and Opportunity in action…

Some headlines … Reactions?

- “Prudential to pay US$35.5 billion for AIA”
- “Prudential to pay US$1 billion in advisor’s fees”
- “Met to acquire ALICo for US$15.5 billion”
- “AXA to double the size of its Asian business”
- “Max NYL sheds 4% pie to Axis Bank”
- “Prudential pays S$ 428 million for UOB Life”
- “European insurers exit Taiwan”
- “ING to dispose of its insurance unit”
- “Chinese consortium to buy AIA…”
- “AIA IPO back on…”

- In short, high activity and we will see many deals as the above headlines are the tip of the iceberg and a catalyst for action…
  - There has always been relatively high M&A activity in Asia over the last fifteen or so years but few exercises have resulted in deals…
  - A hindrance has been different perspectives and expectations of sellers and buyers…
    - And, unfortunately, not all actuaries involved have covered themselves in glory…
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Risk and Opportunity in action...

Key challenges for M&A deals

<table>
<thead>
<tr>
<th>Rank</th>
<th>Top 10 challenges in achieving synergies</th>
<th>Negative Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Incompatible cultures</td>
<td>5.60</td>
</tr>
<tr>
<td>2</td>
<td>Inability to manage target</td>
<td>5.39</td>
</tr>
<tr>
<td>3</td>
<td>Unable to implement change</td>
<td>5.34</td>
</tr>
<tr>
<td>4</td>
<td>Synergy non-existent or overestimated</td>
<td>5.22</td>
</tr>
<tr>
<td>5</td>
<td>Did not anticipate foreseeable events</td>
<td>5.14</td>
</tr>
<tr>
<td>6</td>
<td>Clash of management styles/egos</td>
<td>5.11</td>
</tr>
<tr>
<td>7</td>
<td>Acquirer paid too much</td>
<td>5.00</td>
</tr>
<tr>
<td>8</td>
<td>Acquired firm too unhealthy</td>
<td>4.58</td>
</tr>
<tr>
<td>9</td>
<td>Need to spin off or liquidate too much</td>
<td>4.05</td>
</tr>
<tr>
<td>10</td>
<td>Incompatible marketing systems</td>
<td>4.01</td>
</tr>
</tbody>
</table>

So execution risk is high. Note the issue about price is in 7th position. And poor financial state is in 8th. These are often the areas focused on in due diligence but clearly there are even more pertinent factors to consider than financials of the deal.

Note: Survey of Forbes 500 CFOs Assessed on a scale of 1 to 7, where 7 is high.
Culture is ranked as the most challenging people issue in M&A

Most Challenging People Issues in M&A Deals

- **Focus on cultural alignment**: 37% Extremely challenging, 40% Somewhat challenging, 15% Neutral, 8% Not very/Not at all challenging
- **Effective leadership from top team**: 30% Extremely challenging, 42% Somewhat challenging, 14% Neutral, 14% Not very/Not at all challenging
- **A well-executed employee communication program**: 24% Extremely challenging, 47% Somewhat challenging, 15% Neutral, 14% Not very/Not at all challenging
- **Integrating benefits, pay and other reward programs on a global basis**: 22% Extremely challenging, 35% Somewhat challenging, 21% Neutral, 22% Not very/Not at all challenging
- **Selection of the top team**: 17% Extremely challenging, 52% Somewhat challenging, 14% Neutral, 17% Not very/Not at all challenging

Source: Towers Perin TP Track Survey 2004. Percentages reflect the answers of those respondents who have completed at least one deal in the past three years.

doorswatson.com

...and, as a deal is struck, the challenges of Post Merger/Acquisiton Integration are often underestimated...

- **Influencing effectiveness of senior leadership**: 42% Extremely challenging, 15% Not very/Not at all challenging, Delta 27 points
- **Effectively and openly communicating with employees throughout the transition**: 65% Extremely challenging, 40% Not very/Not at all challenging, Delta 25 points
- **Creating and implementing strategies to retain key employees**: 56% Extremely challenging, 32% Not very/Not at all challenging, Delta 24 points
- **Deploying the workforce effectively pre-, during and post-transition**: 41% Extremely challenging, 19% Not very/Not at all challenging, Delta 22 points
- **Assigning the best resources to the integration team**: 47% Extremely challenging, 26% Not very/Not at all challenging, Delta 21 points
- **Focusing on cultural alignment**: 39% Extremely challenging, 20% Not very/Not at all challenging, Delta 19 points
- **Creating and implementing staffing strategies aligned with overall talent strategy**: 38% Extremely challenging, 19% Not very/Not at all challenging, Delta 19 points

Source: 2009 Global Pulse Survey.
towerswatson.com
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Risk and Opportunity in action...

OK so execution and people issues are massive but, for now, let's get back to the financials...

Actuarial & financial analysis for M&A

- Financial valuation
- Reserve adequacy
- Projected earnings
- Product profitability analysis
- Reinsurance evaluation and optimisation
- Capital management
- Asset-liability analysis and options
- Supporting synergy analysis
- Regulatory analysis and approval
- Representations and warranties
- Risk mitigation strategies
- Distribution capabilities
- Market analysis
- Underwriting & claims handling reviews
- Management meetings
- Deal structuring

Much more than just number crunching!!
So achieving a successful M&A is easier to get wrong than get right... There is clearly strategic and execution risk ...

- ... and all can be exacerbated by not getting the price of the deal right... so let's focus on a key component of M&A in this presentation;
  - The PRICE... and so the deal pricing risk...

- What is the right price?...
  - Assess the risk/opportunity and the earnings stream to be realised
  - Determine the commensurate right price

- Actuaries play a critical and vital role in helping inform parties in pricing of the deal
  - Present different perspectives/scenarios/sensitivity tests/"what ifs"...
  - Help understanding of the drivers of value

- But please don’t bring credibility into question by just producing numbers based on assumptions, approach or methodology that no-one (including you!) believes in…
  - "Here are the results of some calculations based on a set of assumptions that may or may not be correct but that’s all we’re doing for you...good luck!"
  - This is a disappointing practice and reflects badly on the actuaries involved and our profession

Present Value of Future Profits

- Best estimates of projected future cashflows
- Determination of earnings distributable to shareholders
- Discounted at an appropriate risk discount rate
Components of a traditional assessment of Economic Value

A traditional actuarial appraisal approach valuation typically develops the economic value of an insurance company in the following components:

- Value of In Force Business
- Adjusted Net Worth
- Value of Existing Structure
- Embedded Value (EV)
- Appraisal Value (AV)
- Other Sources of Value
- Economic Value

Profitability Analysis:
- Value of One Year's Sales
- Value of In Force Business
- Embedded Value

In particular the CHANGE and MOVEMENT of these values give great insights.

Discounted Cash Flows of Earnings

Market value versus appraisal value

External Market View

Market Value

Internal Economic View (Appraisal Value)

Franchise Value

Value of New Business

Value of in-force business

Embedded Value

Net Worth
Movement in EV

Simplistic representation of AV = EV + NB multiple x VNB

But most insights can be gained by detailed analysis of movement of EV

The Control Cycle

The Actuarial Control Cycle

INITIAL ASSUMPTIONS

PROFIT TEST

UPDATING OF ASSUMPTIONS

MODEL

MONITORING

ANALYSIS OF VARIANCE

VALUE OF BUSINESS
EV analysis of movement is the key to effective performance monitoring

**Analysis of Movement in MCEV**

- **MCEV BoY**
  - Opening adjustments
  - Experience variances
  - Assumption changes

- **Expected investment profit**

- **Unexpected investment profit**

- **Unexplained**
  - **MCEV EoY**
  - New Business
  - Dividends to shareholders

**Investment results**

**Insurance results**

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**Presentation of MCEV analysis of earnings**

<table>
<thead>
<tr>
<th>Earnings on MCEV analysis</th>
<th>Free Surplus</th>
<th>Required Capital</th>
<th>VIF</th>
<th>MCEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening MCEV</td>
<td></td>
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<tr>
<td>Opening adjustments</td>
<td></td>
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<tr>
<td>Adjusted opening MCEV</td>
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<tr>
<td>New business contribution</td>
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<tr>
<td>Existing business contribution (reference rate)</td>
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<tr>
<td>Existing business contribution (in excess of reference rate)</td>
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<td></td>
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<tr>
<td>Transfers from VIF and required capital to free surplus</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Experience variances</td>
<td></td>
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<td></td>
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<tr>
<td>Assumptions changes</td>
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<tr>
<td>Other operating variance</td>
<td></td>
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<tr>
<td>Operating MCEV earnings</td>
<td></td>
<td></td>
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<tr>
<td>Economic variances</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Other non operating variance</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total MCEV earnings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closing Adjustments</td>
<td></td>
<td></td>
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<tr>
<td>Closing MCEV</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Source: Appendix A, CFO Forum MCEV Principles
MCEV framework for understanding and managing risk

Equivalently but splitting out more explicitly strategic and tactical investment results... To measure performance, insurers need to understand insurance and investment results.

- Stock picking variances
- Cost savings
- Identification of niche opportunities
- Actual mis-match variances relative to expectations
- Experience variances
- Changes in assumptions
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Risk and Opportunity in action…

Common valuation metrics for life insurers

<table>
<thead>
<tr>
<th>Primary</th>
<th>Valuation metric</th>
<th>Supplementary</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFRS P/E</td>
<td>Price/earnings ratio</td>
<td>P/EV earnings</td>
</tr>
<tr>
<td>P/ IFRS NAV</td>
<td>Price/book</td>
<td>P/EV</td>
</tr>
<tr>
<td>Dividend yield</td>
<td>Yields</td>
<td>-</td>
</tr>
<tr>
<td>Earnings yield</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RoE</td>
<td>Return on equity</td>
<td>RoEV</td>
</tr>
</tbody>
</table>
**Price/EV – European Life Companies**

![Graph showing the Price/EV ratio for European Life Companies from 2000 to 2010. The graph highlights the average P/EV ratio from June 2001 to June 2007 as 1.4.](image)

**T&D Holdings Share Price since April 1, 2004**

![Graph showing T&D Holdings share price against EV per share from March 2004 to March 2010.](image)

Book value per share of non-covered business of T&D Holdings included in the EV per share.
Price/EV for major Chinese Life Companies

Implied NB multiples for major Chinese Life Companies
Price/EV – Europe and Asia

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Risk and Opportunity in action…
## Current ranking …
which metric gives you the best insight to market price?

<table>
<thead>
<tr>
<th></th>
<th>Assets</th>
<th>Premiums</th>
<th>EV</th>
<th>VOYS</th>
<th>Mkt Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>China Life</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>?</td>
</tr>
<tr>
<td>Dai-ichi Life</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>?</td>
</tr>
<tr>
<td>Samsung Life</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>?</td>
</tr>
</tbody>
</table>

## Current ranking…
Hmmm…

<table>
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<th>EV</th>
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<td>China Life</td>
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<td>1</td>
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<td>1</td>
</tr>
<tr>
<td>Dai-ichi Life</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Samsung Life</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
**Benchmarks? Help or hinder?**

<table>
<thead>
<tr>
<th></th>
<th>AIA Australia</th>
<th>AIA China</th>
<th>AIA HK</th>
<th>AIA Indonesia (US$ denominated)</th>
<th>AIA Indonesia (Rupiahs denominated)</th>
<th>AIA Korea</th>
<th>AIA Malaysia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk discount rate</td>
<td>9.00%</td>
<td>10.00%</td>
<td>8.00%</td>
<td>12.50%</td>
<td>17.00%</td>
<td>10.00%</td>
<td>9.00%</td>
</tr>
<tr>
<td>Expected long term rate of inflation</td>
<td>2.50%</td>
<td>2.00%</td>
<td>2.00%</td>
<td>6.00%</td>
<td>6.00%</td>
<td>3.50%</td>
<td>3.00%</td>
</tr>
<tr>
<td>10 year Government bond yield</td>
<td>5.75%</td>
<td>3.74%</td>
<td>3.83%</td>
<td>6.92%</td>
<td>11.00%</td>
<td>5.16%</td>
<td>4.46%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>AIA New Zealand</th>
<th>Philam Life</th>
<th>AIA Singapore &amp; Brunei</th>
<th>AIA Taiwan</th>
<th>AIA Thailand</th>
<th>AIA Vietnam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk discount rate</td>
<td>9.00%</td>
<td>14.00%</td>
<td>7.50%</td>
<td>8.00%</td>
<td>10.00%</td>
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</tr>
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<td>4.50%</td>
<td>2.00%</td>
<td>1.00%</td>
<td>2.00%</td>
<td>5.0%</td>
</tr>
<tr>
<td>10 year Government bond yield</td>
<td>6.30%</td>
<td>7.47%</td>
<td>2.93%</td>
<td>1.73%</td>
<td>4.16%</td>
<td>9.25%</td>
</tr>
</tbody>
</table>

**Useful … but beware …** Many moving parts, components, and considerations Any measure in isolation is dangerous…

In addition to what is here, what is not here?!?

Source: Prudential Prospectus 2010
Case Study: So what was the right price?

- If you were P’s shareholders?
- If you were A’s Board?

- If you were considering it as a standalone entity?

- If you were investor C?

- **What is the correct economic value of your company?**
  - To who?!?
  - ...are you sure?!?...

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Risk and Opportunity in action…
So need Top Down as well as Bottom Up assessments...

1. Do the bottom up determination
   - Together with range of perspectives/scenarios/sensitivities/"what ifs"…
   - And detailed analysis of movement in values and sources of earnings

2. Apply deep knowledge and expertise from all available benchmarks and comparatives
   - Use a matrix of metrics in your assessment …

3. Don’t lose sight of common sense
   - Eg. How much additional value needs to be created in order to justify the price?
     - Profits/synergies/expenses/improvements/effectiveness/distribution/products(mix)/…"we’ll do things better…..” …but don’t forget the execution risk post acquisition…
     - "What growth in VOYS is required per annum compound over the next ten years to realise an IRR of x% in our investment in the franchise value?"

Seasoned actuaries are THE professionals best placed to determine and inform other parties about economic values of insurers...

And finally… We live in interesting and exciting times … Grasp the opportunity…

Mark Saunders, FIA, FIAI, FSA, FSAS, FSAT
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