ASSOCIATION OF EUROPEAN BUSINESSES
IN THE RUSSIAN FEDERATION

Round Table organized by the AEB Insurance & Pensions Committee

"Actuarial profession in Russia: A new approach "

September 14, 2010
AEB Premises, Moscow

Actuarial profession in Russia current status

Vladimir Novikov
Chairman
Russian Guild of Actuaries
Chief actuary, ALICO Russia
14 September 2010

History

- 1906 – 1916?: existence of the first Russian actuarial society
- 1994 – 2002 – steps towards professional association of actuaries in modern Russia (creation of modern Society of actuaries)
- 2002 – Russian Guild of actuaries was founded
- 2004 – Actuaries are mentioned in Insurance law
- 2008 – Full membership of the Guild in International Actuarial Association (IAA)
- 2009-10 – Special actuarial law and special part of Insurance law are accepted in first hearing by State Duma

Members structure as of 01/07/2010

156 Fully qualified actuaries (FQA) representing

- Insurance industry – 62%
- Consulting – 16%
- Universities – 8%
- State and Non-state pension Funds – 11%
- Other – 3%

There are 7 Russian actuaries in IAA committees

Management Structure

The Board

- Igor Kotlobovski (Moscow State university) – Head of Disciplinary commission
- Alexander Lelchuck (Consulting) – Head of Life insurance committee
- Sergey Zavriev (Aviva) – Head of Education committee
- Andrey Kudriavtsev (SPb University)
- Nikolay Gorbachev (Ingosstrakh)
- Valery Baskakov (Consulting) – Head of pension committee
- Dmitry Denisov (Moscow State university) – Administrative director
- Dmitry Malykh (Generali PPF)
- Konstantin Kozlov (Cardif)
- Andrey Safonov (ERGO Rus) – Head of general insurance committee
- Vladimir Novikov (ALICO) – Chairman of the Board

- Disciplinary commission
- Committees (Life, Pension, General insurance, Education)
- Administrative direction

Internal regulation

- Statute
- Code of Conduct
- Disciplinary procedure
- Education & Qualification system
- CPD (Continued professional development)
- Actuarial standards of practice (the first was adopted in January 2010)

Membership

- Voluntary
- Personal
- Education in mathematics or economics
- Qualification (professional exams or equivalent)
- Reputation (should meet requirements of the Code of conduct)
- Professionalism (should follow professional standards)

This system complies standard of International Actuarial Association (IAA)

Code of conduct & discipline

- Code of conduct is obligatory for all members
- Formal discipline procedure
- Discipline committee

This system complies standard of International Actuarial Association (IAA)

Education & qualification

- 10 professional exams

Syllabus and study materials are based on British texts provided by British actuarial profession during many years of cooperation.

Number of exams in place – 4, since autumn 2010 – 6, by the end of 2011 – 10.

- There are about 50 students of education system

This system complies standard of International Actuarial Association (IAA)

CPD

- Obligatory for all members
- Active-at-work clause
- 100 scoring points every year
- Reporting date is 1st of December
- CPD events include
  - Guild's seminars and conferences
  - International actuarial seminars and conferences
  - Working in Guild's committees, etc
- Education committee is responsible for selection forthcoming events to include in CPD list

This system exceeds standard of International Actuarial Association (IAA)

Member services/cooperation

- Website with information for the members – www.guildofactuaries.ru
- Partner's websites with information about the Guild – www.actuaries.ru, www.actuary-AL.ru
- Magazine Actuary (in cooperation with Independent Actuarial Analytical Centre)
- Cooperation with Ministry of Finance, Federal Insurance Supervision Service, All Russian Insurer's Association, Russian Association of Motor Insurance, Association of Insurance Brokers, European actuarial academy, etc

Challenges/opportunities

- Preparing amendments to the draft actuarial law for the second hearings
- Low number of actuarial students and FQAs to start fulfill possible legal duties at once
- Qualification level of existing actuaries should be increased in line with modern market features
- More actuaries should be attract in non insurance areas (pensions, social security etc)

General conclusion

- Modern actuarial profession in Russia is young but well organized
- Russian actuarial profession is recognized by International Actuarial Association
- Russian actuaries made contribution to development of the market (OSAGO, Pension reform, agriculture insurance, etc.)

- Achievements should be used in setting legal roles in regulation of financial markets

Actuaries and Enterprise Risk Management (ERM)

Artyom Ambartsumyan

Chief Risk Officer
Zurich Insurance Company, Russia

14 September 2010

Zurich HelpPoint™

Agenda

- Zurich's ERM Framework
- Why Actuaries?
- Actuary's role in ERM – Current Status
- Appendix

Risk events: Triggers & Consequences
What does Risk Management?

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Risk is a state of uncertainty where some possible outcomes have an **undesired effect or** cause **significant loss**.

✓Risk concerns the **deviation** of one or more results of one or more future events **from their expected value**.

✓Primary focus on potential harm

- ✓from incurring a cost ("**downside risk**")
- ✓or by failing to attain some benefit ("**upside risk**")

Risk management is

- the **identification**, **assessment**, and **prioritization** of risks
- … followed by coordinated and economical application of resources to **minimize, monitor, and control** the probability and/or impact of **unfortunate events**
- … or to **maximize the realization of opportunities**.

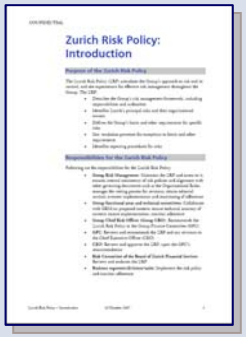
Zurich's risk management architecture fosters integrated view of risk

ZURICH

Risk Governance

Zurich Risk Policy (ZRP)

- Governs risk ownership, roles and responsibilities
- Sets limits by risk type
- Is mandatory across Group
- Is regularly updated and communicated

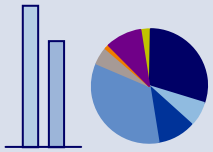


More quantitative

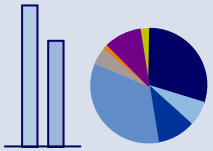
Risk Tolerance

- Defines and informs risk limits
- Takes a shareholder view (eg. 1/10 and 1/50 years)
- Capital-at-Risk, Earnings-at-Risk, financial flexibility and franchise value

Capital-at-Risk

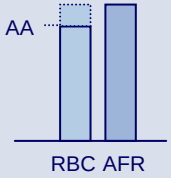


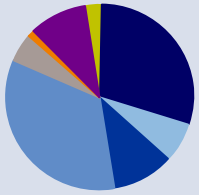
Earnings-at-Risk



Risk-Based Capital (RBC)

- Sets target capitalization at AA level
- Takes a policyholder view (1/2000 years)
- Externally communicated

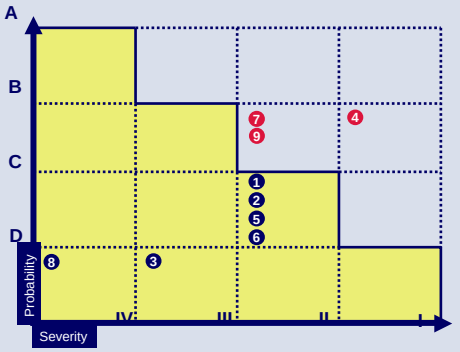




More qualitative

Total Risk Profiling (TRP)

- Business management view of risks
- Proprietary tool for risk identification and assessment at all levels of the Group
- 3-5 year time horizon (in line with strategic plan)



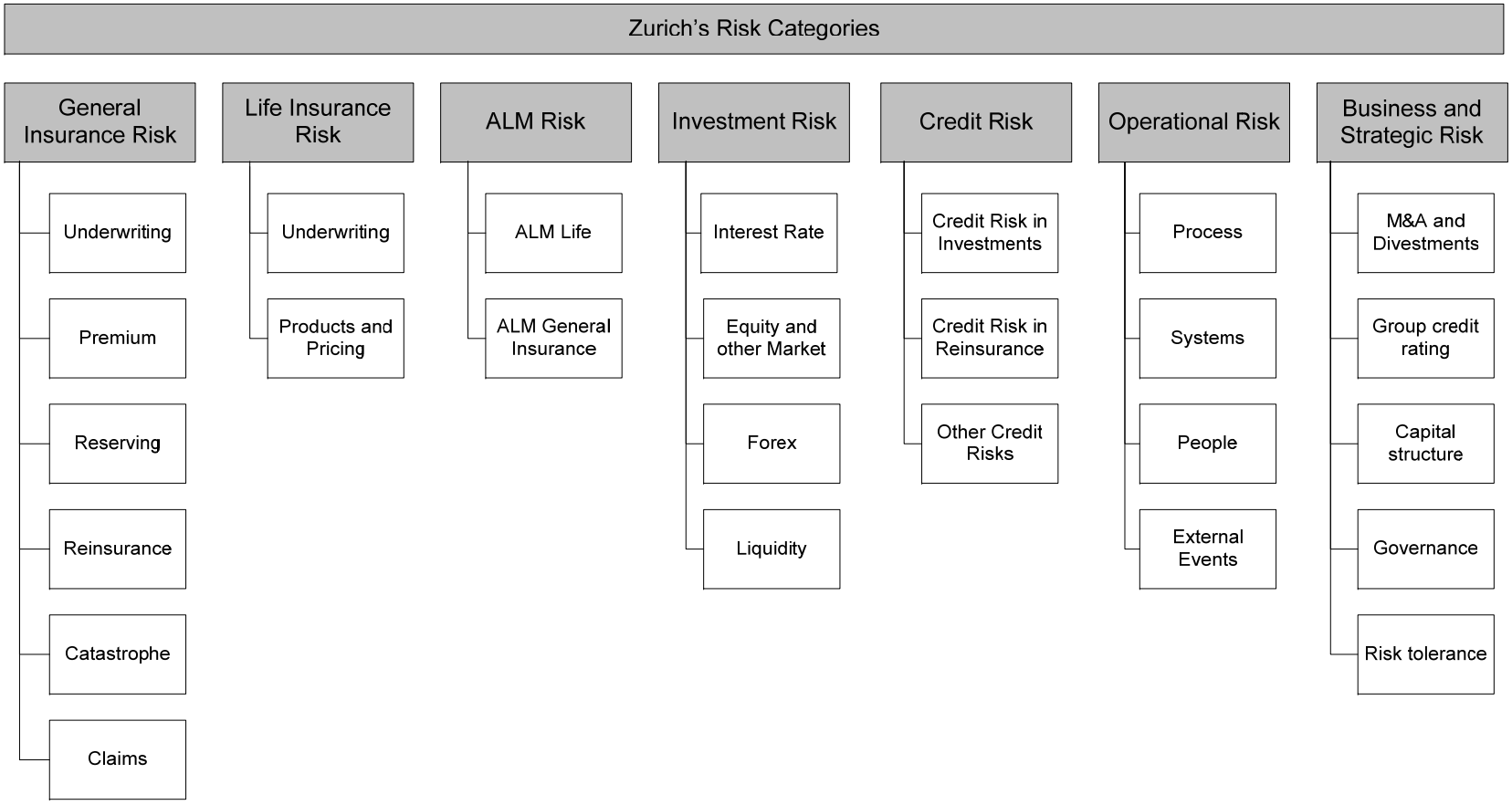
Operational Risk & Control

- Various processes & tools (including ICF[1])

[1] Internal Control Framework

Zurich Risk Policy: scope

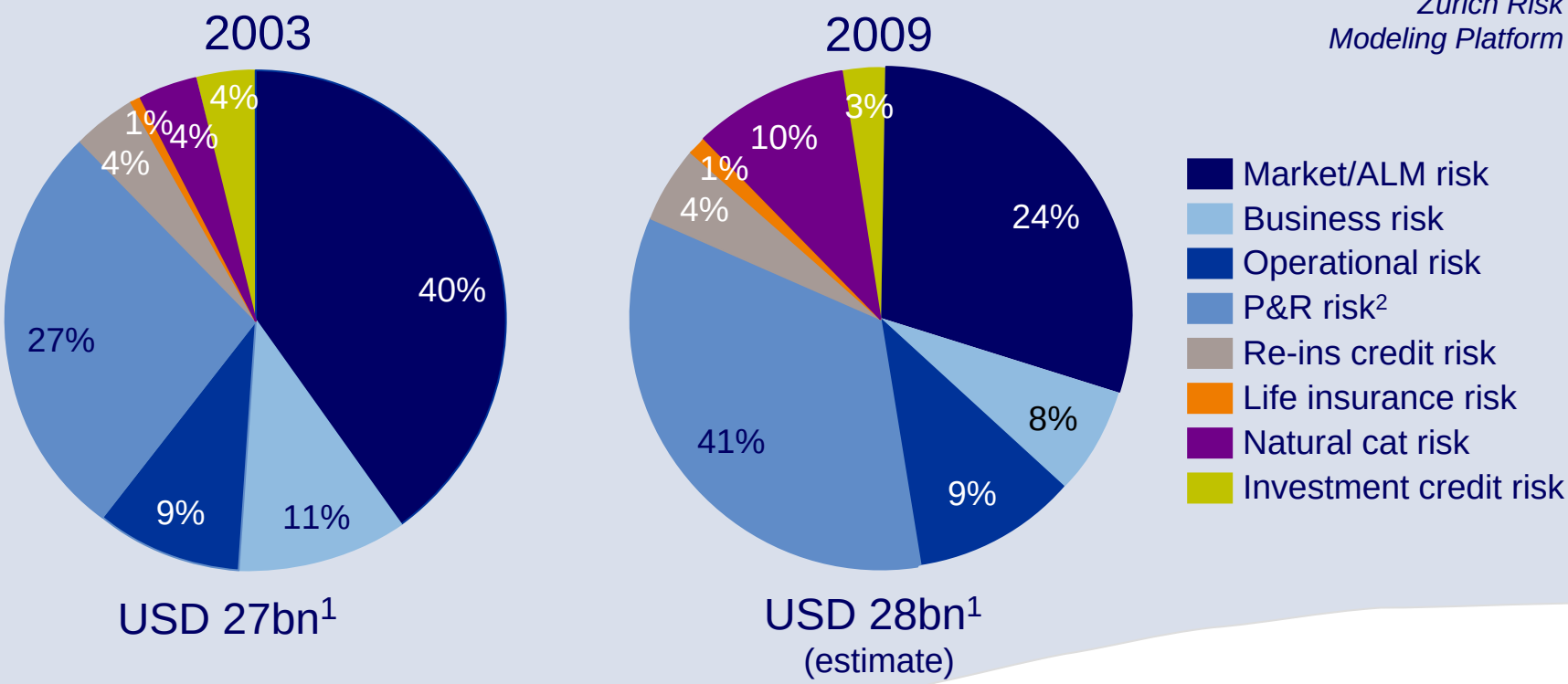
Contains specific risk definitions, limits, reporting requirements and escalation procedures for broad risk types. Specific policies are regularly updated in light of Zurich's capital base, organizational structure, and focus on core businesses and major risks



Significant shift from Market/ALM to general insurance risks 2003 - 2009

Zurich RBC[1] by risk type

Graph taken from Zurich Risk Modeling Platform



[1] Risk Based Capital (RBC) is based on expected risks to be taken during period, as of January 1
[2] Premium and reserving risk

Zurich's risk and control framework

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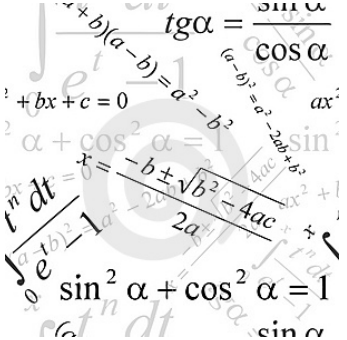
Why actuaries?

From “Comprehensive Actuarial Risk Evaluation (CARE)” report by IAA, 2010
www.actuaries.org

- Actuaries are well positioned to evaluate the risks in financial services business due to their **strong analytical capabilities** and **technical expertise**

- Actuaries have a **healthy respect for the limitations of models**.
  - Models do not predict the future and do not replace judgment. They merely help gain better insights and understandings as to what can go wrong given the inputs used.
  - As the designers and owners of many risk models, actuaries are well positioned to understand precisely how much reliance should be placed on models and where additional judgment is needed.



Why actuaries?

From “Comprehensive Actuarial Risk Evaluation (CARE)” report by IAA, 2010
www.actuaries.org

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- Actuaries have authority because of professional bodies that have established **a code of professional conduct**, set minimum standards of competency for members and standards for

  work undertaken. This means that actuarial advice is
  - rigorous, designed to understand risk,
  - recognizes long term business complexities and uncertainties and is in the public interest.

  Being part of a profession implies high ethical standards and consistency of advice.

- Professionalism also includes actuarial training, which focuses on **prudently taking and managing risks** as well as **a deep respect for the risk of the unknowns**.

  CERA - the new designation in Enterprise Risk Management launched by IAA in 2009.

  Details under http://www.ceranalyst.org/

Why actuaries? The answer

From “Comprehensive Actuarial Risk Evaluation (CARE)” report by IAA, 2010
www.actuaries.org

Actuaries are recognized as risk business experts by which is meant that they

- have practical hands on skills not just ivory tower solutions,
- and are adept at solving real world problems with practical and implementable solutions..

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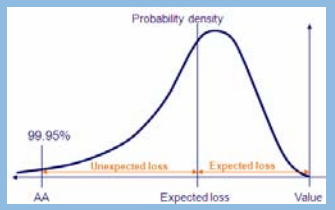
Role of Actuary Today: including, but not limited to

Actuary in ERM

	Details

Economic Capital (RBC*) 	• Defined as potential unexpected economic loss, over a 1 year time horizon at a 99.95% confidence level (1/2000)
	• Applications:
	  ◦ Determine economic solvency
	  ◦ Risk-based measurement of performance
	  ◦ Shift capital to business earning highest risk-adjusted return
	  ◦ Pricing, Reinsurance purchasing (inc. NAT CAT)
	  ◦ Transaction evaluation (M&A, securitization, etc)
	  ◦ Regulatory and rating agency communication

Assets/Liability Management (ALM) Liability part	• Manage potential unfavorable changes in value of assets and liabilities which can threaten financial resources • … due to **market factors** – currency rates, interest rates, equity prices. • Explicit / implicit dependencies, linear / non-linear
Risk Tolerance*	• Links risk taking, strategic & operational planning with comprehensive risk limit system • Enables active risk taking within a consistent framework

* More details on RBC, Risk Tolerance are available in Appendix

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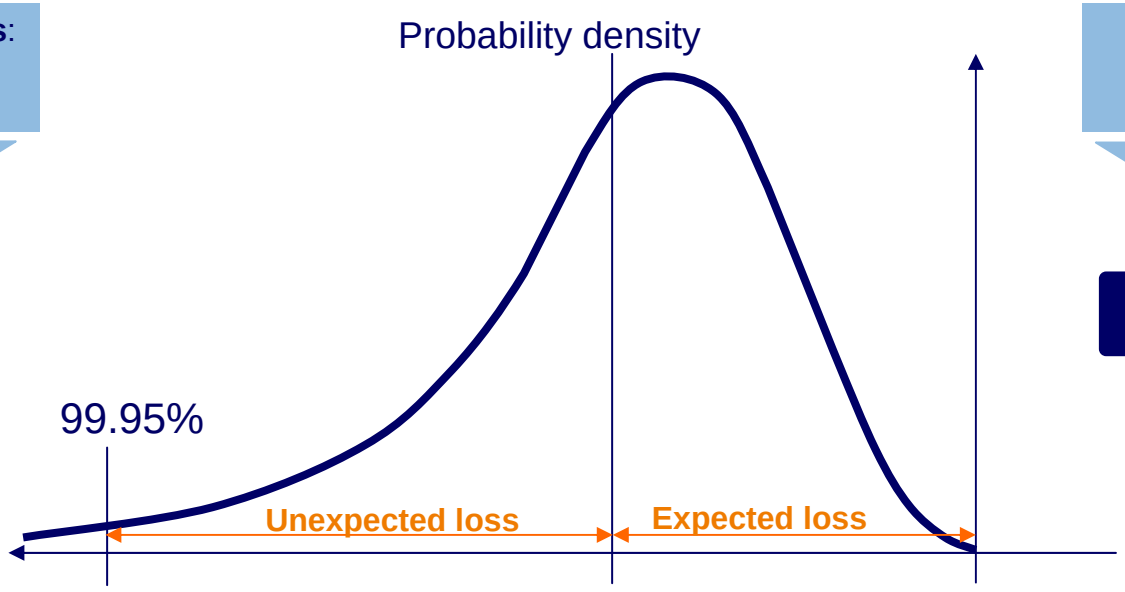
Risk Based Capital (RBC)
Calibrating to AA financial strength

- RBC is defined as the potential unexpected economic loss, over a 1 year time horizon at a 99.95% confidence level (1/2000); it takes a policyholder view
- RBC is derived from Value at Risk (VaR) type of risk calculation methodologies
- The confidence level is associated with Zurich's target financial strength rating 'AA'

Unexpected losses: The volatility of the expected losses

Risk Based Capital



Expected losses: The average expected loss

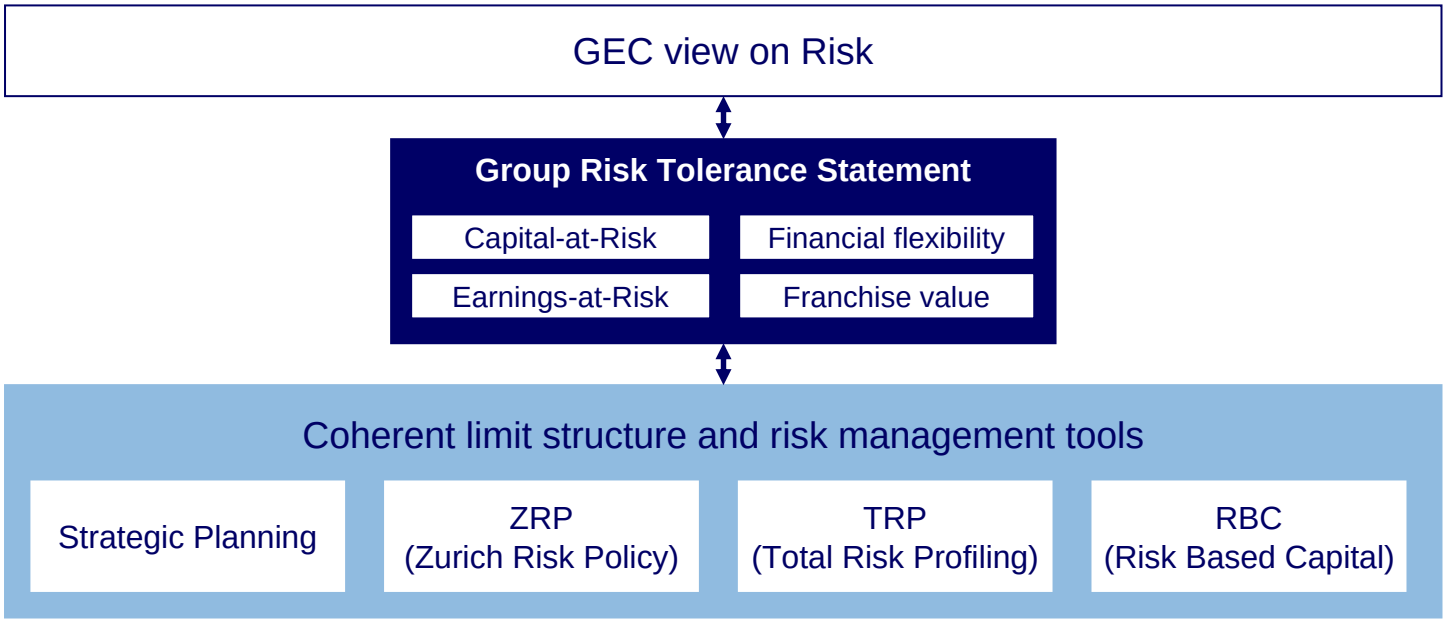
Pricing

Potential **unexpected losses** against which it would **not be economical to hold capital**

RBC: RBC acts as a buffer to absorb potential **unexpected losses**

Risk Tolerance to integrate Group strategy with Enterprise Risk Management

Group Risk Tolerance Framework



- Group Risk Tolerance framework links risk taking, strategic & operational planning with comprehensive risk limit system
- Enables active risk taking within a consistent framework

ZURICH

Thank you

Zurich HelpPoint™

Actuaries in life insurance and pensions

Alexander Ielchuk,
independent actuarial consultant,
head of life insurance committee
of Russian actuarial guild,
lal55@mail.ru, www.actuary-AL.ru, www.life-assurance.su

Actuarial activities

1. Main kinds:
- Product development
- Profit testing
- Life office model
- Valuation: statutory, realistic (IFRS)
- Data analysis

2. Main concern: company's financial soundness

3. Hard core: models and assumptions

Other kinds of activities

Working with other departments:

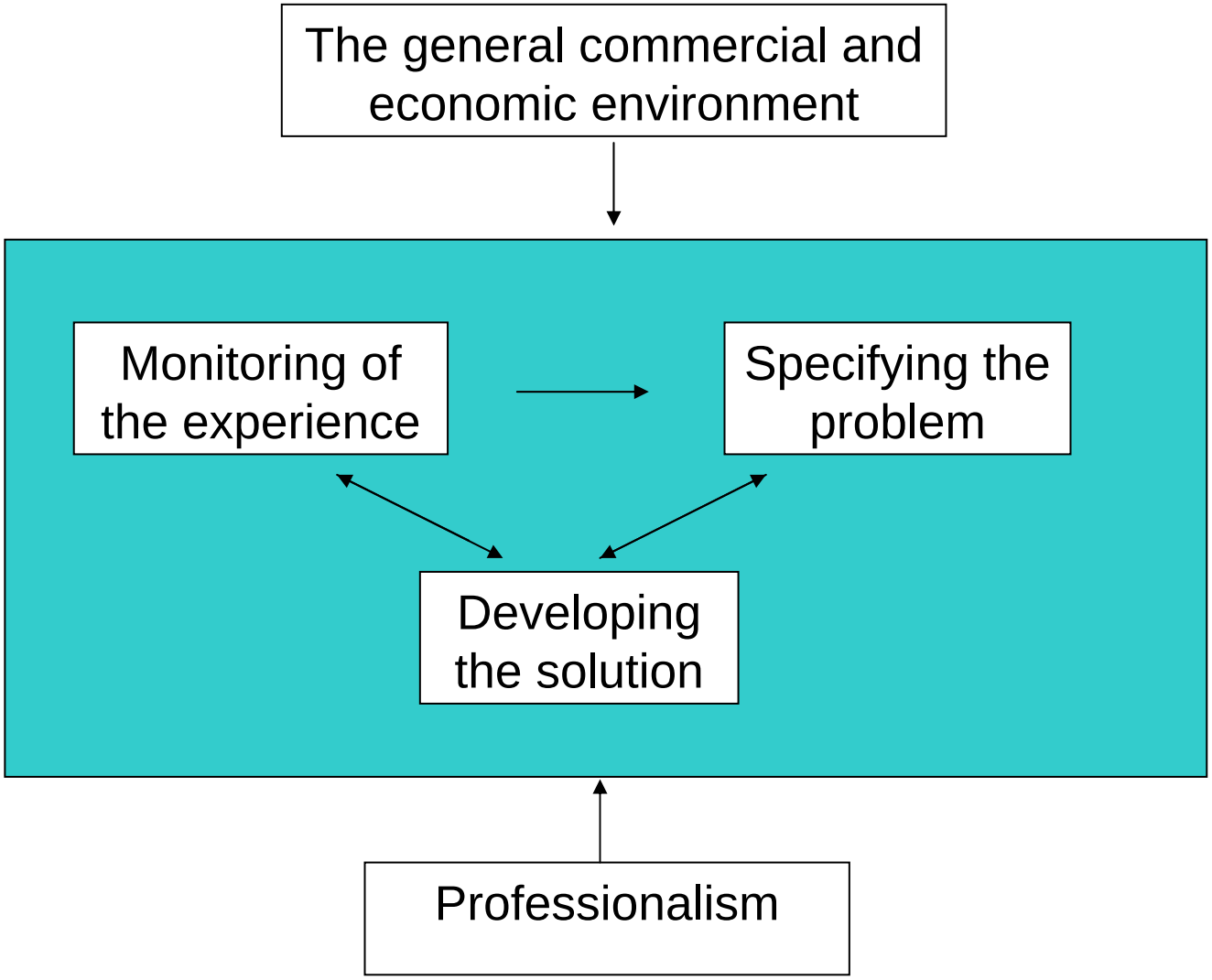
- Investments
- Underwriting
- Reinsurance
- Marketing
- Operations

What is an actuary?

- An actuary is a professional trained in evaluating the financial implications of contingency events.
- Actuaries require an understanding of the stochastic nature of insurance and other financial services, the risks inherent in assets and the use of statistical models.
- In the context of insurance, these skills are, for example, often used in establishing premiums, technical provisions and capital levels

(Source: IAIS)

Actuarial control cycle



The general commercial and economic environment

- Customers
- Distribution
- Competition
- Regulation
- Taxation
- The economy

Specifying the problem

- Assessment of the risks, in particular concerning mortality, investment return and expenses
- How to handle risks
- Analyzing different opportunities
- **Risk-based decision-making**: maximization of the profit subject to maintaining an acceptable level of risk

Developing the solution

- Models
- Assumptions
- Criteria of success
- Decisions (products, investments, underwriting, reinsurance, surrender values, etc)

Monitoring of the experience

- Main factors:
  - Mortality
  - Investment return
  - Expenses
  - Lapses
- Comparison of the actual experience with assumptions
- Renewal of the assumptions, if necessary
- Detection of unfavorable trends
- Preparing of management information

Typical problems due to wrong assumptions - 1

Life assurance:

- Low levels of expense loadings
- Inadequate mortality tables
- High surrender values
- Currency risk
- Inadequate flexibility of individual life insurance policies

Typical problems due to wrong assumptions - 2

State pension system

- Replacement ratio – pension to wage ratio. Average replacement ratio is equal to:

$$\frac{\text{Number of workers}}{\text{Number of pensioners}} \times \text{Contribution rate}$$

- Pension crisis due to sharp decrease of fertility and (not in Russia yet), increase in longevity

Main pension reform assumptions

1. *Assumption*. Retirement age (60/55) will stay unchanged for a long period of time

   Conclusion. In 20-30 years average replacement ratio will drop drastically; future pensioners' problems are so high that they could and should be solved even by worsening current pensioners situation
2. *Assumption*. Investment return will be higher than wage growth rate. Economic ministry forecast:
   - 7% real investment return
   - 3% real wage growth

   Conclusion. We should establish obligatory saving pension.

Results-1

1. By the end of the year 2007 annual investment return was:
   - VEB: 7.8%
   - Average for all managing companies (2004-2007 годы): 11.1%

   Average wage growth (2002-2008 годы): about 25% a year
2. *Assumption*: investment return would be 4% higher than wage growth

   Fact: investment return was lower:
   - VEB: by 16%
   - Managing companies (average): by 13%!
3. *Result*: By now saving pension is worse than Paygo. Future?

Results -2

- Establishment of saving pension worsened current pensioners condition. By the year 2002 average replacement ratio was equal to 32%, in 2007 – 23%
- Middle class replacement ratio is much lower than average. Causes:
  - «Flat» base pension
  - Regressive contribution scale

What is an actuary?

- Is an actuary an applied mathematician, working in insurance, pensions, etc?
- No.
- An applied mathematician working in medicine is not a doctor. On the contrary, an actuary, working in life insurance, is a professional in life insurance
- So, a career as an Actuary can be described as a "business" career with a mathematical basis
- **An actuary, who is just an actuary, is not an actuary (F. Reddington)**