European actuarial academy

an initiative of the 'Deutsche Aktuarvereinigung', the Dutch 'Actuarieel Genootschap', the 'Schweizerische Aktuarvereinigung' and the 'Aktuarvereinigung Österreichs'

Actuaries – a professional international community

Prof. Dr. Martin Balleer

Seminar European Actuarial Academy/Serbian Society of Actuaries
Belgrad, 8th December 2010

Agenda

- *Introduction*

- *Structure and role of the actuarial profession*
  - *International Actuarial Association (IAA)*
  - *Groupe Consultatif des Europeenne (GC)*
  - *National Actuarial association*

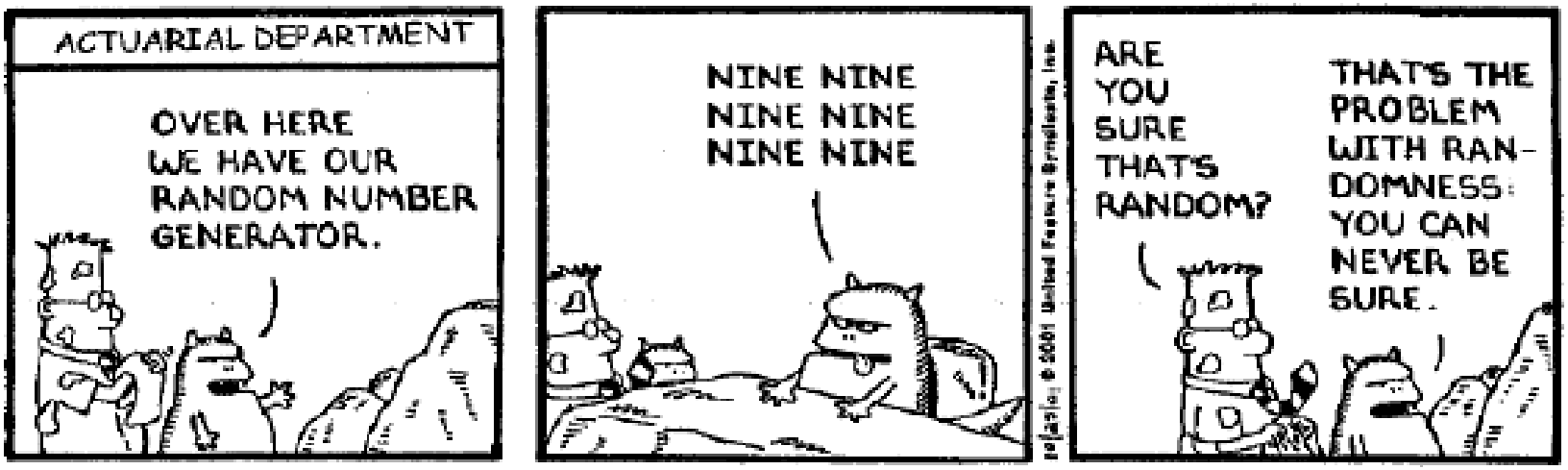
- *Requirements on actuarial profession*
  - *Education*
  - *Continuous Professional Development (CPD)*
  - *Codes of Conduct / Ethics / Disciplinary processes*

- *Role of the actuarial profession in deregulated markets*

- *Actuarial guidance*

Leave it to chance

The „damned“ random…



…but it‘s the basis for the actuarial profession.

The risks involved

Where is the random ? Risk areas (1)

- *Technical insurance risks*

  „The risk that the revenues of a financial product will not be adequate to cover the expenses. This is part of the „classic“ actuarial domain and includes many different components, depending on the area of work. It relates to risks on the acceptance of insurance, the setting of premiums, risk in relation to product development, claims risk, risk in relation to the behaviour of policyholders, catastrophe risk, economic risk, reinsurance risk, risk in relation to the creation of reserves and the valuation of liabilities.“

- *Market risks*

  „This involves risks relating to price formation on the capital market, such as risks relating to the price of secuities and returns. This risk affects the value of the asset, but also has a direct or indirect effect on the valuation of the liabilities.“

(Dutch Actuarial Association: The Actuary, Professional and Competence Profile)

The risks involved

Where is the random ? Risk areas (2)

- *Matching/interest risks*

  „The risk resulting from a mismatch of assets and liabilities or income and expenditure, in terms of interest rates, lives to maturity, currencies, liquidity and sensitivity to inflation. This may be crucial in relation to income insurance and pensions.“

- *Deptor risks*

  „The risk that the counterparty may not fulfil ist contract obligations. This affects the market value of financial contracts.“

- *Non-financial-risks*

  „This relates to environmental risks, operating risks, outsourcing risks, IT risks, integrity risks and legal risks.“

- *Strategic risks*

  „The risk of incurring losses as a result of the choice of an incorrect strategy.“

(Dutch Actuarial Association: The Actuary, Professional and Competence Profile)

Characteristics of a profession

Who deals with the random ? An efficient profession, defined by

- *specialised skills*
- *intellectual and practical training*
- *high degree of detachment and integrity*
- *direct, personal and fiduciary relations to clients and colleagues*
- *collective responsibility for competence*
- *regulation of standards of conduct and competence*

(Chris Daykin, Bratislava, 10th July 2006)

History

The first historical actuaries

1693: Edmund Halley

„An estimate of the degree of the mortality of mankind, drawn from curious Tables of the Births and funerals of the City of Breslaw; with an attempt to ascertain the price of Annuities upon Lives“

1756: James Dodson

*First premium calculations as a basis for the founding of „The Society of Equtable Assurance on Lives and Survivorships“ (1762) *)*

1845: Carl Friedrich Gauss

Actuarial report on the pensions fund of widows and orphans of the professors of the Göttingen university

**) This company was active in the market until the „nienties“, but collapsed because of wrong actuarial assumptions and valuations.*

Definition of an actuary

„ An actuary is a highly educated professional specialised in modelling financial risk processes. Usually active in the financial sector, the actuary provides insight into the financial consequences of uncertain events. He is a professional and, where necessary, gives independent opinions on financial risks and the adequacy of funds and management measures taken to ensure that these risks are manageable…..“

(Preamble,Dutch Actuarial Association)

Actuarial Competence

The actuary is someone, who

- *operates at an academic level of work and analysis*
- *has knowledge of the financial services market*
- *has knowledge of finance offered by financial service providers and their products*
- *has an understanding of financial risks and can estimate these risks*
- *is able to make assessments of risks and how to provide adequate cover for these*
- *is able to organise the pooling of risks*
- *can manage long-term financing problems*
- *provides clear, consistent risk information*
- *operates in a manner which is ethical*
- *communicates adequately with all responsible parties*
- *can work internationally*
- *can co-operate in a (multidisciplinary) team*

(The Actuary, Professional and Competence Profile, Dutch Actuarial Association)

Actuarial Competence

Key tasks of the actuarial profession

- *Valuation*
- *Determining and allocating capital*
- *Risk management*
- *Product development and management*
- *Accounting and control*
- *Generic tasks*

(Dutch Actuarial Association: The Actuary, Professional and Competence Profile)

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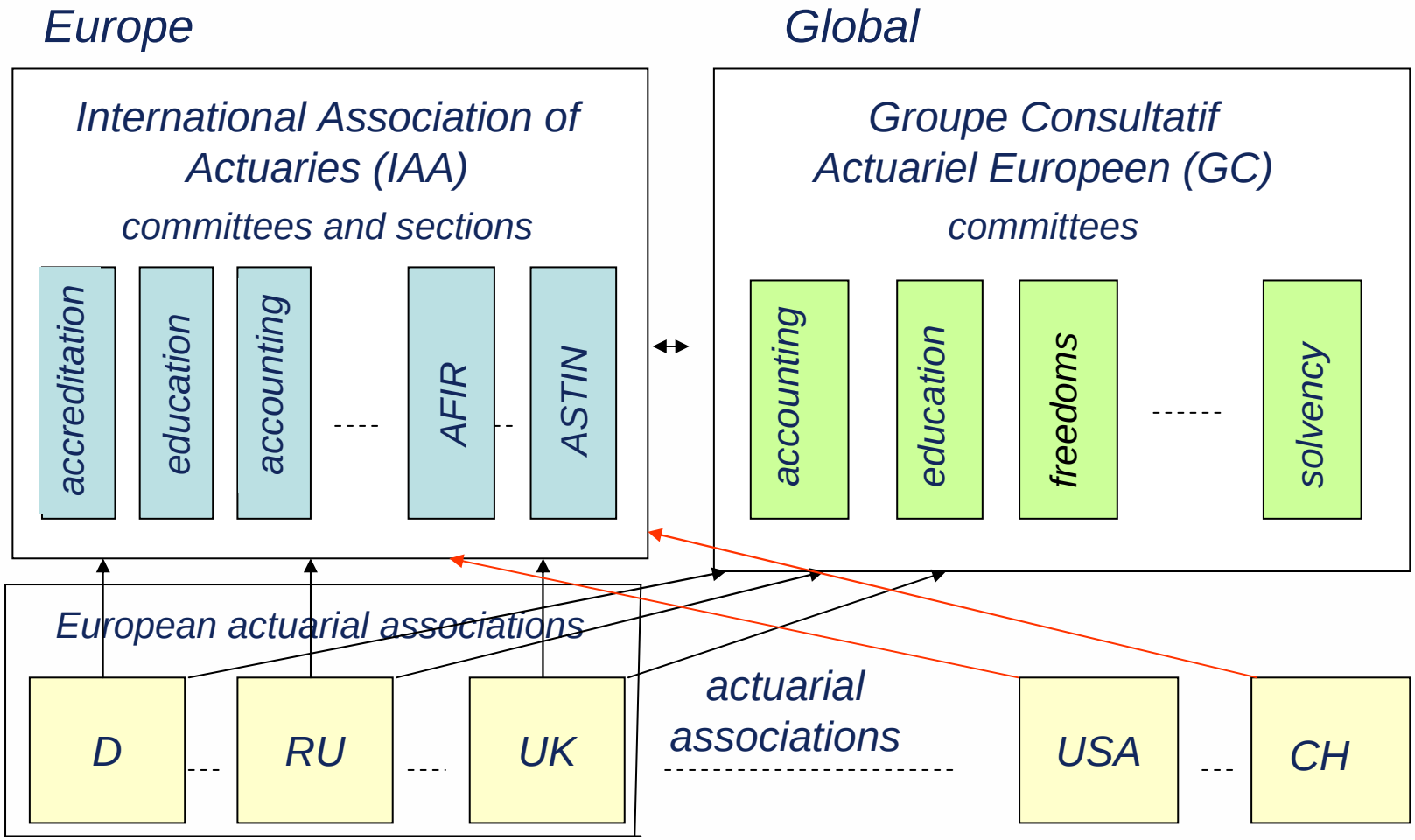
Actuarial Profession

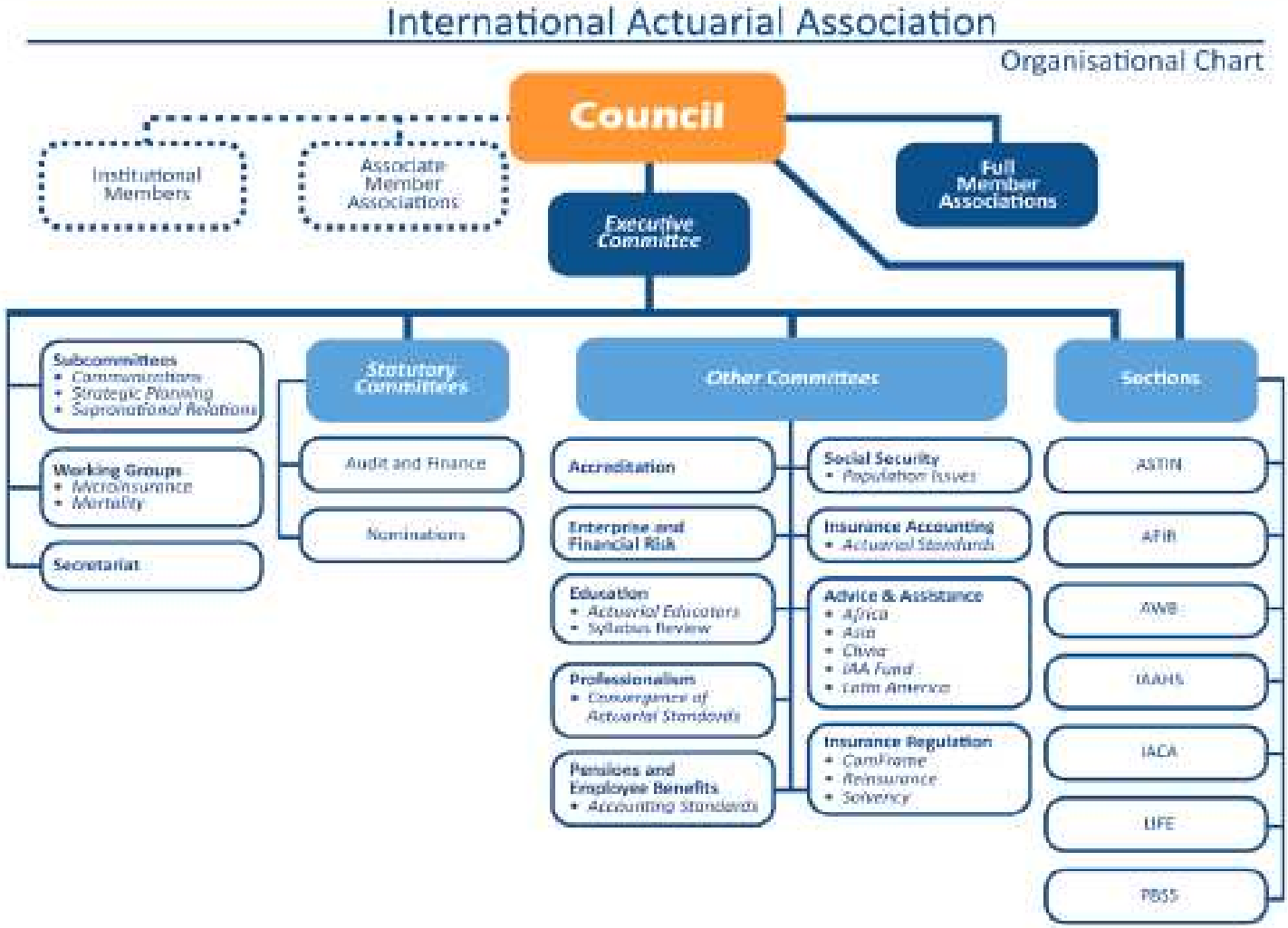
International structure of actuarial institutions



Origins, mission and recognition

- Founded in 1895
- Restructured in 1998 to serve as worldwide association of professional actuarial associations and individual actuaries.
- To encourage development of global profession
  - technically competent and professionally reliable
  - to ensure that the public interest is served
- Not-for-profit, non-political, Non-Governmental Organisation
  - on the Roster of the Economic and Social Council of the UN
  - on the Special List of the ILO

Actuarial Profession



Sections

For 2011, all Section dues are $50 CAD per individual.

ASTIN: Actuarial Studies in Non-Life Insurance formed in 1957

AFIR: Actuarial Approach for Financial Risks formed in 1988

IACA: International Association of Consulting Actuaries formed in 1968 and became a section in 1999

IAAHS: IAA Health Section formed in 2003

PBSS: Pensions, Benefits, Social Security Section formed in 2003

AWB: Actuaries Without Frontiers formed in 2003; renamed as Actuaries Without Borders in 2009

LIFE: Life Section formed in November 2005

Membership and representation

- Full Member Associations: 62
- Associate Member Associations: 23
- Assisting development of profession in 30 additional countries
- Fully qualified actuaries: 55,000+ in 100 countries
- Institutional Members:
  - International Association of Insurance Supervisors (IAIS)
  - International Accounting Standards Board (IASB)
  - International Social Security Association (ISSA)
  - International Organization of Pension Supervisors (IOPS)
- Observer Member:
  - Organization for Economic Cooperation and Development (OECD)
  - Asian Development Bank (ADB)

IAA Membership Requirements

- For Full Member Association
  - Code of Conduct
  - Formal discipline process
  - IAA Education Guidelines and Syllabus
  - Formal process to adopt standards of practice
    .....if and when national standards are created
- For Associate Member Association
  - Actuarial association not meeting all conditions above

Committees and Sections

- Full Member associations appoint representatives to IAA committees which
  - serve the profession
  - propose standards
  - define syllabus and education requirements
  - prepare briefs and public statements for regulatory bodies (IAIS, IASB, OECD, etc.)
- Committees and Sections create their own subcommittees and task forces whose members are individuals with an interest or expertise in the subject

Strategic Plan

Five strategic objectives:

1. Relationships with key supranational audiences
2. Expansion of scientific knowledge to wider fields to enhance the scope, quality, and availability of actuarial services
3. Common standards of actuarial education and professionalism as well as guidance for actuarial practice
4. Support the development, organization, and promotion of the actuarial profession
5. Provide a forum for discussion

PRINCIPLE OF SUBSIDIARITY
Article 8 Co-operation

- Restricts its activities to strategies and programmes which require international co-ordination or direction
- Does not become involved with actions at national level, except at express invitation of actuarial association or group
- Avoids duplication or overlap with activities of Member Associations or regional groups of actuarial associations

Actuarial Profession

Groupe Consultatif Actuariel Europeen (GC)

Committees:

- *Education*
- *Freedoms and General Purpose*
- *Insurance*
  - *Solvency Project*
- *Pensions*
- *Financial Risks*

Groupe Consultatif Actuariel Europeen (GC)

Name

The Groupe Consultatif Actuariel Européen (referred to as "the Groupe") is a forum of European actuarial associations which is not formally incorporated.

Aims

To provide a platform for the actuarial profession within Europe, the Groupe shall

- consider existing and proposed European Union legislation having an impact on the actuarial profession and, where appropriate, make representations and submissions to the relevant EU Institution(s),
- give advice to the European Union Institutions on professional actuarial issues when invited to do so,
- represent member associations in discussions with European Union Institutions, in particular with the European Commission,
- provide a forum for discussion among actuarial associations throughout Europe,
- promote high standards of professionalism among actuarial associations in Europe,
- further the education and professional development of actuaries throughout Europe.

Actuarial Profession

GC: Agreement between the European actuarial associations

*Principles *):*

A full member of an association of one qualifying country (home association), who is actively working in another qualifying country ,shall be accepted as a full member of the other association (host association),

Each association‘s code of conduct should make it clear that its members should only undertake professional actuarial services if they have the relevant current knowledge and are appropriately experience to do so,

In following these principles each association shall designate a class of „full membership“ and maintain a list of such members

**) based on the EU-Directive „Mutual recognition of diplomas“*

Actuarial Profession

GC: Agreement between the European actuarial associations

- *Membership in the host country can be achieved without further requirements as to training and passing examinations*

- *In principle no periods of experience should be required; but in case*
  - *actuary‘s education and training differ substantially from home association*
  - *professional activities are involved which are not regulated in the home country*

  the host association may require adaptation periods (maximum 3 years) or an aptitude test.

- *The rights and duties shall be the same as for the national members*

- The *agreement was dated first in April 1991, revised in November 1997 and in force since Oktober 2005; from this date on each association shall prepare a report on the implementation of the agreement*

Actuarial Profession

The Association of Actuaries are installed as a truly independent non-profit organisations:

- *The Association of Actuaries should play an active role in the definition of standards and guidelines as soon as the relevant skills have been developed*
- *The Association of Actuaries should play an active role in the post-graduate education and examination system for actuaries.*
- *The Association of Actuaries should play an active role in the Continuing Development Process.*

Actuarial Profession

What do the members gain from the profession ?

- *mutual support*
- *encouragement*
- *learning and development oportunities*
- *fellowship and friendship*
- *status and income*
- *lobbying strength*

How does the public gain ?

- *quality assurance in*
  - *education standars for qualification*
  - *continuing education and development*
  - *professional norms and standards of practice*
- *reliability/consistency of professional advice*
- *availability of required service*
- *fiduciary relationships with professionals*
- *possibility of redress*
- *profession‘s concern for the public interest*

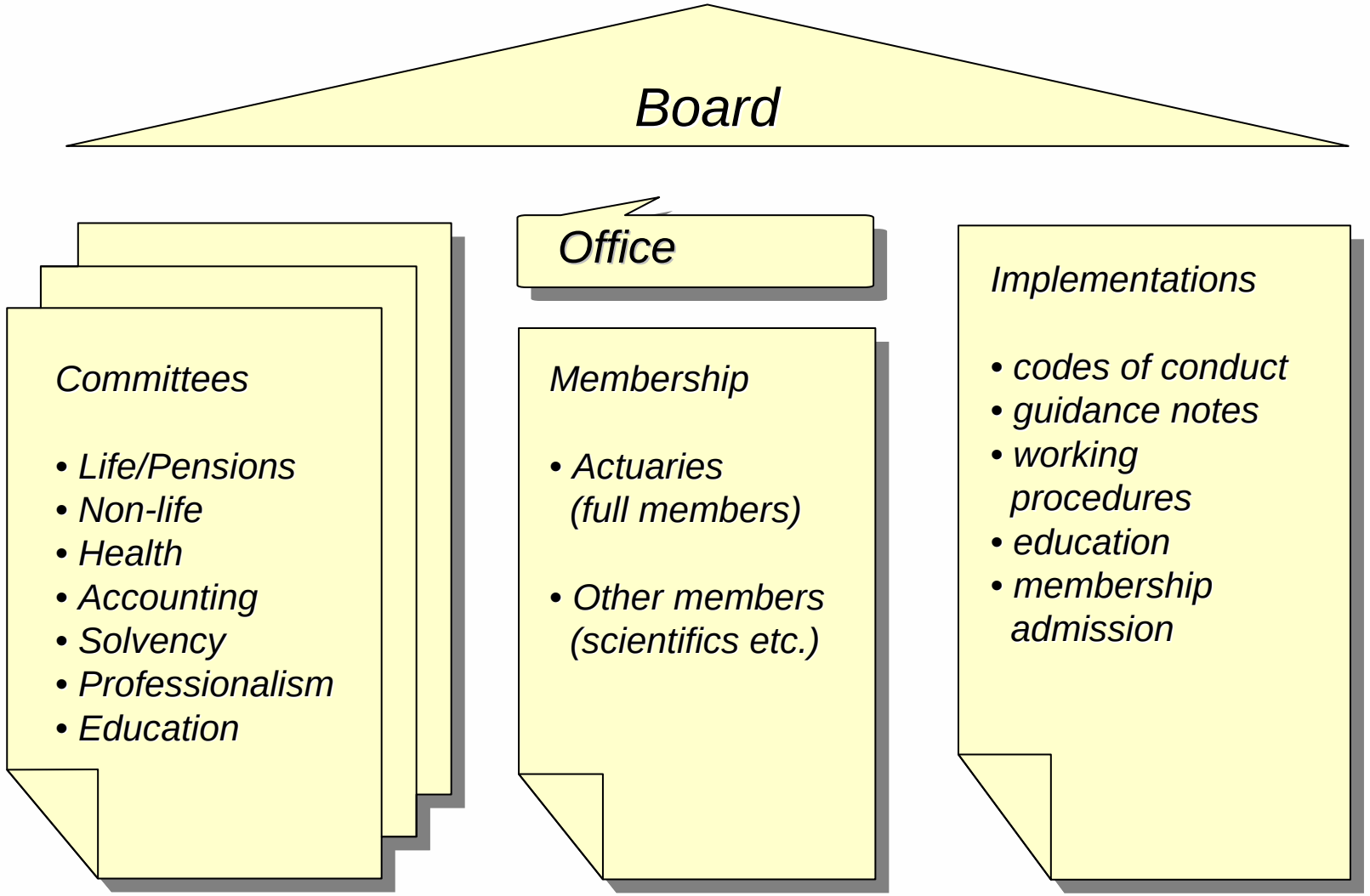
(Chris Daykin, Bratislava, 10th July 2006)

Actuarial Profession

Public interest

- *Providing skills to meet both business and society‘s needs*
- *Accepting the roles which ensure financial protection for consumers*
- *Providing objective input to public debate*
  - *public statements*
  - *discussions with officials and government*
- *Meeting the requirements for current and future statutory prudential roles*

Actuarial Profession



Typical structure of an actuarial association

Actuarial Profession

Local framework for the actuarial profession:

- *Legal framework regarding the role of actuaries, responsible actuary and actuarial association(s)*
- *Legal framework for the calculation of premiums, technical reserves, solvability, risk management*
- *Actuarial guidance complementing and interpreting the legal framework by regulator and/or actuarial profession*

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Actuarial Education

IAA : Core syllabus of actuarial education

Stage 1

Financial Mathematics

Probability and mathematical statistics

Economics

Accounting

Modelling

Statistical methods

Stage 2

Actuarial mathematics

- *life insurance*
- *general insurance*
- *pensions*
- *health care*

Investments and asset management

Principles of actuarial management

Professionalism

Actuarial Education

Groupe Consultatif : Core syllabus of actuarial education

Stage 0	Stage 1	Stage 2	Stage 3
Preliminary	Actuarial Foundation	Generalised Application	Country Specific and Specialist
Mathematics Probability and Statistics Stochastic processes Computing Economics Accounting and Financial Reports Communication Skills Language Skills	Financial Mathematics Survival Models Actuarial Mathematics Investment	Life Insurance General Insurance Pensions Living Benefits	

CPD

Groupe Consultatif – what is CPD ?

„Continuing Professional Development (CPD) may be defined as the development of knowledge and of technical, personal and professional skills and competencies throughout an actuary‘s working life.“

Groupe Consultattif - key features for CPD

- *Development of the whole person, i.e. with attention to technical skills, related professional skills, business and management skills*
- *Initial qualification as a start of the lifelong process of learning*
- *Responsibility of each actuary to plan his/her own development programme related to the objectives, potentially in concordance with their employer*

CPD

Groupe Consultatif – the needs for CPD

- *to achieve up-to-date knowledge in actuarial technics and to maintain the complex professional environment*
- *to reflect the public interest in the competence of the actuarial profession (standing and reputation)*
- *to keep up with the actuarial standards of practice and modifications with the existing standards*
- *to be aware of the development in national and international legislation and standards*
- *to follow new areas of practice with the consequent need for development*
- *to keep up with developments in the actuarial infrastructure for those who are involved in institutional function*

CPD

Groupe Consultatif – how is CPD gained ?

- *Attendance of local,national or international meetings, seminars, colloqia, workshops*
- *Teaching or mentoring other actuaries or students*
- *Writing papers or books*
- *Giving talks or making presentations at conferences or seminars*
- *Private reading of relevant journals or books*
- *Attendance of summer schools,relevant commercial conferences or seminars*
- *Participation in actuarial committees*

CPD

Groupe Consultatif – how much CPD ?

- *Principally personal decision of the actuary*
- *Some association require a defined annual amount of CPD*
- *Some countries require by its regulators a special amount of CPD*

Groupe Consultatif – monitoring of CPD

- *Personal recording by the actuary considering the development undertaken*
- *Monitoring CPD records by associations (voluntary or obligatory)*

Groupe Consultatif - Actual themes recommended

- *Solvency requirements*
- *Risk management*
- *Changes in mortality*
- *Data mining and pricing*
- *Asset liability modelling*
- *Risk classification*
- *CAT- risks*
- *Accounting and IFRS*
- *Asset management*
- *Healthcare*

CPD: Example UK

Some characteristics of the UK - CPD

- *Every Fellow of the Institute and Faculty (actuary) has to fulfill the requirements of the CPD with regard to his own category*
- *Every actuary has to proof that he /she has fulfilled the requirements for his category with regard to professional skills, business and management skills and technical skills*
- *Actuaries with CPD requirements need to record their CPD activities on the profession‘s website, as well as keeping supporting documentary evidence for three years; events of the actuarial associations are documented automatically*
- *The register will be controlled by the actuarial association every year; if there are deficits, the associations enter into a discussion with the actuary*
- *The requirements reflect the profession‘s responsibility to act in the public interest and to ensure that actuarial advice is soundly based*

CPD: Example UK

Under the new scheme all actuaries will fall within one of four categories;

CPD Categories

1. Actuaries requiring practising certificates.
2. Actuaries working in one of the subject areas covered by the specialist application syllabuses, but not requiring practising certificates.
3. Actuaries working outside categories 1 and 2 – this includes those who work in wider fields or who have moved away from actuarial work.
4. Actuaries who are not working.

All CPD activities will fall into two categories; verifiable or personally assessed.

CPD: Example UK

	Category 1	Category 2	Category 3	Category 4
Holder of Practising Certificate	✓			
Working in area covered by Profession's Specialist Application Syllabus		✓		
Working in area not covered by Specialist Application Syllabus			✓	
Retired/Career Break				✓
Unpaid Voluntary work			✓	
Part-time work			✓	
Non-actuarial work			✓	
Minimum No. of hours of CPD	15	15	Self determined	0
Verifiable	✓ 15 hours	✓ Mix	✓ Mix	
Personally Assessed		✓ Mix	✓ Mix	

CPD: Example UK

Hours relevant to practice area/certificate	10	10	Self determined	
Minimum number of entries on form	4	4		
Entries relating to Technical Skills	2	2		
Professionalism skills	2 hours p.a. min	2 hours p.a. min		
Attendance at 10 year Professionalism Event (UK and ROI)	✓	✓	Encouraged	
Requirement to complete annual declaration of category		✓	✓	✓
Requirement to complete record of CPD	✓	✓	✓	
CPD Year 1st July – 30th June		✓	✓	✓

CPD: Example UK

All CPD activities will fall into two categories; verifiable or personally assessed.

CPD Activities

Verifiable

Either the activity or the outcome from the activity is observable by others. This includes attending a sessional meeting or other event where attendance is recorded; studying and passing an examination; preparing and delivering learning to colleagues.

Personally Assessed

The activity is not observed by others and the outcome will need to be explained on the CPD Record Form

CPD: Example Germany

A. Formal CPD activities:

Participation in actuarial seminars

Own presentations and publications

Participation in actuarial meetings of the DAV (German actuarial Association)

Membership in committees and working groups

B. Informal CPD activities:

Seminars within the company

Self-learning

CPD: Example Germany

Recommendation of the DAV

- *Formal and informal continuing education of 5 days a year incl. 2 days formal CPD activities*
- *Requirements are voluntary; because of that no differentiation regarding fields of activity (as it is in UK)*
- *Selection of topics and mediums is done by the actuary; DAV offers recommendations and support for the selection.*
- *Option for certification of the CPD activities by the DAV once a year.*

CPD: Example Germany

Code A1:

Meetings ans seminars of the DAV
Meetings and seminars of international institutions (IAA, Groupe Consultatif)
Meetings and seminars of other actuarial associations (CH, A, GB, …)
Seminars of the EAA
Seminars and conferences with close contact to the field of activity of the actuary, if they are accepted by the DAV

Code A2:

Presentations and lectures (8 hours/presentation)
Own scientific publications (8 hours/publication)
Article in newsletters, journals etc., that are linked to actuarial topics (4 hours/article)

Code A3/A4:

Participation in working groups and committees (4 hours/meeting)
Other (more informal) meetings of the DAV) (2 hours/meeting)

Code B1:

Internal CPD activities (within companies)

Code B2:

Self learning and reading

CPD: Example Germany

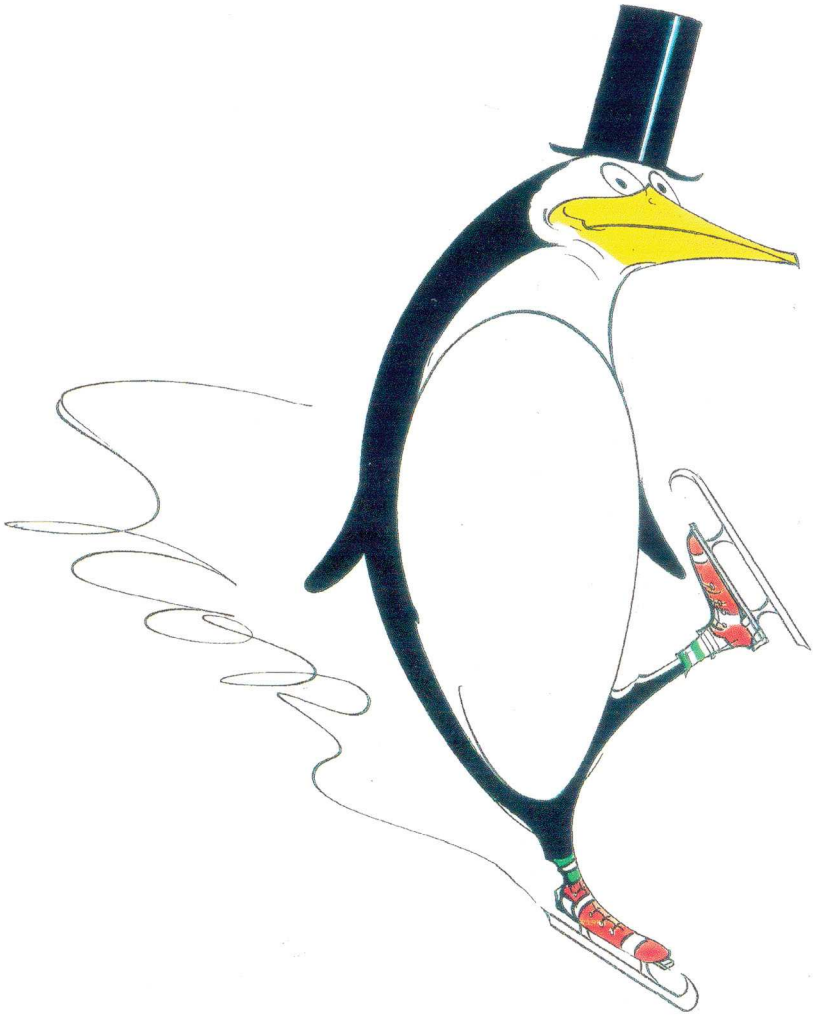
Example for Life/Health insurance

Fields of competence	*Special topics*
Financial mathematics	*Valuation of Options und Garantees, sensibility of interest rates*
Stochastisc Modelling and statistical methods	*Biometrcs, internal analysis of portfolios, CAT-risks (i.e. life expectation)*
Actuarial technics in life/health-insurance	*Valuation of liabilities, profit participation in life insurance*
Accounting	*Local GAAP, US-GAP, IFRS etc.*
Legislation	*New contract/supervisory legislation, equal treatment of policyholders, legal aspects of solvency II, EU-legislation regarding sales*
Risk management	*Modelling of asselts and liabilities, Rating, Solvency II*
Aktuarielles Controlling	*Profit-Testing, costs, Embedded Value, modelling portfolios*
Reinsurance	*Nontraditional reinsurance*
Product development	*New products, benefits, surrender values, acquisition costs*

CPD: Example The Netherlands

- *A full member shall be required to obtain 80 CPD points in any period of two calendar years and no less than 20 CPD points each year.*
- *No more than 20 excess points may be carried over to a subsequent period*
- *1 hour of education = 1accreditation point; only education parts of the program are taken into account:*
  - *Transfer of knowledge*
  - *Exchange of knowledge*
  - *Individual and group exercises (during the program)*
  - *Competence exercises under supervision (during the program)*
- *CPD accreditation committee decides whether a specific activity may be deemed to constitute CPD, and how many CPD points are to be assigned to it.*

Codes of Conduct



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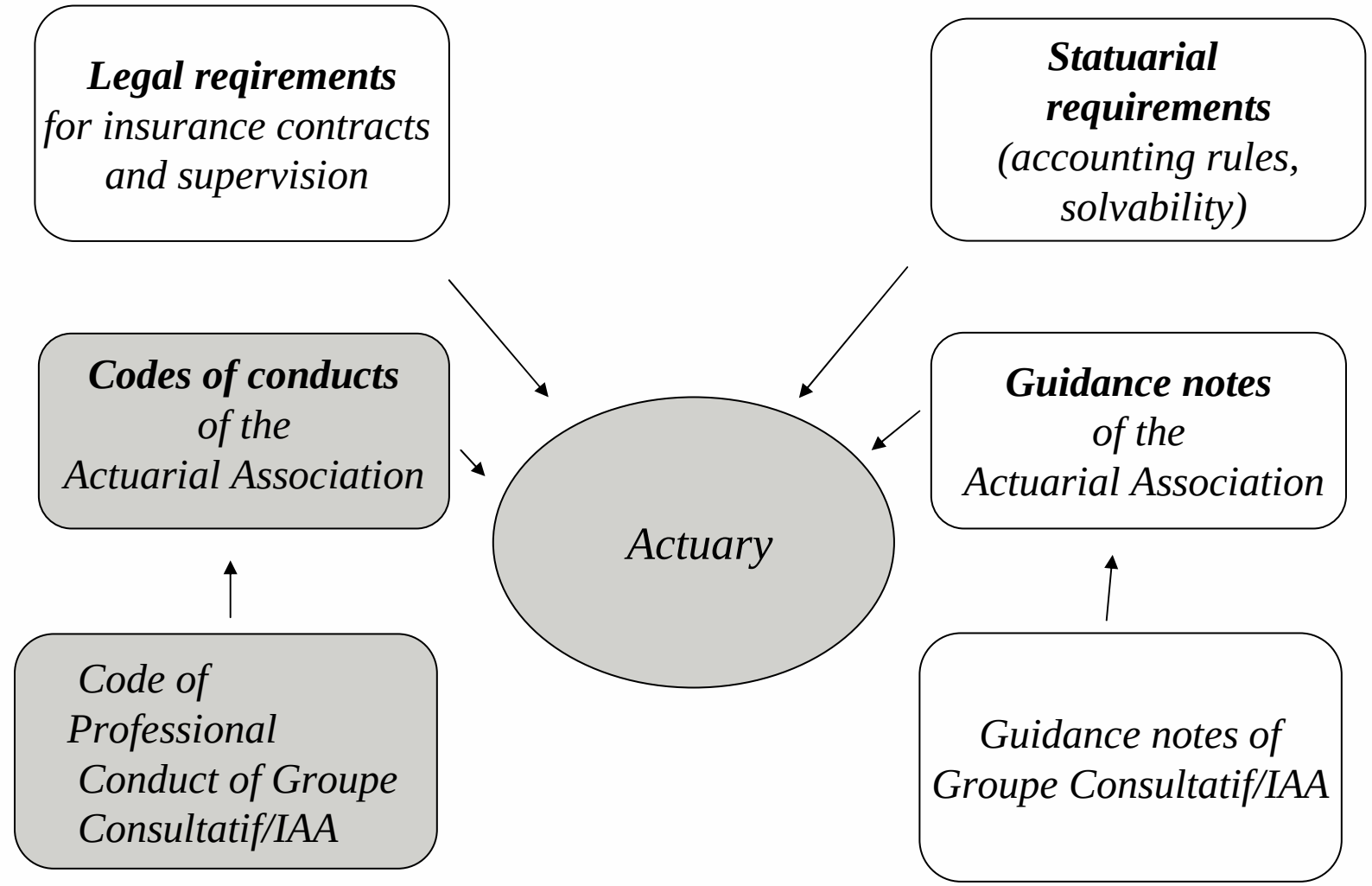
Codes of Conduct



Codes of Conduct

1. Responsibility for acting in the public interest

- *to carry out activities with skill, responsible care and integrity*
- *to act in accordance with the legislation in force, bearing in mind the public interest.*

2. Reputation of and respect for the actuarial profession

- *to promote the reputation of and respect for the actuarial profession.*

3. Co-operation with others and confidentiality of information

- *to perform professional duties with courtesy*
- *to co-operate with others*
- *to treat client information as confidential*

4. Professional competence

- *to perform only such professional activities for which he/she has the professional competence and the appropriate experience*
- *to take into account the relevant Guidance Notes*

5. Communication of professional findings

- *to show clearly the source of findings*
- *to provide clients or employers with information about the methods or data used*

6. Elimination of conflicts of interest

- *to avoid an actual or potential conflict of interest, which could lead to his or her ability to act fairly being called into doubt.*

7. Transparency of activities and remuneration

- *to disclose sources of income, which might influence his services on behalf of that client*

8. Personal responsibility

- *to be responsible for the standard of the work acting in accordance with this Code of Conduct as well as any relevant guiding rules and the status of mandatory, recommended practice, etc.).*

Codes of Conduct

9. Co-operation with and protection of the client

- *to provide the client with relevant and necessary information.*

10. Taking over of professional duties from another Member

- *to take over professional duties of another Member an appropriate way*

11. Actuary working outside of the home country

- *to carry out duties in a foreign country only if he/she is familiar with the nature of the financial market in that country.*
- *to inform the national actuarial association about relevant duties abroad incl. membership in another actuarial association*

12. Disciplinary Procedure

- *to follow the national procedures regarding disciplinary process*

Codes of Conduct

UK: The actuaries' Code

The principles, which notwithstanding the use of the term "actuaries" apply to all members, are;

Conduct	Actuaries act with honesty and integrity undertaking their duties in the best interests of their clients (who may be their employer).
Common Good	Actuaries conduct themselves in a manner that has due regard to the wider public interest, shows appropriate consideration for others and supports confidence in the Profession
Competence	Actuaries undertake all their professional duties with up-to-date knowledge, skill and care.
Compliance	Actuaries conform to all relevant standards and regulations as required and seek to uphold those by speaking up where appropriate.
Conflicts	Actuaries take reasonable steps to avoid conflicts of interest. Where conflicts do arise they manage these in a professional manner including the disclosure of those conflicts to all affected clients, or, if appropriate, their employer.
Confidentiality	Actuaries respect the legitimate confidentiality requirements of their clients or employer.
Commencing appointments	Actuaries take reasonable steps to verify that it is appropriate for them to act before accepting any appointment.
Communication	Actuaries communicate information and advice, whether written or oral, in a clear, complete and effective fashion so that the recipient of that advice can be expected to understand it.

These are the eight Cs that should guide actuaries and other members.

Disciplinary Process

Punishment

Disciplinary Process (example Slovakia)

Disciplinary process with regard to

- *complaints against a Member of the Society who is reasonably suspected of having breached the generally binding legal code, the Society's Code of Conduct, the Society's Statutes or other binding documents,*
- *complaints relating to conduct which has or may have damaged the good name of the Society.*

Disciplinary proceedings will be handled

- *in the first instance by the Disciplinary Committee*
- *on appeal by the Board of the Society*

Possible disciplinary sanctions:

- *oral warning*
- *written reprimand*
- *suspension from membership (for a limited period)*
- *expulsion from the Society*

Except oral warning the sanctions will be published.

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Actuarial infrastructure in deregulated markets

Deregulation within EU

- *Opening the markets and implementing a single licence by home country control*
- *Cancelling approval by the regulators of tarifs and premiums*
- *Implementing a framework of actuarial principles regarding calculation of premiums and valuation of reserves within EU-legisltion (3rd Directives)*
- *Implementing solvency rules (Solvency II) and accounting principles (IFRS)*
- *Freedom with disclosure: Freedom in pricing without any approval by supervisory authority, but strong requirements to disclose the conditions of the contract to the policyholders*
- *Recommendation regarding a responsible actuary who is supervising prudent calculation of premiums, technical provisions and solvency*

Actuarial infrastructure in deregulated markets

Regulated market
= Traditional actuarial functions

- *valuating insurance risks and its statistical datas (e.g. mortality, morbidity,claims frequencies etc.)*
- *designing products and calculating premiums*
- *calculating and certifying technical provisions*
- *applying financial analysis of the insurance portfolios*

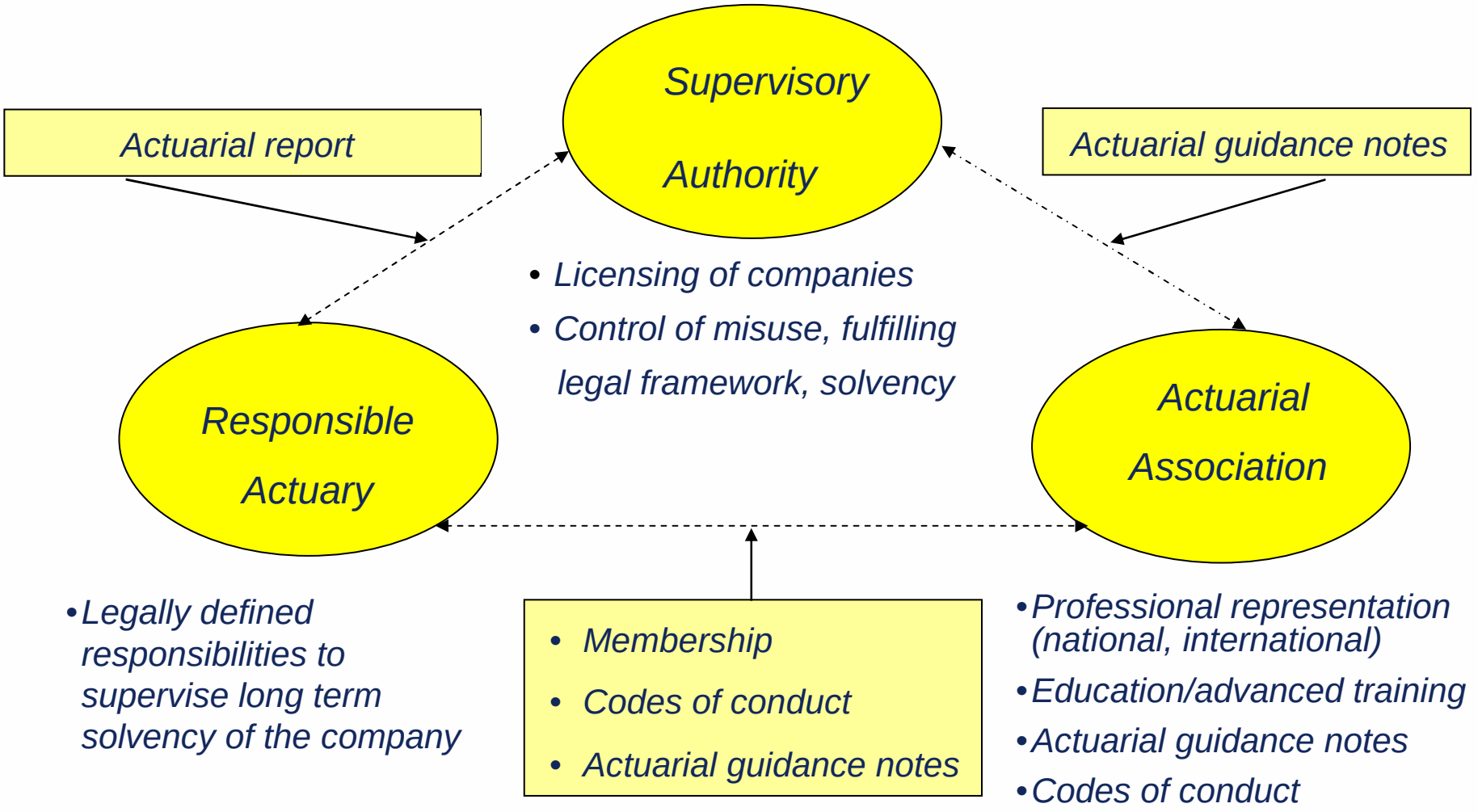
High level of regulation by supervisory authorities

Deregulated market
= Advanced actuarial functions

- *monitoring financial soundness*
- *understanding and operating solvency requirements and actuarial controlling; assessing risk potentials of assets and liabilities (Solvency II)*
- *applying actuarial driven international accounting principles (IFRS)*
- *actuarial reporting*

Lower level of state regulation, elements of self-regulation

Actuarial infrastructure in deregulated markets



Actuarial infrastructure in deregulated markets

Supervisory Authority

- *Leading institution to set up the legal framework for actuarial practice*
  - *Role of a responsible actuary*
  - *Principles (rules) of sound actuarial calculation in premiums, bonusses and technical provisions*
  - *Consumer protection standards*
  - *Solvency rules*
- *Developing guidance notes for actuarial practice in cooperation with the actuarial association; in the initial phase minimum requirements should be legally defined*
- *Supervising actuarial practice and risk management by own qualified actuarial staff*

Actuarial infrastructure in deregulated markets

Actuarial Association

- *Developing actuarial education and training based on the core syllabus of the IAA resp. Groupe Consultatif*
- *Providing research in cooperation with universities into all kinds of financial aspects of insurance*
- *Providing support, ressources and expertise to develop actuarial guidance*
- *Elaborating a code of professional conduct to emphasized the members to ethical, honest and professional behavior*
- *Implementing disciplinary procedures and providing legal protection to members, if necessary*

Responsible (appointed) actuary

- *to appoint a special responsibility within the company ensuring sound actuarial practice*
- *to supervise long term fulfilling obligations to the policyholders practicing serious risk management in premiums and reserves*
- *to provide advice and information to the companies and the supervisor enabling a better insight in the risk situation of the companies and improving efficiency of risk control*

Requirements regarding Responsible Actuary System

- *Integrated in the management (Germany) or independent consultant (NL)*
- *Approval either by the board of managers or by the supervisory board of the company (Germany, Slovakia)*
- *Approval / acceptance by the supervisory authority*
- *Access to all relevant sources of information; direct access to the management board (if he/she isn´t part of it);*
- *Attending the board meetings dealing with actuarial topics*
- *Presenting the actuarial report*

Actuarial Reporting

- *Historical background: The certification of technical provisions in life insurance in order to ensure the stability of the company by sound and prudent calculation of long-term liabilities following consumer protection*

- *Actual situation: Comprehensive risk report considering the overall risk situation of the company for life and non-life insurance stimulated by*

  - *improved actuarial technics, especially used in ALM and non-life insurance*
  - *incoming solvency requirements measuring risk potentials of the liability as well as on the asset side based on highly sophisticated actuarial methods*
  - *modern IT-technology*

Actuarial Reporting (Example)

1. Adequacy of premiums and bonusses (especially in life insurance), reinsurance and underwriting principles

2. Valuation and certitication of the technical provisions

3. Actuarial risk analysis
   - Structure and financial analysis of the different insurance portfolios
   - Solvency testing incl. stress testing and risk analysis
   - Asset-liability-matching (ALM)
   - Covering the liabilities by the asstes

4. Embedded value

EU-Directive: Governance

General governance requirements (Article 41,42)

- *to install an „effective system of governance which provides for sound and prudent management of the business“ by*
  - *transparent structures*
  - *clear allocation and appropriate segregation of responsibilities*
  - *an effective system of information*
- *to develop a clear and transparent documentation of the policy regarding solvency*
- *to require professional qualifications, knowlege and experience of the persons involved in solvency enabling „sound and prudent management (fit)“ and having achieved „the highest repute and integrity (proper)“*

EU-Directive: Risk Management

Risk management (Article 43)

- *to install an „effective risk managements system comprising strategies, processes and reporting procedures“*
- *to provide for a risk management function within the organizational structure of the companies*
- *(if used an internal model) to cover the design, implementation, test, validation, documentation of the model and to analyse its performance*

EU-Directive: ORSA

Own risk and solvency assessment (Article 44)

- *To conduct its own risk and solvency assessment by*
  - *valuing the overall solvency needs*
  - *to comply, on a continuous basis, with the capital requirements*
  - *to identify the extent „to which thwe risk profile …deviates significantly from the assumptions*
  - *to implement business „processes which enable it to properly identify and measure the risks it faces in the short and the long term and also to identify possible events or future changes in economic conditions that could have unfavourable effects on its overall financial standing.“*

- *to implement ORSA as an integral part of the business strategy and an ongoing basis in the strategic decisions of the companies*

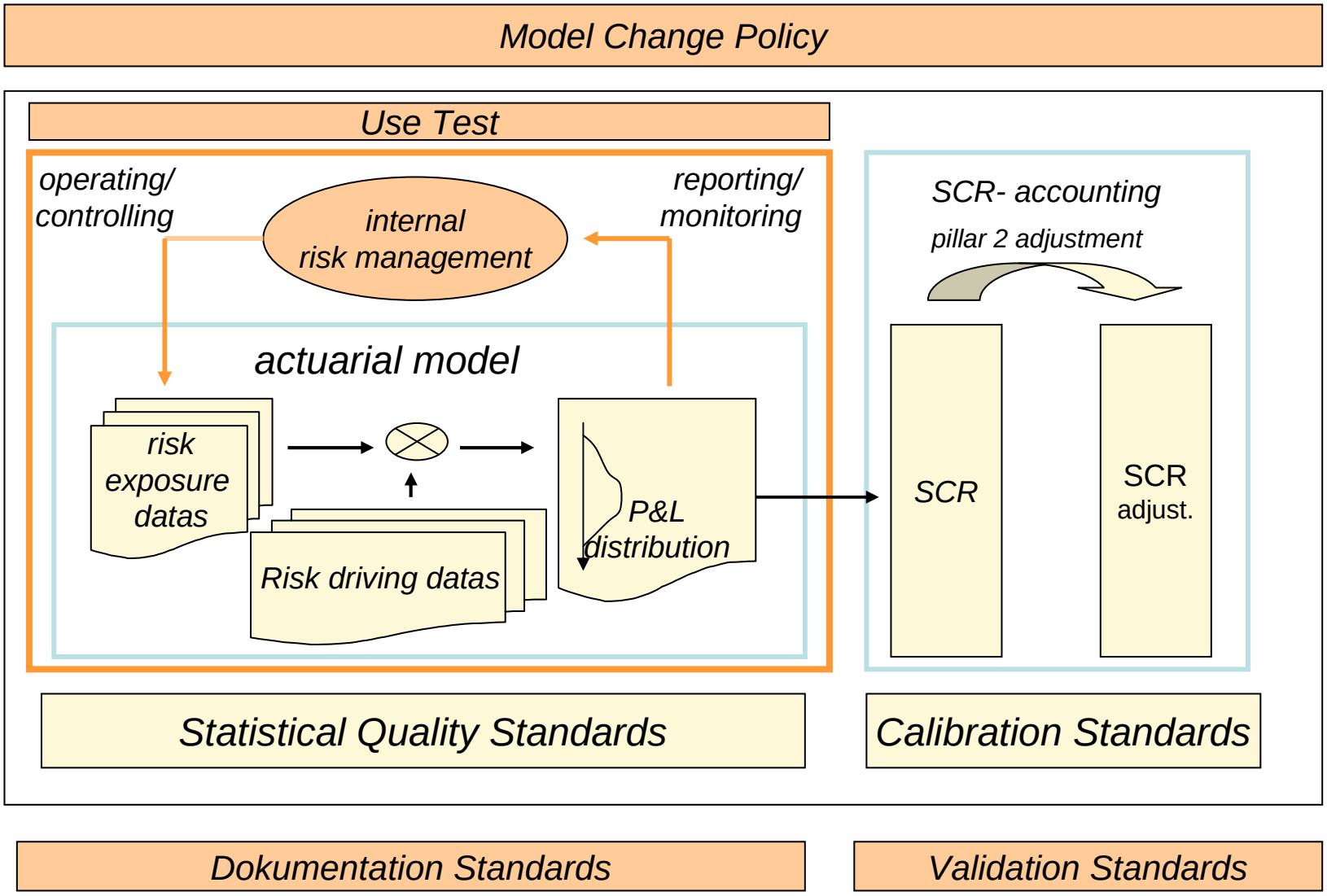
EU-Directive: Actuarial function

Actuarial Function (Article 47)

- *to value the technical provisions*
- *to express an opinion on the overall underwriting policy*
- *to express an opinion on the adequacy of the reinsurance*
- *to contribute to the effective implementation of the risk management system, „in particular with respect to the risk modelling underlying the calculation of the capital requirements…“*
- *to ensure, that „the actuarial function shall be carried out by persons with sufficient knowledge of actuarial and financial mathematics and able…to demonstrate their relevant experience and expertise with applicable professional and other standards.“*

EU-Directive: Internal Models

Requirements for internal models

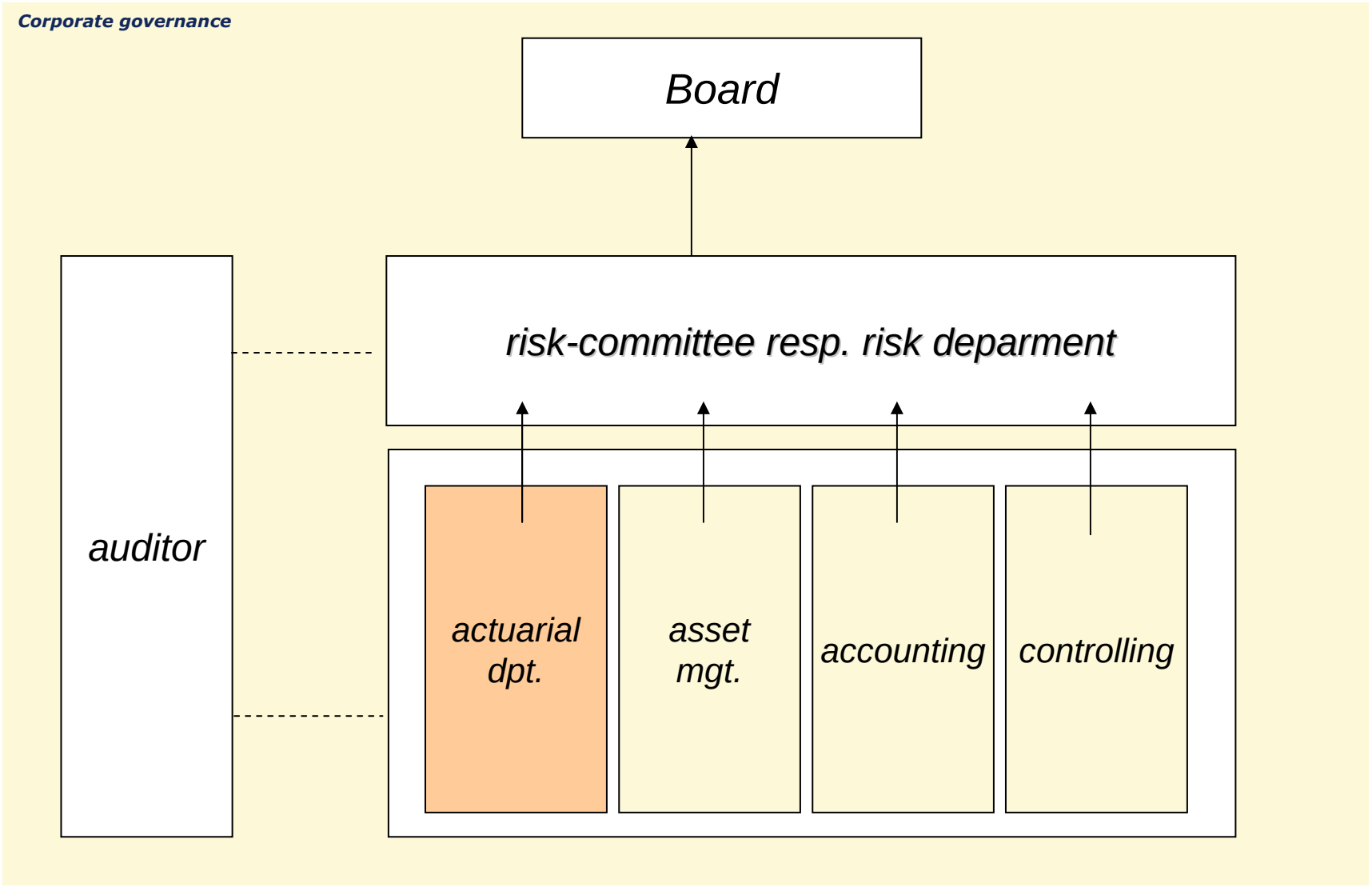


Source: Wrede (BaFin), Akademietag der Verantwortlichen Aktuare, Cologne, October 2007

EU-Directive: Institutional function

- *The (draft) version of the Directive hasn‘t defined*
  - *the institutional role of an acturay*
  - *the formal reporting requirements*
- *Implementation of institutional roles of the actuary and its requirements are delegated to national legislation and practice*
- *System of a „Responsible Actuary“ has been installed in many countries to cover special responsibilities with regard to actuarial prudency and seriosity*
- *Key question: What kind of institutional function an actuary should cover within Solvency II ?*

EU-Directive: Institutional function



(Draft) EU-Directive: Institutional function

Potential (minimal) institutional functions of actuarial experts within Solvency II:

- *certification of technical provision / claims reserves*
- *certification of modelling and callibrating assets / liabilities*
- *certification of suitable data structure (biometrics,…)*
- *certification of of actuarial models and suitable scenarios within internal models*

Possible function:

- *Responsible Actuary with comprehensive resonsibilities with regard to Solvency II (actuary as a risk manager)*

Agenda

- *Introduction*
- *Structure and role of the actuarial profession*
  - *International Actuarial Association (IAA)*
  - *Groupe Consultatif des Europeenne (GC)*
  - *National Actuarial association*
- *Requirements on actuarial profession*
  - *Education*
  - *Continuous Professional Development (CPD)*
  - *Codes of Conduct / Ethics / Disciplinary processes*
- *Role of the actuarial profession in deregulated markets*
- *Actuarial guidance*

Actuarial Guidance

Actuarial guidance within EU

1.Level: EU (3. Directives)

Principle based requirements (i.e. prudent calcualtion of premiums and reserves, technical interest rate in life insurance, applying actuarial methods)

2.Level: National legislation

Transfer of EU-legislation into national legislation
Modification (where allowed by EU-legislation) of EU-legislation adopting national requirements

3. Level: National actuarial guidance notes

Interpetation of national legislation by actuarial society and supervisory authority

Actuarial Guidance

Example: Actuarial guidance for Life Insurance Germany (selection)

1.Level: EU (3. Life Directive)

- *Prudent calculation of premiums and technical provision*
- *Interest rate for calculating the technical provisions;two possible methods: (i) orientation on interest rates of government bonds, (ii) orientation on individual asset yield*
- *Interdiction of medium/long-term sponsoring of premiums by equity*

2.Level: National legislation

- *Method (i) for technical provisions*
- *Minimum requirement for garanteed surrender rates*
- *Equal treatment of policyholders*
- *Minimum profit-participation (with-profit policies)*
- *Health insurance following actuarial practice in life insurance*
- *Implementation of a Responsible Actuary*

Actuarial Guidance

Example: Actuarial guidance for Life Insurance Germany (selection)

3. Level: Actuarial guidance notes (1)

- *Use of statistical datas: Biometrics (life) and other statistical datas (life,non-life)*
  - *used for premium calculation (term insurance, endowments, annuities, health etc.)*
  - *used for technical provisions*
- *Valuation of technical provisions (life)*
  - *appropriate biometrics and interest rates*
  - *calculation of costs incl. zillmerisation*
  - *criterias for the adaptation of technical provision*
  - *liability adequacy testing*
- *Principles for calculating surrender values*

Actuarial Guidance

Example: Actuarial guidance for Life Insurance Germany (selection)

3. Level: Actuarial guidance notes (2)

- *Requirements on premium calculation and profit participation (life)*
  - *principles fo profit participation*
  - *interpretation of prudent calculation*
  - *equal treatment of premiums and bonusses*
- *Recommendations on solvency regimes*
  - *crash/resilience tests*
  - *selections of suitable scenarios*
  - *principles for internal models*
- *Calculation of claims reserves (non-life)*
  - *applying NBNR-method*
  - *applying IFRS 4*

Actuarial Guidance

Principles of actuarial guidance:

- *Intention*

  Achievement of a greater uniformity of approach to practice in a given situation, so as to increase the confidence of clients and the public in the actuarial work.

- *Definition*

  A standard of practice is a statement of behaviour required of actuaries operating within a defined context, particularly in regard

  - *to the methodology to be adopted,*
  - *the approach to setting assumptions,*
  - *the contents of the resulting report or opinion and*
  - *the way in which the report or opinion should be presented.*

Actuarial Guidance

Principles of actuarial guidance:

- *Actuarial guidance interpretes and clarifies the legal framework:*
  - *Many paragraphs are principle based, especially EU legislation (i.e. „prudent calculation“); actuarial guidance is complementing the actuarial legislation*
  - *Actuarial guidance is part of consumer protection in personal insurance (prudent calculation in life, health)*
  - *Example UK: Hundreds of actuarial notes (GN xxx) to guide the actuarial practice*
- *Actuarial guidance supports the actuarial responsibility (i.e. Responsible Actuary) following accepted standards of practice*
- *Very important: Actuarial guidance should be accepted by the regulatoring institutions*
- *Actuarial guidance in line with the codes of conduct generates a serious actuarial practice in the markets*

Actuarial Guidance

IAA classification (International Actuarial Standards of Practice – IASP):

- *Class 1: mandatory*
- *Class 2: voluntary*
- *Class 3: recommended practice*
- *Class 4: practice guidelines*

IAA: International standard of practice (revised 2004)

Class 1 – mandatory. This is a standard of practice which is mandatory, in the sense that all actuaries are obliged to comply with it, or in the sense that Member Associations are required to adopt it or endorse it. National associations of actuaries may issue mandatory standards, for example where they are a surrogate for legislation. At the international level a mandatory standard would need to be adopted by each Member Association and imposed by them as mandatory on their individual members.

IAA: International standard of practice (revised 2004)

Class 2 – voluntary. This is a standard of practice that is not mandatory. However, it would apply with mandatory effect whenever an actuary asserted compliance with the standard. A Member Association may impose it on its individual members. It may be that a third party, such as a client, a regulator or a security exchange commission, could require its application. In those circumstances an opinion or report that did not comply with the relevant voluntary standard would be of little value to the client, hence effectively making it mandatory on actuaries engaged in the relevant practice area.

IAA: International standard of practice (revised 2004)

Class 3 – recommended practice. Actuaries would be expected to follow a recommended practice unless there were sound and defensible reasons for not doing so. Actuaries who do not follow the recommended practice should be prepared to give good account as to why it was felt appropriate not to follow the standard and should disclose the material aspects where they have departed from it. A Member Association may choose to raise the recommended practice to a stronger type of standard in the local context.

IAA: International standard of practice (revised 2004)

Class 4 – practice guidelines. These are educational and non-binding in nature. They represent a statement of appropriate practices, although not necessarily defining uniquely practices that would be adopted by all actuaries. They are intended to familiarize the actuary with approaches that might appropriately be taken in the area in question. They also serve to demonstrate to clients and other stakeholders and to non-actuaries who carry out similar work how the actuarial profession expects to approach the subject matter.

Actuarial Guidance

International Actuarial Standard of Practice:
Practice Guidellines (Class 4)

- *IASP 1: Guidelines of Actuarial Practice for Social Security Programs*
- *IASP 2: Actuarial Practice*
- *IASP 3: Classification of Contracts*
- *IASP 4: Measurement*
- *IASP 5: Current Estimates*
- *IASP 6: Liability Adequacy Testing*
- *IASP 7: Discretionary Participation Features*
- *IASP 8: Changes in Accounting Policies*
- *IASP 9: Accounting for Reinsurance Contracts*
- *IASP 10: Embedded Derivatives and Derivatives*
- *IASP 11 Business Combinations*
- *IASP 12 Disclosure of information about insurance contracts*

Legal status: IAA is committed to the principle of subsidiarity; IAA standards cannot substitute national standards; national standards regarding requirements of international agencies (IFRS) should consider IASP.

International Actuarial Standard of Practice:

Implementation Procedures

- *Step 1: Preliminary exposure draft by IAA*
- *Step 2: Coordination by national committee „Professionalism“*
- *Step 3: Statement by the relevant national committees*
- *Step 4: Coordination by national committee „Professionalism“*
- *Step 5: First statement to IAA*
- *Step 6: Final exposure draft made by IAA committees*
- *Step 7: Coordination by national committee „Professionalism“*
- *Step 8: Final statement to IAA*
- *Step 9: Decision by IAA provided agreement of 80% of the actuarial associations*

Actuarial Guidance

*Example: German classification: *)*

- *Practice guidelines*
  - *Not binding recommendations; technical actuarial support for the practicioneers (information, statements of appropriate practice etc.)*
- *Recommended practice*
  - *General guidance; deviation allowed provided that it can be justified following actuarial principles*
- *Binding actuarial guidance notes*
  - *General guidance, no deviations allowed, otherwise entering into a disciplinary process*

**) following the auditor‘s practice*

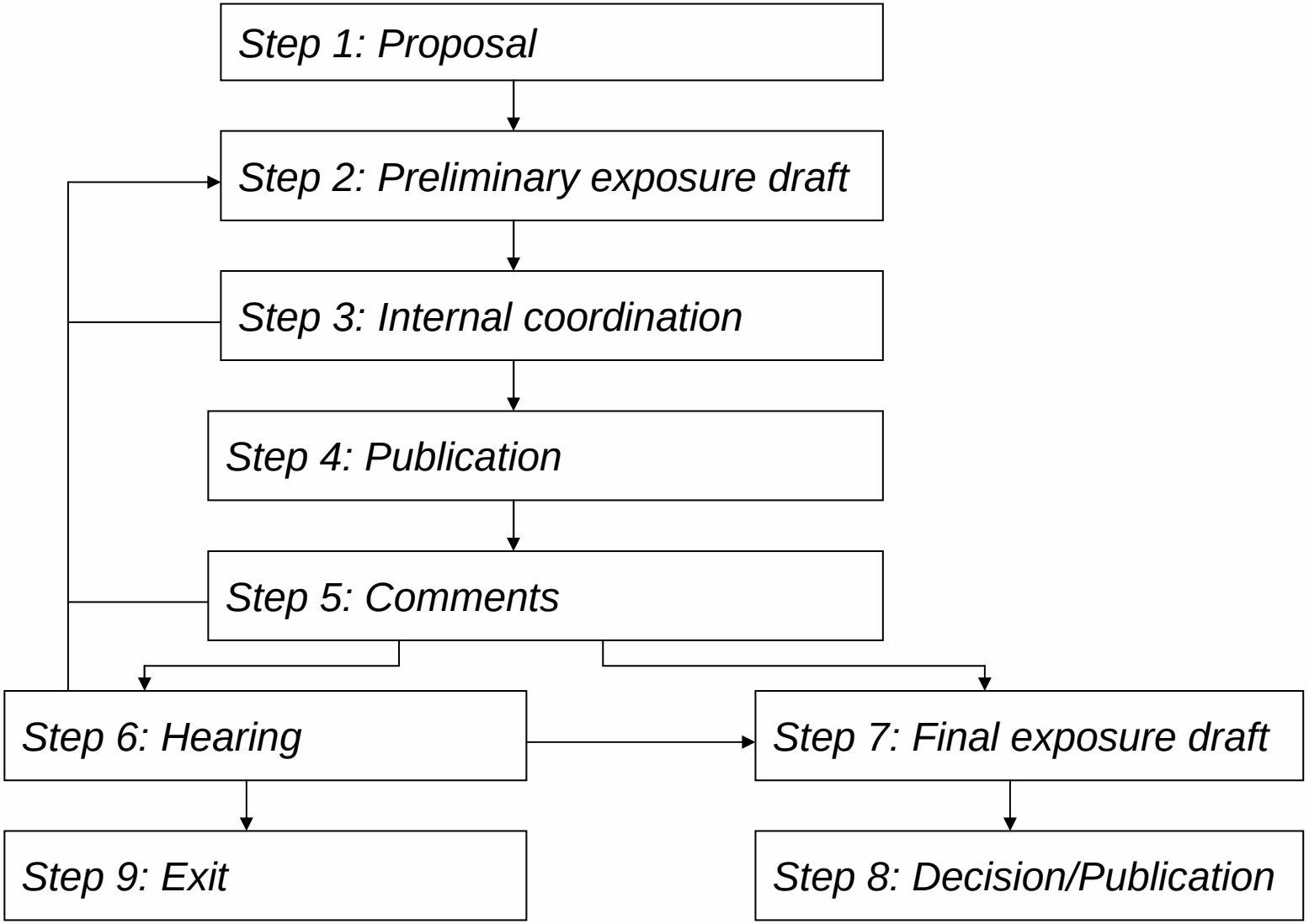
Actuarial Guidance

Example: German classification regarding Life Insurance

- *Informations (examples)*
  - *actuarial technics*
  - *statistics*
  - *proposed requirements*
- *Non-binding recommendations (examples)*
  - *mortality tables*
  - *company resp. actuary has to give reasons for deviations (normally within the actuarial report)*
- *Binding guidance notes*
  - *interest rates of technical provisions*
  - *company resp. actuary has to confirm the application of actuarial guidance (normally within the actuarial report)*

Actuarial Guidance

Implementation of actuarial guidance (example Germany)



Actuarial Guidance

Implementation of actuarial guidance (example Germany)

- Step 1: Proposal
  - Made by working groups or committes (life, health, solvency etc.)
  - Sent to the committee „Professionalism“
  - Clearing the procedure in cooperation with the relevant committee (practice guidelines, recommended practice, binding guidance, fast track)
  - If binding guidance or recommended practice, information of the members
- Step 2: Preliminary exposure draft
  - Made by the relevant committee
- Step 3: Internal coordination
  - Internal coordination integrating other committees that are involved, coordinated by the committee „Professionalism“.
- Step 4: Public information
  - To get comments of the members

Actuarial Guidance

Implementation of actuarial guidance (example Germany)

- *Step 5: Comments*
  - *Within 3 months, sent to the committee „Professionalism“*
- *Step 6: Hearing*
  - *If the comments differ in relevant cases,*
  - *if the relevant committee or 10 members require it*
- *Step 7: Final exposure draft*
  - *Update according to the comments and/or results of the hearing, made by the relevant committee*
- *Step 8: Decision/publication*
  - *Decided by the Board*
  - *Publication of the guidance note*
- *Fast track*
  - *Steps 1,2,3 without step 4-7, only valid for 18 months, after that full procedure*

Thank you for your attention !

Actuarial Competence

key competence

Actuarial Competence

Valuation

Determining the value of uncertain future cash flows by using risk management methods and technics within relevant and current regulations

Valuation increasingly requires

- *methods that are in line with the market derived from financial economics*
- *embedded value technics and value based management*
- *methods for measuring the comparison of products, distribution channels*

Actuarial Competence

Risk management

Identifying, quantifying,analysing the various risks in the company and reporting on the risk and profitability of part of the company and the company‘s activities in order to achieve the risk profile desired by the company.

Risk management has become an important and increasing key task of an actuary

- *against the backgound of higher importance of the risk management in general*
- *because actuarial technics are increasingly used to operate risk management*

Actuarial Competence

Determining and allocating capital

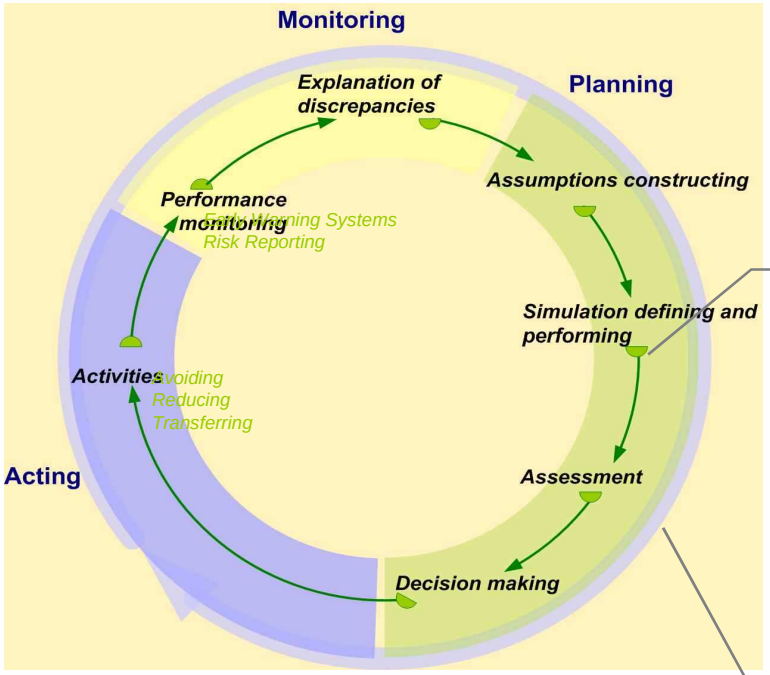
Determining the cost of capital necessary for the institution by using models and technics for the solvency requirements and the capital allocation

Increasing importance in the area of

- *managing different product lines and its contribution to the return on capital*
- *modelling the correlation of risks*
- *actuarial certification by extending the classical certification of technical provisions to an actuarial risk report including solvency requirements*

Actuarial Competence: Illustrating Example

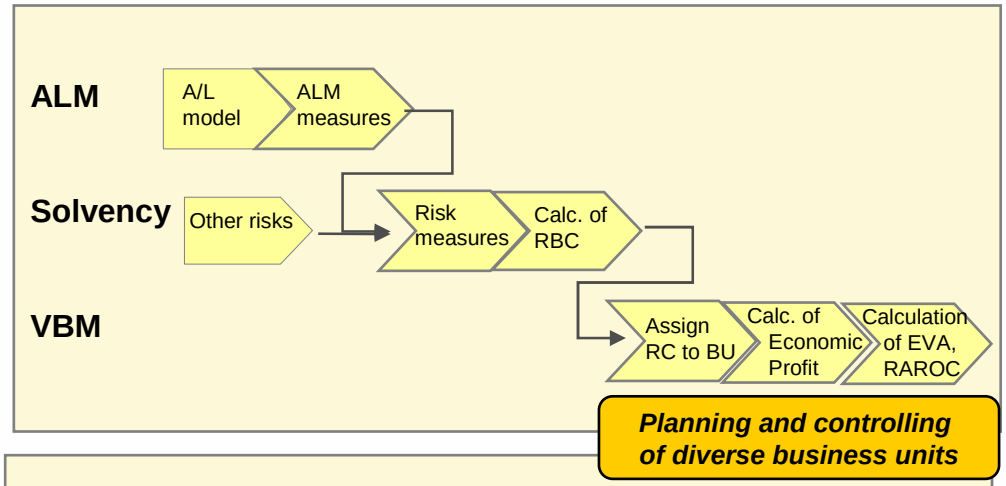
SAS Institute (Balleer/ Starcewska)



Traditional cash-flow analysis

Solvency II

Value based management



CRO function

- *developing internal risk management system*
- *coordinating reporting system*
- *integrating involved responsibilities (actuarial, financial, accounting, controlling, product management, asset management etc.)*

Actuarial involvement:

- *Measuring risk potentials on the asset/liability side*
- *Valuing technical provisions for different product lines*
- *Integrating reinsurance*
- *Developing/structuring datas*
- *Solvency reporting*
- *Others…*

Actuarial Competence

Product management

Developing and monitoring financial products by advising product sprcifications, setting rates, risk profiles, capital adequacy and profitability with a strong market orientation.

Product development will change the required competence of an actuary

- *by broadening his focus to the effects of products on the risk profile and capital adequacy*
- *by developing advanced knowledge in investments*
- *by making products transparent, especially making visible the degree of solidarity beween the customers.*

Acccounting and control

Determining the technical provisions within the context of the annual accounts and the valuation rules applicable to these.

This key task is undergoing considerable development:

- *Changes in valuation principles (IFRS) have to be adopted*
- *Stochastic methods are increasingly used for simulating and interpreting the results*
- *Stricter rules for certification are expected, especially with regard to the documentation and publication of methods, technics and uncertainties*

Generic tasks

Except substantitive key task generic tasks are required, as for process and project management, communication, independency.

Increasing requirements for actuaries regarding

- *soft skills because of increasing communications*
- *management skills because of increasing integration in the risk management (solvency management)*
- *independency, if the actuary is involved in institutional advice (i.e. Responsible Actuary)*

Actuarial Competence

Representation of actuaries in the companies